CI 1871
Computer Literacy and Problem Solving
Study Guide for Spring 2020
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Course Details

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Prerequisites

You should have some familiarity with Microsoft Windows, which is the operating system[1] most PCs run on. The textbook is written to Microsoft Windows 10, but older versions may also work.

If you have never used Windows, you will find it useful to read textbook pages 1 through 94, which contain basic information that will make the rest of the course go more smoothly for you. You do not have to do the activities on those pages.

Textbook

Gaskin, Vargas, Geoghan & Graviett. GO! with Microsoft Office 365, 2019 Edition Introductory. New York: Prentice Hall, 2020. ISBN: 9780135417812. We do not use the CD or access code that comes with some new books, so a used copy is fine.

Computer access

You may use any Windows computer that has the 2016 or 2019 versions of Microsoft Excel, Word, and PowerPoint. If you want to do the extra credit Access projects then you will need that program also. You can get Office 365 free through the U. See the syllabus for details. The Macintosh versions of the software are different from the Windows versions so using a Mac for this course will be a bit more challenging. It is possible to set up a Windows partition on your Mac but you might find that expensive. See the link on my web site for more information. Contact the U of M computer help service Tech Stop at 101 Coffman Union, 612-301-4357, help@umn.edu if you need help.

That being said, the textbook has many "Mac Tips" that point out how things are different on the Mac. You might want to use your Mac for as much as you can and then use the classroom or public labs Windows computers for the parts that are confusing.

Be sure to read footnotes

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[1] An **operating system**, like Windows 10 or Mac OS, is a program that manages other programs, like Word. A **program** (AKA **application** or simply **app**) is a set of instructions that accomplishes a task.

Using your own computer will be the most convenient and efficient way to do the course work. If you don't have a computer with the proper software you may use the computers in the University Microcomputer Labs on campus. On my web site there is a link that shows a complete list and schedule of when the labs are open.

Honesty

You may get help and work with others on the projects but you must turn in your own work. That is, someone can help you figure out what to do but you must, in the end, do it yourself. Copying the work of someone else is academic misconduct and may result in your receiving a 0 on a project, failing the entire course, or being expelled from the University.

Credits and Workload Expectations

For undergraduate courses, one credit is defined as equivalent to an average of three hours of learning effort per week necessary for an average student to achieve an average grade in the course. Because this is a four-credit course, you should expect to spend 3 x 4 = 12 hours per week attending class, working on projects, and studying for exams.

Course Grade

The course grade will be determined by your scores on the homework projects and the exams. See the syllabus handed out in class for details.

The letter grades will be determined according to the following chart.

Letter Grade		Points Needed	Definition
A	= 4.00	100 – 95	Represents achievement that is outstanding relative to the level necessary to meet course requirements
A-	= 3.67	94 – 90	
B+	= 3.33	89 – 86	Represents achievement that is significantly above the level necessary to meet course requirements
B	= 3.00	85 – 82	
B-	= 2.67	81 – 80	
C+	= 2.33	79 – 76	Represents achievement that meets the course requirements in every respect
C	= 2.00	75 – 73	
C-	= 1.67	72 – 70	
D+	= 1.33	69 – 68	Represents achievement that is worthy of credit even though it fails to meet fully the course requirements
D	= 1.00	67 – 65	
S	none	100 – 73	Represents achievement that is satisfactory, i.e., is equivalent to a 2.00
F	= 0.0	under 65	Represents a failure to meet course requirements
N	= 0.0	under 73	Represents a failure to meet course requirements

> *Projects 14 and 15 cover Access. They are for extra credit and NOT required nor are they covered on the final exam. If you do them the scores will be added to your homework total when final grades are calculated.*
> *Thus, it is possible to earn up to 108% on homework.*

Student Learning Outcomes (SLOs)

CI 1871 addresses the following SLOs:

1. **Identify, define, and solve problems** You will gain experience identifying, defining, and solving problems by creating mathematical models that will help you make predictions to see how a situation will evolve over time. For example, in Project 5 you will use Excel to find out how much a person would need to sell in order to make a certain level of income. The assessment will be based on the computer output you produce.

3. **Master a body of knowledge and a mode of inquiry** You will increase your technological knowledge base, especially in the area of data analysis, and you will gain insights into how computers can be used to collect, analyze, display, and present data and information. For example, in Project 5 you will use Excel to calculate and summarize sales commissions for employees. The assessment will be based on the computer output you produce and also your performance on exam questions.

5. **Communicate effectively** You will use word processing and presentation software to communicate ideas, data, and charts from a wide variety of disciplines including business, economics, and social science. For example, in Project 13 you will create a presentation that includes text, tables, charts, audio, animation, and video to inform people about the benefits of computer-mediated instruction. In Project 10 you will modify a thirty-five page book chapter by including a Table of Contents, charts, cross references, mathematical equations, styles, and an index.

7. **Effective citizenship and life-long learning** The skills, concepts, and knowledge you acquire in this course will help you to be an effective citizen in that you will be better able to understand how yourself and others can use computers to help store and retrieve data, make decisions, predict future events, and communicate with others.

Information on Student Learning Outcomes can be found at

http://academic.umn.edu/provost/teaching/cesl_loutcomes.html

Introduction

In this course, you will learn concepts and develop competencies in the computer technologies that are most often used in the social sciences and in business to help solve problems.

Textbook

Now would be a good time to become familiar with your textbook.

The front material is 26 pages long! It contains all sorts of information about the book and the specific features it contains to help you learn. Feel free to page through this material but reading it in detail will not be all that useful.

Turn to page 105. The numbers outlined by green pentagons, like this indicate keystrokes or mouse clicks that you should do on your computer as you go through the material. As you do each step, compare your result with the screen shots. The explanations are quite good so carefully reading them will enhance your learning.

On the next page, **Step 3** begins "Type **Internships Available** and then press ⌨Enter two times." The authors use the word ***press*** when they want you to ***tap*** one of the keys. So, when you see "press **Enter**" don't hold down the key but quickly tap it. If you hold down the key it will be like hitting the key multiple times.

Turn to page 115, Step 6. When you are to hold down one key and then tap another, the two keys will be shown connected with the **+** sign. For example, **Step 5** ends with "Press **Ctrl + Home** to move to the top…" **Ctrl + Home** tells you to hold down the **Ctrl** key and, while holding down that key, tap the **Home** key. The first key, **CTRL**, is called a ***modifier*** key because it modifies the action of the second key. The **+** in **Ctrl + Home** is there to tell you to hold down the first key while you tap the second key; you do **NOT** touch the **+** key on the keyboard.

Turn to page 123, **Step 5** discusses printing the document you just created. To save paper and time, when the textbook instructs you to print something ***DO NOT PRINT IT***. When you complete all the work for a chapter, return to this Study Guide to find out exactly what to print and turn in for grading.

> ***You NEVER have to print in color.***

Look at the very back of the book, page G-1. There is a ***Glossary*** that you can use to look up the definitions of many words that have particular meanings when used in relation to computing.

Look at the ***Index***, which is located right after the thirteen-page ***Glossary***. You can use the ***Index*** to find places in the textbook that contain instruction on specific topics. If you forget how to do something, look it up in the ***Index***.

Companion Web Site for CI 1871

This course does not have a Canvas site. Instead, on my faculty web site you will find links that will allow you to download the files you will need, the syllabus, this Study Guide, and exam instructions. The URL is http://www.z.umn.edu/robertson

Study Guide

This Study Guide has three parts.

Introductory material: You are reading that part right now.

Projects: There are 13 required projects for you to complete, all of which contain several parts. The projects tell you what to read in the textbook and which hands-on activities to complete. The projects also contain additional instruction on how to do some things that are not covered in the textbook but which I think are important. Finally, the projects contain the details of what to turn in for grading.

There are two optional projects, 14 and 15, which cover Access. You may do those, if you wish, for extra credit. Getting all the points on those two projects will allow you to earn 108% on homework. Access will NOT be covered on the final.

Homework keys: Starting on page **SG353** of this Study Guide [2] is a section that contains the keys for the assigned problems. When you complete an assignment, look at the key to see if your computer output matches the one in the key. If so, great. If not, figure out what you did wrong and fix it. Note that since all computers and printers are set up a bit differently, some of your output may not look *exactly* like the output shown. This is especially true for line breaks, which are the points where the text on one line stops and continues on the next line, and page breaks, which are the points where the text on one page stops and continues on the next page. Don't worry about this. When I grade the assignments I will look to see if you have correctly followed the directions. In most cases, your output and my key will match but, in some cases, they might not be exactly the same.

The Five Steps of Each Project

To learn the material in the most efficient way, follow the steps given below:

Step 1 Read

Before turning on the computer, read the introductory material that is located at the beginning of each textbook chapter. This will help you get the overall picture of what you are going to do when you work at the computer. This will only take a minute or two but it is time well spent.

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[2] Page numbers with **SG** in front of them refer to pages in this **S**tudy **G**uide.

Step 2 Activities

The hands-on step-by-step exercises in the textbook are called *Activities*. Be sure to carefully read and follow the directions for each activity, and read and understand the explanations. Don't just punch the keys! Note that if the resolution of your display is not 1280 x 768 things may look a bit different from the screen shots in the book. Don't worry if you need to make minor adjustments, especially to spacing, when working on your computer.

It is important that you do every step, except for printing, of every activity assigned. You will need some of the workbooks, documents, and presentations you create for later homework projects. If you skip something you will eventually have to go back and do it later, and this will be confusing.

Step 3 Homework

When you finish all the assigned textbook activities for a chapter, return to this Study Guide and begin work on the homework problems. The problems are designed to get you to think about what you have learned in the chapter and to show that you have mastered the concepts and skills described in the textbook and this Study Guide. If you get stuck, refer back to those pages in the textbook that cover relevant material. The index at the end of the textbook will be a big help here. You may have to go back through a chapter to see how to do something if you did not learn it well enough through your reading and doing the activities.

When you complete an assigned problem, compare your output with the key at the end of this Study Guide and make changes as needed. Be sure your printed output is correct before you hand it in for grading because once an assignment has been graded you may not resubmit it or add to it.

Step 4 Submit

When you complete all the assigned problems for a project, arrange the papers in numerical order by homework number, put the appropriate **Homework Submission Form** (found in your syllabus given out in class) at the front, and stable the papers. You may turn in homework projects during class, or drop them off at my office, or campus mail them, or USPS mail them.

> *Due to problems with formatting, do not email your projects to me—you must submit the paper output.*

Step 5 Backup   **Be sure to read footnotes**
                                          ↓

It is good practice to backup your files[3] every so often, especially if they are stored on a USB drive (also known as Thumb drive, Memory stick, and Flash drive)[4], which can be lost or broken. To backup, drag your CI 1871 folder from one device to the other, e.g., from your USB drive to your computer's hard drive or to Google Drive (a cloud storage facility described on page **SG23**).

The more important the file the more often you should back it up. For example, if you are writing a paper saving drafts with different names every hour is a good idea. Use names like **SocPaper-1**, **SocPaper-2**, **SocPaper-3**, etc. as you progress. That way you can always go back to a previous draft if you need to. When you have completed the paper you can delete all drafts but the final one, and then copy that one to another device as a backup.

What If Something Doesn't Work?

The textbook gives step-by-step instructions on how to do many spreadsheet, word processing, and presentation operations. If you follow the directions as described your results will be as shown. Sounds simple, doesn't it? However, sometimes what you think you are doing may not be what you are really doing. I often see students get into trouble because they try to rush through the material or because they simply miss a step. Students will tell me "I did what the book said but it didn't work!" My usual response is "OK, do it again while I watch." Usually, the second attempt works because when I watch students are more careful about what keys they are tapping and they actually do what the textbook tells them to do.

So, pay attention to what you are doing. If it doesn't work, carefully read the directions and try it again.

Schedule Your Time

For the textbook chapters, you should set aside a two- to four-hour block of time to go through the activities and complete the reading (there are two guided projects for each chapter). Then, when you begin the homework projects, set aside another few hours. The projects vary quite a bit in the time needed to complete them so be prepared to be flexible. Don't be afraid to go back to the textbook to redo some of the activities—there is a lot to learn and sometimes you need to do it more than once before it sinks in.

Now, let's get started with the coursework.

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[3] A **computer file** is electronic information, such as a Word document, an Excel workbook, or a photo, that is stored and organized in a container known as a **folder**.

[4] **USB** stands for **U**niversal **S**erial **B**us. It is a specification to establish communication between devices, such as a USB flash drive, mouse, keyboard, or printer and a host controller, usually a personal computer. USB connectors also supply electric power, so many devices connected by USB do not need a power source of their own.

Project 1
Getting Started

Step 1 Read For this project, there are no pages to read in your textbook. However, if you have never used Windows or any Microsoft Office programs (e.g., Excel, Word, PowerPoint) you will find it useful to work through the textbook activities at the beginning of the textbook (pages 1 to 94). These activities contain basic information that will make the rest of the course go more smoothly for you.

Step 2 Activities For this project, there are no textbook activities.
To complete this project, do the following:

Set Up Your Computer Filing System

To reduce the typing you will have to do, the textbook authors and I have created a set of files for you to get started on for most of the assignments. The files are located on **Google Drive**. This is a cloud storage service that allows you to store files online. Since the U of M is a Google campus we all have access to unlimited free storage. Google Drive has lots of features that you might find useful. You can get more information at https://it.umn.edu/technology/google-drive?km

a. To download the files, follow the steps given below. Note that most of the screen shots are from my office computer running Windows 10. If you are using Windows 7 or Windows 8 things may look a bit different but you should be able to follow the instructions without too much trouble.

1. Open a web browser such as **Microsoft Edge** or **FireFox**

2. Type the following in the address bar near the top of the screen.

   http:\www.z.umn.edu/1871f19

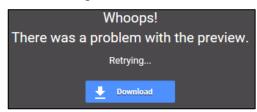   This is a "shortened" URL that actually points to

   https://drive.google.com/open?id=1-S-tbBJY0oMarlLioklpUhMVnkaI_2y_

   Shortened URL's all have the same first part, **z.umn.edu/**, which is easy to remember, and a unique second part, in our case **1871f19**, which is easy to remember within the context of this course. There is a short introduction to this service, which anyone can use, at z.umn.edu/zhelp

3. Tap the **Enter** key. Google Drive will open and show the file. If you get this message

click **Download**. Otherwise, move the cursor to the spot in the upper right and click the download arrow.

4. Google Drive may give you a warning that the file is too large to scan for viruses. In that case, click **Download anyway**. Depending on how your browser is set up, the **CI1871F19OriginalFiles** file may automatically go to your computer's **Downloads** folder or you might get a message like this:

If you get the above message, click the button next to **Save File**.

5. Click **OK**.

6. Close your browser by clicking the **X** in the upper right corner of its window. You should see on your desktop the folder you just downloaded. Notice the little zipper on the icon. To save download time and server space, the folder you just downloaded is compressed in **ZIP**[5] format.

b. **UNZIP** the folder by doing the following:

1. Point to the folder, right-click, and click **Extract All**. The **Extract** dialog box will appear.

> Select a Destination and Extract Files
>
> Files will be extracted to this folder:
>
> C:\Users\droberts\Desktop\CI1871F19OriginalFiles   Browse...

The box shows the location where the folder will be saved. Here is the location as it looks like on my computer:

C:\Users\droberts\Desktop\CI1871F19OriginalFiles

C:	represents the hard drive of my computer.
****	is a subdirectory delimiter (folder separator).
Users	means my computer is set up for multiple users.
droberts	is the part of the computer's hard drive I am using.
Desktop	means the folder will be put on my desktop.
CI1871F19OriginalFiles	is the name of the folder.

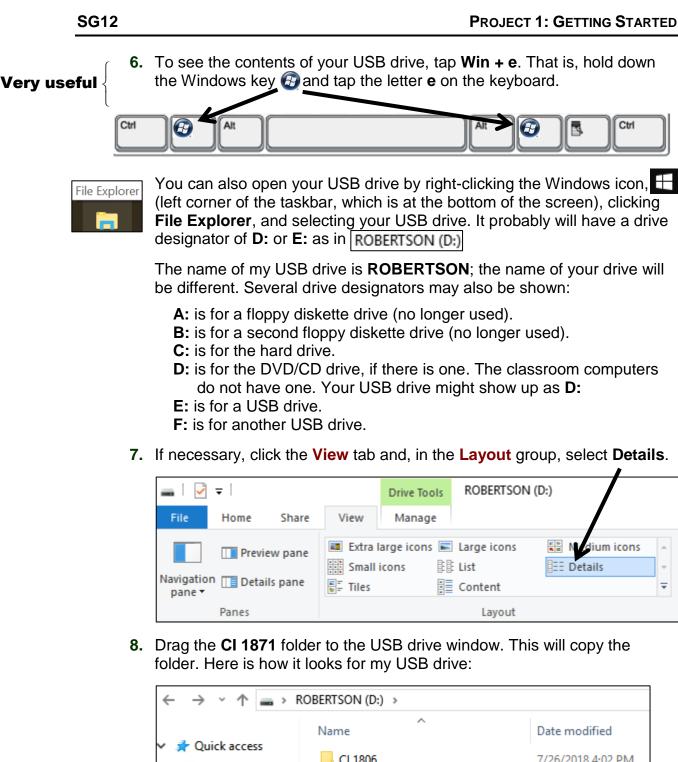If the shown location is not what you want, click **Browse** and then navigate to your preferred location.

2. Once you have the proper location displayed, click **Extract**. In a few seconds you will see a new folder called **CI1871F19OriginalFiles**. The new folder contains folders for each section of the course (Excel, Word, PowerPoint, and the extra credit Access folder). Each folder contains the UNZIPPED files you will need. Notice that this folder has no zipper.

3. Right-click the **CI1871F19OriginalFiles** folder, select **Rename**, type **CI 1871**, and tap **Enter**.

4. You will not need the ZIPPED folder any more so drag it to the Recycle bin.

5. If you will be using your own computer, you can drag the **CI 1871** folder to any location you wish, including the desktop or a USB drive.

If you will be storing your work on a USB drive then insert it into one of the computer's USB ports. It should go in easily. There is a *right side up* so if it does not fit one way turn it over and try again, but gently.

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[5] **ZIP** is an archive file format that may contain one or more files or folders that have been compressed. ZIP was created in 1989 by Phil Katz, who named it ZIP as in "move at high speed".

Very useful {

6. To see the contents of your USB drive, tap **Win + e**. That is, hold down the Windows key and tap the letter **e** on the keyboard.

File Explorer

You can also open your USB drive by right-clicking the Windows icon, (left corner of the taskbar, which is at the bottom of the screen), clicking **File Explorer**, and selecting your USB drive. It probably will have a drive designator of **D:** or **E:** as in ROBERTSON (D:)

The name of my USB drive is **ROBERTSON**; the name of your drive will be different. Several drive designators may also be shown:

     A: is for a floppy diskette drive (no longer used).
     B: is for a second floppy diskette drive (no longer used).
     C: is for the hard drive.
     D: is for the DVD/CD drive, if there is one. The classroom computers
        do not have one. Your USB drive might show up as **D:**
     E: is for a USB drive.
     F: is for another USB drive.

7. If necessary, click the **View** tab and, in the **Layout** group, select **Details**.

8. Drag the **CI 1871** folder to the USB drive window. This will copy the folder. Here is how it looks for my USB drive:

9. Close all open windows by clicking **X** in the upper right corner of each.
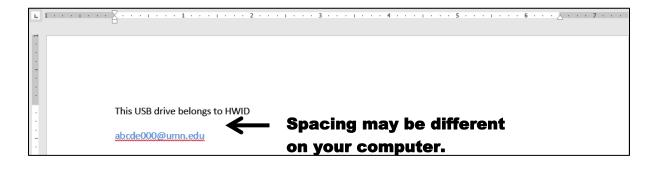
c. When the textbook or this Study Guide asks you to save a file, save it to one of the folders in the **CI 1871** folder. To see how this works, do the following (this is part of your first homework project that you will turn in for grading). Note that:

> **Word files** are called **documents**
> **Excel files** are called **workbooks**
> **PowerPoint files** are called **presentations**
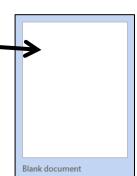> **Access files** are called **databases**

1. Start Word by doing one of the following:

    Option 1 If your computer has a tiny Word icon on the taskbar, click it **once**.

    Option 2 If your computer has a Word icon on the desktop, click it **twice**.

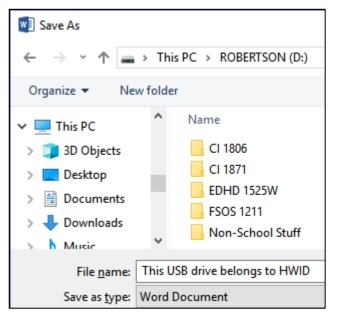   *Option 3* In the search box at the lower left of the window, type **Word** and select **Word 2019**.

2. After Word starts, click **Blank document**.

3. Type the following: **This USB drive belongs to HWID** where **HWID** is your four character homework ID from your syllabus.

4. Tap the **Enter** key. Depending on how your version of Word is set up, the spacing between lines may be wide or narrow. Either way is fine.

5. Type your **U of M email address**. You are doing this because you are going to save your files to this USB drive. If you lose your drive the person who finds it can email you and let you know where it is.

6. Tap the **Enter** key. Word may automatically underline the text, change its color to blue, and attach a hyperlink to it. Word does this because it recognizes the text as an email address and so applies its hyperlink style. If this happens, leave it as is. You will learn about inserting hyperlinks on page **SG111** and more on page **SG184**.

This USB drive belongs to HWID

abcde000@umn.edu

Spacing may be different on your computer.

7. Tap **Ctrl + s** (that is, hold down the **Ctrl** key and, while keeping that key held down, tap the **s** key). This will open the **Save As** dialog box. This allows you to specify where you want your file saved and what name you would like to give it. You can also get here by tapping the **F12** key.

8. On the left side of the **Save As** window, navigate until you can see the name of your USB drive (mine says **ROBERTSON**)

    Notice that Word is suggesting the first line of text in the file for the **File Name**. To the right of **This USB drive belongs to HWID** type your **FirstName LastName**.

9. Click **Save**. Word will save the file as **This USB drive belongs to HWID FirstName LastName.docx** The **.docx** is called a file name extension. It tells the computer what program to use when opening the file. Depending on how your computer is set up, it may or may not display the file name extension (mine does not).

    For Word, the extension is **.docx**; for PowerPoint it is **.pptx**; for Excel it is **.xlsx**; and for Access it is **.accdb**

   Now, you are going to save the document using a different name.

10. Tap **F12** (on the top row of keys). This will open the **Save As** dialog box. This allows you to save another copy of the file using a different name and/or in a different location.

11. Navigate to your **CI 1871** folder and double-click it.

12. Double-click the **Word Files** folder to open it. You will see a list of all the Word files in that folder. If you do not see any files listed, check to see if

    the **Save as type:** box is set to

    If it is, click the box and set it to

13. In the **File name:** box, delete the suggested file name and type:

HW01-1 HWID Practice Save Done

where **HWID** is the four-character homework ID from your syllabus. If your **HWID** is **100A**, you would type this:

File name:	HW01-1 100A Practice Save Done	← **Type this.**
Save as type:	Word Document	← **Be sure the file type is this.**

14. Click **Save**. The file will be saved in the **Word Files** folder with the name **HW01-1 HWID Practice Save Done**

15. Exit Word by clicking the close box **X** in the upper right corner of the window.

Word Recognition

If you have to type a large document and you are not a good typist you might try Word's **Dictate** feature. You will need a microphone and Word 365 installed on your computer. If you look in the upper right corner of the Word window, you will see the dictate icon.

Click the icon and a red dot will appear in the icon showing you are being recorded. As you speak, the words will be typed on your screen. The transcription is good but not perfect so you will have to go back and do some editing. The process is a bit slow and in fact a good typist can go faster than the word recognition but you might want to give this a try just to see how it works. Here's a web reference if you'd like more information

https://support.office.com/en-us/article/dictate-your-documents-d4fd296e-8f15-4168-afec-1f95b13a6408

Finding Files

Windows has a powerful search engine that will help you find and open files without having to locate them by sifting through layers of folders. You can search for files with particular names, contents, modification dates, and many other characteristics.
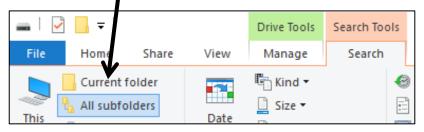
a. To see how this works, try the following. Note that your results will be different from mine because we are using different computers that contain different files and folders.

  1. On the **taskbar** (bottom row of screen), click the **File Explorer** icon Or, tap **Win + e** (that is hold down the Windows key on the keyboard and tap the **e** key). The **e** stands for **E**xplorer.

2. Click your USB drive to open it. My drive is **ROBERTSON (D:)**

   In the upper right, click inside the box that says **Search ROBERTSON (D:)**

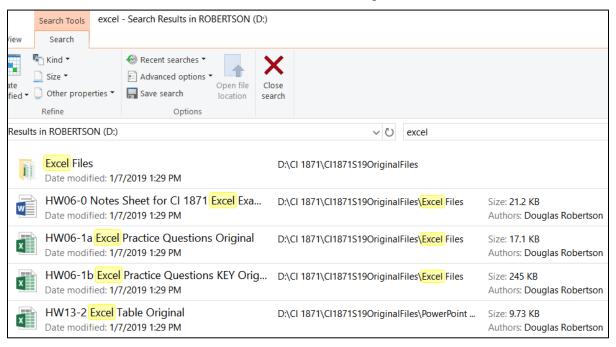   A new tab called **Search Tools Search** will appear:

On the **Search Tools Search** tab, in the **Location** group, be sure **All subfolders** is highlighted.

In the **Search Tools Search** tab, in the **Options** group, click **Advanced options** and be sure **nothing is checked**.

3. Type **excel** in the search box. This will search the USB drive for files and folders whose name contains the letters **excel**. Capitalization of words does not matter so **Excel** or **EXCEL** will give the same result as **excel**.

This shows that the USB drive ROBERTSON has one folder and four files whose names contain the word **excel** (or **Excel** or **EXCEL**).

4. In the **Search Tools Search** tab, in the **Options** group, click **Advanced options** and CHECK **File contents**. Now the search will include files that contain the word **excel** (or **Excel** or **EXCEL**) in their names AND in their contents.

This lists folders and files that have **excel** in their names and also files that contain **excel** somewhere inside them.

b. In searches, you can use Boolean operators[6] such as **AND**, **OR**, and **NOT**. For example, typing **excel OR original** shows all files that contain either word. Typing **exc OR ori** lists the same files plus others that start with the letters **exc** (e.g., **exc**iting) or **ori** (e.g., **ori**gami). You must use **CAPITAL LETTERS** for the **operators**.

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6   Named after the 19th century English mathematician, philosopher, and logician George Boole, who is considered one of the founders of the field of computer science.

c. You can also search for items that were modified on specific dates. To see
how this works, do the following:

1. Delete any text that is in the search box.

2. On the **Search Tools Search** tab, in the **Refine** group, click **Date modified**
and select **Today**. Notice the search box says **datemodified:today**.

Search Results in ROBERTSON (D:)	✓ ↻	datemodified:today
Non-School Stuff Date modified: 7/29/2018 10:19 AM		D:\
This USB drive belongs to Firstname ... Date modified: 7/29/2018 9:57 AM		D:\
HW08-1 Resume Extra Text Original Date modified: 7/29/2018 9:50 AM		D:\CI 1871\Word Files
HW05-1 River Original Date modified: 7/29/2018 9:50 AM		D:\CI 1871\Excel Files

So far today, July 29, 2018, I have modified 1 folder and 3 documents.

3. You can also search for files modified on any specific date. For example, to
see the files I modified on **28 July 2018** I clicked in the search box and
replaced **Today** with **7/28/18**.

Search Results in ROBERTSON (D:)	✓ ↻	7/28/18
Word Files Date modified: 7/28/2018 11:19 AM		D:\CI 1871
CI 1871 Date modified: 7/28/2018 11:19 AM		D:\
PowerPoint Files Date modified: 7/28/2018 11:19 AM		D:\CI 1871
Excel Files Date modified: 7/28/2018 11:19 AM		D:\CI 1871
Access Files Date modified: 7/28/2018 11:19 AM		D:\CI 1871
HW10-1 Character Styles and Declar... Date modified: 7/28/2018 11:19 AM		D:\CI 1871\Word Files
HW10-2 Paragraph Styles Add Text O... Date modified: 7/28/2018 11:19 AM		D:\CI 1871\Word Files

This displayed the names of 113 files and folders I modified on 7/28/18.

4. To find file names that were modified within a range of dates, type the
dates with two dots between them. For example, to find the names of files
that were modified between 26 July 2018 and 29 July 2018 in the search
box type **datemodified:7/26/2018..7/29/18**

5. Close all open windows.

d. To sign out of a computer in 128 Appleby classroom, tap the **Windows** key,
click your account icon   and select **Sign out**.

Keyboard Shortcuts in Windows 10

Here are some keyboard short cuts that may save you time. The 🏁 symbol refers to the **Windows Key**, which is in the bottom row of the keyboard, second from the left and also to the right of the **Spacebar** and **Alt** keys.

🏁	Open the **Start Menu**.
🏁 + d	Minimize all windows and show the desktop. Tapping this again restores all the minimized windows.
🏁 + e	Open the **Computer** window (to show drives **C:**, **D:**, **E:**, etc.).
Ctrl + y	Redo the last action.
Esc	Cancel the current task.

Very useful } (bracketing 🏁 + e and Ctrl + y)

Shutting Down the Computer

Before you shut down or remove a USB drive from a computer, be sure to ***close all open the windows*** (don't just minimize them with this button 🗕, but click the close box ❌ to close them). If you shut down or remove your USB drive with windows open you may lose some data.

To be doubly sure, right-click the name of the USB drive and click **Eject**. The message **Safe To Remove Hardware** will show in the lower right corner of the screen.

Format...
Eject
Cut

Pull out your USB drive. ***Don't wiggle it, just pull it straight out.***

You now can safely shut down the computer. Note that if you are using a classroom computer anything you save to the hard drive will be deleted when the computer restarts so be sure you are saving all your work to your USB drive.

Step 3 Homework

Do the following **four** homework projects and turn them in for grading. Each begins with the statement of a **Problem** and then the activity guides you through the solution.

HW means HomeWork   01 means Project 1   1 means Problem #1

HW01-1 Practice Save

Problem: How can you open and save Word documents?

a. This first problem is a quick one to be sure you know how and where to save your files and to remind you of the glossary (contains definitions of words used in the textbook) and index (contains the page numbers of various topics in the textbook). Both are located at the back of the textbook.

   1. Navigate to the **CI 1871** folder and double-click it.

   2. Double-click the folder **Word Files**.

3. Double-click the file name **HW01-1 HWID Practice Save Done**, which you created while following the directions on page **SG15** of this Study Guide. This will open the file.

4. Move the insertion point to the end of the document by pressing **Ctrl + End**. On a laptop you may have to hold down the **Fn** key as well as the **Ctrl** key and tap the **End** key.

5. Tap **Enter** twice to insert a blank line.

6. Type the words **Glossary Entries** and tap **Enter**. Then, look up in the back of your **textbook** the glossary entry for each of the following words. On separate lines, type the words and the Glossary entries as follows:

   Font: TYPE TEXTBOOK GLOSSARY ENTRY HERE

   pt: TYPE TEXTBOOK GLOSSARY ENTRY HERE

7. Place the insertion point at the end of the line with your last glossary entry, tap **Enter** twice (to insert a blank line), type the words **Index Entries**, tap **Enter**, and then type the following items. After each item, type the **page number** where the textbook Index says that item is discussed.

   Drives: TYPE TEXTBOOK PAGE NUMBER HERE

   Flash Fill: TYPE TEXTBOOK PAGE NUMBER HERE

8. Tap **Enter** two times to insert a blank line.

9. Type the following on separate lines but replace **DATE** and **TIME** with the proper date and time for each exam (if an exam is not yet scheduled, type your best guess for the date and time):

   1871 Excel exam is on DATE at TIME in 128 Appleby Hall.

   1871 Word exam is on DATE at TIME in 128 Appleby Hall.

   1871 Final exam is on DATE at TIME. It covers Excel, Word, and PowerPoint in 128 Appleby Hall.

10. Mark on your calendar, organizer, Blackberry, iPhone, whatever, the dates, times, and locations for the Excel exam, the Word exam, and the Final exam. All exams will be done on the computers in 128 Appleby unless you have made other arrangements with the instructor.

b. Print the document by doing the following:

1. Tap **Ctrl + p** to display the **Print** dialog box.

> ### You *NEVER* have to print in *color*.

2. Compare the preview with the key on page **SG353** of this Study Guide. If you need to make corrections, tap the **Esc** key (upper left corner of the keyboard) to get back to edit mode and then make your changes. When you are sure your document matches the key, print the file by taping **Ctrl + p** (if needed) and then clicking the **Print** button.

    Keep the printed output to hand in with the other parts of this project.
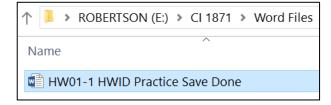
c. Do the following to open the folder where the file **HW01-1 HWID Practice Save Done** is saved:

Very useful {

1. Click the **File** tab to open **Backstage** view. This provides information about the file and allows you to set options for Word.

    In the lower right corner, point to **Open File Location**. This shows where the file is saved.

2. Click **Open File Location** to open the folder that contains the file.

This is useful when you are working with lots of files and drives. Check to be sure your file is in the correct place (if you are on a public computer, it should show the file on your USB drive, in the **Word** folder of the **CI 1871** folder).
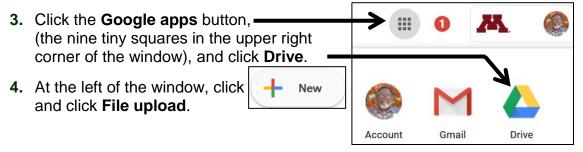
3. Close the folder you just opened.

4. Tap the **Esc** key to close **Backstage** view and return to normal view.

d. Save the document and then close it by clicking **X** in the upper right corner.

HW01-2 Saving Files to Google Drive

Problem: How can you save files so they can be accessed from any computer that has an internet connection?

When you set up your computer filing system on page **SG9** you accessed files that I had put up on **Google Drive**. In this project, you will experience uploading your own file to **Google Drive**.

a. You can access **Google Drive** by entering **drive.google.com** in the address bar of your internet browser or by selecting **Google Drive** from the **Google Aps** button if your U of M email is open. Do the following:

1. Start a web browser, type **mail.umn.edu** in the address bar, and tap **Enter**.

2. Type your Internet ID (the characters in your U of M email address to the left of the @ symbol), type your email password, and click **Sign In**.

3. Click the **Google apps** button, (the nine tiny squares in the upper right corner of the window), and click **Drive**.

4. At the left of the window, click [+ New] and click **File upload**.

5. Navigate to your file **HW01-1 HWID Practice Save Done** and double-click.

When the upload is complete, you will see an **Uploads completed** window.

6. Click the **X** to close the window. The file will be listed.
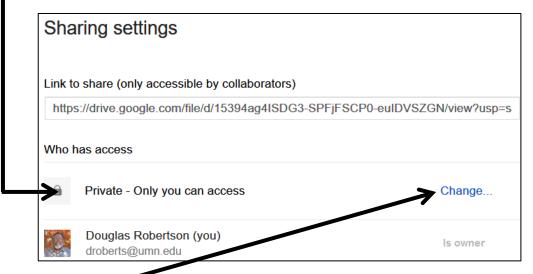
Now, you need to specify who can access your uploaded file.

7. Right-click the file name and select **Share**. [Share...]

8. Click **Advanced** to show the **Sharing settings**.

9. To **not** allow others to change the file, click the pencil icon down arrow and select **Can view**.

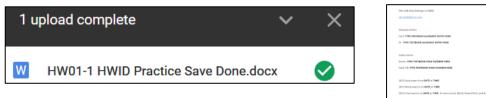Invite people:

    Enter names or email addresses...

    ✓ Can edit
    Can comment
    Can view

Owner settings Learn more
  ☐ Prevent editors from changing access and adding new people
  ☐ Disable options to download, print, and copy for commenters and vi

If you want to share the file only with specific people, type their email addresses in the box. For this project, leave it blank.

This window shows me as the owner of the file and that it is initially set to **Private** so that only I can access it.

Sharing settings

Link to share (only accessible by collaborators)

    https://drive.google.com/file/d/15394ag4ISDG3-SPFjFSCP0-euIDVSZGN/view?usp=s

Who has access

  🔒 Private - Only you can access   Change...

  👤 Douglas Robertson (you)   Is owner
      droberts@umn.edu

10. Click **Change** to see the other sharing options.

11. Click the button to the left of **On - Anyone with the link**.

    ⦿ 👤 **On** - Anyone with the link
             Anyone who has the link can access. No sign-in required.

That is what I selected for the folder I had you download so that it was not viewable to the world but only students in CI 1871 (unless a student gives the link to someone else).

12. Click **Save**.

13. Click **Done**.

14. To get the link, right-click the file name and click **Get shareable link**. You will see the following confirmation:

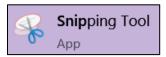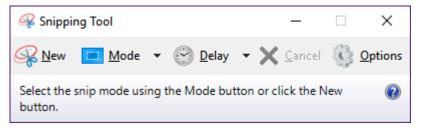Link copied to the clipboard.

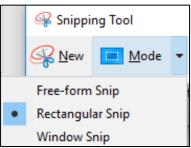The link is now on the clipboard. You can send it to anyone you want to be able to view your file.

c. Do the following to take a screenshot of your **Google Drive** homepage:

1. Start Word and open a blank document.

2. Type **HW01-2 HWID**, where **HWID** is your four-character homework ID from your syllabus.

3. Tap **Enter** two times.

4. Click the **Google Drive** window to make it active.

5. On the lower left side of the keyboard, tap the **Windows** key 🪟 (between **Ctrl** and **Alt**) to open the **Start** menu.

6. Type *snip* and Windows will list files on your computer that contain the word *snip*. Windows puts the names of programs at the top of the list.

Snipping Tool
App

7. Click **Snipping Tool** to open the program.

Snipping Tool   —   □   ✕

New   Mode ▼   Delay ▼ ✕ Cancel   Options

Select the snip mode using the Mode button or click the New button.   ?

8. Click **Options** and be sure **Always copy snips to the Clipboard** is checked.

Snipping Tool

New   Mode ▼

Free-form Snip
• Rectangular Snip
Window Snip

9. Click **OK**.

10. Click the **Mode** down arrow and select **Rectangular Snip**.

11. Drag the cursor around any part of the Google Drive window to select it. When you let up on the mouse button a picture of the **Google Drive** window will be placed on the clipboard and a sample of what you have just captured will be shown.

12. Click the **X** to close the **Snipping Tool**. If asked to save the changes, click **No**.

13. Click at the end of the new Word document and then tap **Ctrl + v** to paste the screen shot into the document. Note that your Google Drive window will look different from mine.

   d. Print the document, save it using the name **HW01-2 HWID Google Drive Done**, and close it.

   e. Close your web browser.

HW01-3 Web-Based Training Using LinkedIn Learning
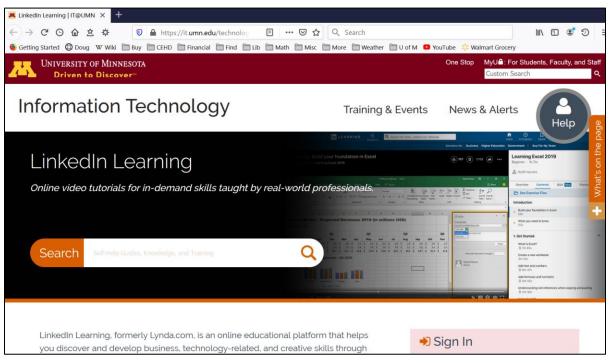
Problem: How can you get online training videos on a wide range of topics?

To make extensive online training available to all students, staff, and faculty, the University provides free access to **LinkedIn Learning**, which includes access to **Lynda.com**, a learning platform that teaches skills in a video format. Lynda.com was founded in 1995 by Lynda Weinman and Bruce Heavin. Users may watch videos on **Business**, **Creativity**, and **Technology**. It has videos that cover some of the content of this course. In this project, you will have an opportunity to explore the site and watch a brief video of your choosing.

More information on LinkedIn Learning may be found at
https://it.umn.edu/technology/linkedin-learning

   a. Create a new Word document.

      1. Start Word and open a new blank document.

      2. All on one line, type **HW01-3 HWID Web-Based Training Using LinkedIn Learning**, where **HWID** is your four-character homework ID from your syllabus.

      3. Tap **Enter** two times.

      4. Tap the **F12** key, navigate to the Word folder, and save the document using the name **HW01-3 HWID Web-Based Training Done**

b. Access online learning videos by doing the following:

1. Start your web browser and go to
https://it.umn.edu/technology/linkedin-learning
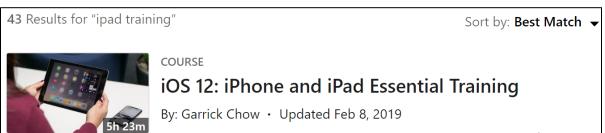
2. In the lower right corner, just under **Sign in**, click
Sign in to LinkedIn Learning.

3. Enter your Internet ID and Password and click **Sign In**.

4. To view a list of topics, click the **Browse** down arrow:

Click a subject that interests you or, in the search box, type something.
I typed **ipad training** and then I tapped **Enter**.

5. I was interested in the course **iOS 12: iPhone and iPad Essential Training**.

The screen shot shows the course is 5 hours and 23 minutes in duration.

I clicked the screen shot.

I then clicked the play arrow to start the video.

6. For this problem, click any part of any video and play it. Use the **Snipping** tool as you did on page **SG25** to take a screen shot of the video at any point.

7. Switch to Word and paste the screenshot.

c. Tap **Ctrl + P** and compare the preview with the key. Obviously, your screen shot will be different from mine but that is fine. Make needed corrections, print, save the document, and close it. Close your web browser.

HW01-4 PDF Files

Problem: How can you send files to others so that they will be able to view them as they would appear on your own computer?

If you want someone else to have access to one of your files you could put it up on Google Drive or email it as an attachment. Emailing files to yourself or others may require special handling. Email clients, like Gmail, usually have a size limitation so that very large files have to be compressed or broken up into several smaller files before they can be emailed. The file size limit for Gmail is 25 megabytes. Also, because different printers require different setup parameters, if you email a file to a friend the formatting on your friend's computer may not look exactly like it did on your computer. Or, your friend may not have Word or Excel or PowerPoint and so could not open the file. You can get around some of these limitations by saving files in **Portable Document Format** (pdf) format. Pdf was developed in 1991 by Adobe Systems. It is designed to represent documents in a manner independent of application software, hardware, and operating systems. Let's see how this works.

a. Convert a Word file to a pdf file by doing the following:

   1. Navigate to your **Word Files** folder and open the document **HW10-1 Character Styles and Declaration Original**, which is one of the files you downloaded at the start of the term. You will use this file again in Project 10.

   2. Tap the **F12** key to open the **Save As** dialog box. In the **File name** box type **HW01-4 HWID Pdf Done**.

   3. Click the **Save as type** down arrow and select **PDF**.
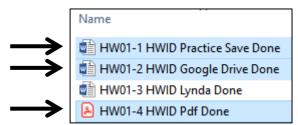
File name:	HW01-4 Lastname Firstname HWID Pdf Done
Save as type:	PDF

   4. Click **Save**. An accurate copy of this file now can be opened by any computer with the aid of **Adobe Reader**, a program that is available free from http://get.adobe.com/reader/?promoid=JZEFU

   If this had been a file too large to email, for example this Study Guide, you could have saved it using two copies, say, **SG-Part-1** and **SG-Part-2**, deleted the last half of the material in **SG-Part-1** and the first half of the material in **SG-Part-2**, and then saved each as a pdf.

   5. If necessary, close the newly created pdf file. Also, close **HW10-1 Character Styles and Declaration Original** without saving changes to it.

b. Do the following to email to **yourself** (NOT me!) a compressed folder that contains some files:

   1. Navigate to the **Word Files** folder.

   2. Click **ONCE** the icon just to the left of file name **HW01-1 HWID Practice Save Done**.

3. Hold down the **Ctrl** key and click the icons next to the file names **HW01-2 HWID Google Drive Done** and **HW01-4 HWID Pdf Done**.

Three items are selected.

4. With the arrow pointing at the icon next to file **HW01-4 HWID Pdf Done**, right-click, select **Send to**, and then select **Compressed (zipped)** folder.

A new **zipped** file is created. Its icon is a folder with a zipper on it and it has the same name as the last file in the list that you zipped.

5. Right-click the file name on the zipped folder, select **Rename**, and type **HW01-4 HWID ZIPPED Done**

6. Open your email program and compose an email with the message: **Attached is the compressed file**.

7. Type **your own** email address in the **To** box and **HW01-4** in the **Subject** box.

8. If you are using Gmail, click the paperclip icon near the bottom of the window to attach the file to the email. If you are using a different email program it will look a bit different. Navigate to your Word folder, and double-click **HW01-4 HWID ZIPPED Done**. The file will be attached to the email.

HW01-4 HWID ZIPPED Done.zip (279K)

9. Send the email **to yourself** (NOT to me).
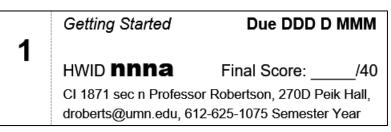
   c. Do the following to create your homework file:

      1. Start Word and open a new blank document.

      2. All on one line, type **HW01-4 HWID** and then tap **Enter** two times.

      3. Open your email program, and open the email you just sent to yourself.

      4. Use the **Snipping Tool** to take a screen shot of the email. It should look something like this:

      5. Click at the end of the new Word document and then tap **Ctrl + v** to paste the screen shot into the document.

   d. Tap **Ctrl + P** and compare the preview with the key. Make needed corrections, print, and then save the document using the name **HW01-4 PDF Files**, close it and exit Word.

Step 4 Submit You now are ready to submit your homework for grading.

      1. Put your 4 homework papers in the following order:

         HW01-1 Practice Save
         HW01-2 Google Drive
         HW01-3 HWID Web-Based Training
         HW01-4 PDF Files

      2. Cut out Submission Form 1 (from your syllabus) and put it on the top of the papers.
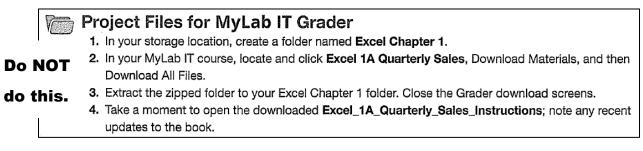
      3. Staple the papers in the upper left corner.

      4. Turn in the packet by the due date.

Step 5 Backup Now would be a good time to backup your files. It will take only a minute or two to copy your files from your USB drive to your computer's hard drive, or to another USB drive, or to upload them to Google Drive.

Project 2
Excel Chapter 1: Creating Worksheets and Charts
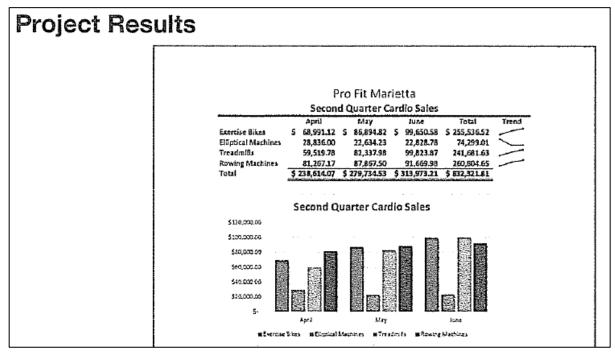
Step 1 Read Read the introductory material on page 315 of the textbook.

Step 2 Activities Turn on the computer and open the textbook to page 316.
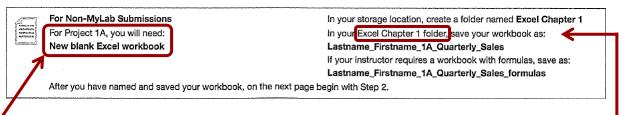
We are not using MyLab IT so **SKIP Project Files for MyLab IT Grader**.

Do NOT

do this.

> ### 📁 Project Files for MyLab IT Grader
> 1. In your storage location, create a folder named **Excel Chapter 1**.
> 2. In your MyLab IT course, locate and click **Excel 1A Quarterly Sales**, Download Materials, and then Download All Files.
> 3. Extract the zipped folder to your Excel Chapter 1 folder. Close the Grader download screens.
> 4. Take a moment to open the downloaded **Excel_1A_Quarterly_Sales_Instructions**; note any recent updates to the book.

Just below that, under **Project Results**, there is a picture of how your output will look after you finish all the activities for **Project 1A Sales Report** and before you make the changes outlined in this Study Guide. This is not the final result for **Project 1A** because you will add to it by following the instructions below.

Project Results

Pro Fit Marietta
Second Quarter Cardio Sales

	April	May	June	Total	Trend
Exercise Bikes	$ 68,991.12	$ 86,894.82	$ 99,650.58	$ 255,536.52	
Elliptical Machines	28,836.00	22,634.23	22,828.78	74,299.01	
Treadmills	59,519.78	82,337.98	99,823.87	241,681.63	
Rowing Machines	81,267.17	87,867.50	91,669.98	260,804.65	
Total	$ 238,614.07	$ 279,734.53	$ 313,973.21	$ 832,321.81	

Second Quarter Cardio Sales

Just below the **Project Results** are directions for those **NOT** using MyLab IT. That is us.

> **For Non-MyLab Submissions**
> **For Project 1A, you will need:**
> **New blank Excel workbook**
>
> In your storage location, create a folder named **Excel Chapter 1**
> In your Excel Chapter 1 folder, save your workbook as:
> **Lastname_Firstname_1A_Quarterly_Sales**
> If your instructor requires a workbook with formulas, save as:
> **Lastname_Firstname_1A_Quarterly_Sales_formulas**
>
> After you have named and saved your workbook, on the next page begin with Step 2.

This lists the files you will need for **Project 1A**. For this first project, you will need a new blank Excel workbook and nothing else.

> ***We are not going to use sub folders (e.g., Excel Chapter 1).***
> ***Save all your Excel files in the Excel Files folder so you can see***
> ***them all at once.***

Note that if the resolution of your display is not 1280 x 768 ***things may look a bit different from the screen shots in the textbook***. Don't worry, especially if you need to increase or decrease the widths of cells to make things look right on your computer.

Keep this in mind:

- Do **NOT** print when the textbook instructs you to print.
- Do **NOT** do **GO! With Google Sheets** (pages 345-346).
- When you have completed Project 1A, do Project 1B (pages 348-362).
- Do **NOT** do **GO! With Google Sheets** (pages 363-364).
- Do **NOT** do **GO! To Work** (page 365).

Project 1A: Start at the top of page 317 of the textbook but **instead of Activity 1.01** step 1 do the following:

1. Start Excel and click **Blank workbook** to open a new blank workbook.

Blank workbook

2. Tap the **F12** key to open the **Save As** dialog box. You can also do this by clicking the **File** tab, clicking **Save As**, and then clicking **Save As** again.

3. On your USB drive, navigate to the **Excel Files** folder.

X〗 Save As

← → ∨ ↑ 📁 > ROBERTSON (D:) > CI 1871 > Excel Files

4. In the **File name** box replace **Book1** with:

LastName_FirstName_1A_Quarterly_Sales

where **LastName** is **YOUR** last name and **FirstName** is **YOUR** first name.

5. Click **Save**.

6. Complete the rest of the Activities for this Project EXCEPT do **NOT** do steps 11 and 12 on page 344.

7. **Return here** when you have completed Project 1A on page 344.

Do NOT do GO! With Google Sheets.

Project 1B: When you have completed Project 1A, start at the top of page 348.

Instead of Activity 1.18 step 1 do the following:

1. Open a blank Excel workbook and save it to your **Excel Files** folder using the name **Lastname_Firstname_1B_Plyo_Products**

2. Complete the rest of the Activities for this Project EXCEPT do **NOT** do steps 12 and 13 on page 362.

3. **Return here** when you have completed Project 1B on page 361.

Do NOT do GO! With Google Sheets or GO! To Work.

Step 3 Homework After you have completed Projects A and B return here, do the following additional activities, and turn them in for grading. A list of what to turn in for grading is on page **SG48**. The output keys begin on page **SG354**.

HW02-1 Quarterly Sales (Based on Project 1A)

Problem: How can you organize, summarize, and change the way data and formulas are displayed?

a. Open the workbook **LastName_FirstName_1A_Quarterly_Sales**, which you created while following the directions in the textbook and saved in step 3 on page 342.

If necessary, switch to normal view by clicking the **Normal** button on the lower right corner of the window. ➡️ ⊞ Normal ⊡ 凹 —

Remember, if you see a bunch of pound symbols, **#####**, it means the column is too narrow. To fix this, move the mouse pointer so that it is between two column heading letters. It will change to a double arrow. Click and drag right.
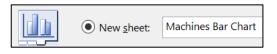
b. Tap **F12** to open the **Save As** dialog box.

Save the workbook in your **Excel Files** folder using the name **HW02-1 HWID 1A_Quarterly_Sales_Done** where **HWID** is your four-character homework ID from your syllabus.

c. Create a bar chart of the total sales for different machines by doing the following:

1. Select **E4:E7**.

2. On the **Insert** tab, in the **Charts** group, click the **Insert Column or Bar Chart** down arrow and select **3-D Clustered Bar**. Notice that a column chart is vertical, like the columns on a building, while a bar chart is horizontal.

3. On the **Chart Tools Design** tab, in the **Location** group, click **Move Chart**.

4. Click **New sheet** and type the new chart name **Machines Bar Chart**.

Click **OK**. This puts the chart on a separate chartsheet where only the chart is shown (versus a worksheet where both a chart and data cells are shown). This will make it easier to work on.

5. To put the proper names on the bars, on the **Chart Tools Design** tab, in the **Data** group, click **Select Data** to open its dialog box.

6. Under **Horizontal (Category) Axis Labels** click **Edit**.

7. Here, you could type the range for the labels but there is an easier way. Click the collapse dialog button [⬆] then click the **Sheet1** tab, and finally, select **A4:A7**.
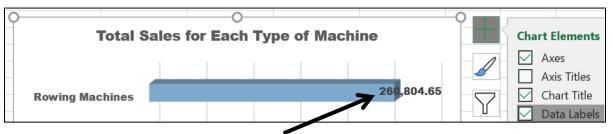
This puts in the reference for you. It says to go to **Sheet1** and select the names in cells **A4:A7**. Excel puts a green dotted line around that range so you can clearly see what you have selected.

8. Click the collapse dialog button ⬆ again and then click **OK**. Now, the machine names show up under the **Horizontal (Category) Axis Labels**.

Horizontal (Category) Axis Labels
📝 Edit
☑ Exercise Bikes
☑ Elliptical Machines
☑ Treadmills
☑ Rowing Machines

9. Click **OK**.

10. Click anywhere in the chart and notice there is a little green cross ➕ in its upper right corner. This is one of the **Chart Elements** buttons. Click that and put a check next to **Data Labels**.

> **Mac Users:** There is no green cross. On the **Chart Design** tab, on the far left, click the **Add Chart Element** down arrow and select **More Data Label Options** to insert the data labels. If the **Format Data Labels** pane does not automatically open, on the far right-click the **Format Pane** button.

Total Sales for Each Type of Machine

Rowing Machines ▬▬▬▬▬ 260,804.65

Chart Elements
☑ Axes
☐ Axis Titles
☑ Chart Title
☑ Data Labels
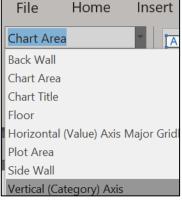
This puts the values (labels) at the ends of the bars.

11. On the **Chart Tools Format** tab, in the **Current Selection** group (upper left corner), click the **Chart Elements** down arrow and select **Series 1 Data Labels**. Just under that, click **Format Selection** to open the **Format Data Labels** pane.

Series 1 Data Labels ▼
🖌 Format Selection

12. On the **Home** tab, in the **Font** group, select **Arial Black** and make the font size **9**.

13. On the **Chart Tools Format** tab, in the **Current Selection** group, click the down arrow and select **Vertical (Category) Axis**.
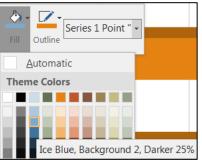
Just under that, click **Format Selection**.

14. On the **Home** tab, in the **Font** group, select **Arial Black** and make the font size **9**.

File   Home   Insert
Chart Area ▼   [A
Back Wall
Chart Area
Chart Title
Floor
Horizontal (Value) Axis Major Gridl
Plot Area
Side Wall
Vertical (Category) Axis

15. On the **Chart Tools Format** tab, in the **Current Selection** group, click the **Chart Elements** down arrow and select **Horizontal (Value) Axis**. Just under that, click **Format Selection**. Tap the **Del** key to remove this axis.
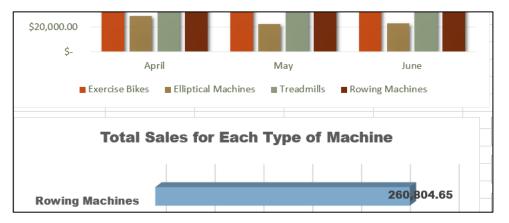
16. On the **Chart Tools Format** tab, in the **Current Selection** group, click the **Chart Elements** down arrow and select **Chart Title**. Just under that, click **Format Selection**. Click inside the **Chart Title** text box and type **Total Sales for Each Type of Machine**. Make its font **12** pt **Arial Black**.

17. Click the bar for **Rowing Machines** once, wait a second, and click it again. This will select that single bar. This is not a "double-click" but a click, a pause, and then another click. Double-clicking will select all the bars and open the **Format Data Series** pane (not what you want).

    Right-click, click the paint bucket, and select blue.

18. Follow the same procedure to change the color of the **Treadmills** bar to pink.

19. Follow the same procedure to change the color of the **Elliptical Machines** bar to green.

20. On the **Chart Tools Design** tab, in the **Location** group, click **Move Chart**. Click the button next to **Object in**, select **Sheet1** (if necessary), and click **OK**.

21. Position the new chart under the column chart.

Depending on your screen resolution, the bar labels may be difficult to read and/or the digits may wrap. Do the following to make the labels more readable.
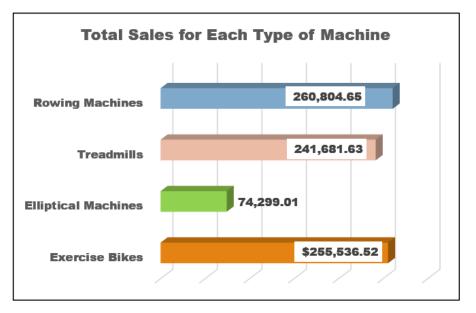
22. Click the **Rowing Machines** label value once, wait a second, and then click it again to select it.

23. On the **Chart Tools Format** tab, in the **Shape Styles** group, click the down arrow next to **Shape Fill** and select **White**.

Now the number is more easily read.

24. Grab the edge of the number box and slide it to the left so that the end of the bar shows and the number is vertically centered on the bar. Repeat this process for the **Treadmills** and **Exercise Bikes** data labels.

This illustrates that when working with graphs you sometimes have to fiddle around with the parts to get it to look the way you want it.

d. Double-click the **Sheet1** tab name to select it. Type **Data** for the new name and then tap **Enter**.

e. Tap **Ctrl + p** to open the **Print** window.

Click **Page Setup**.

Click the **Page** tab and confirm that the orientation is **Portrait**.

Click the **Margins** tab and put a check in the box next to **Horizontally**.

Click the **Header/Footer** tab and click **Custom Footer**.

Click inside the **Left section** box and click the **Insert File Name** icon

Click inside the **Right section** box and click the **Insert Sheet Name** icon

Click inside the **Center section** box and click **Insert Picture** icon

Navigate to your **Word Files** folder and double-click **HW07-2 Goldy Original**.

Notice the codes inserted by Excel.

Other icons allow you to modify the font and display the page number, date and time.

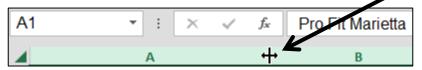Select the code **&[Picture]**, click the **Format Picture** icon and change the **Height** to **0.3** inch.

Click **OK** three times and compare the preview with the key on page **SG354**. Make corrections, print the worksheet, and save the workbook but *do not* close it.

> ### You NEVER have to print in color.

f. Copy the worksheet by doing the following:

   1. Near the bottom left of the screen, right-click the **Data** tab and select **Move or Copy** from the pop-up menu.

   2. Click the **Create a copy** check box.

   3. Click **OK**. This makes a duplicate of the worksheet and names it **Data (2)**.

   4. Double-click the tab name, **Data (2)**, to select it. Type the new name, **Formulas**, and tap **Enter**.

g. Do the following to print the **Formulas** worksheet with the formulas displayed. This will enable me to see if you have the correct formulas. The directions given below are similar to those given in **Activity 1.17** on page 342 of the textbook but they are quicker to execute.

   1. If necessary, delete the two charts by clicking on them and tapping the **Del** key.

   2. Tap **Ctrl + `** to display the formulas. The ` key is located at the upper left corner of the keyboard. You can also display the formulas by going to the **Formulas** tab and, in the **Formula Auditing** group, clicking **Show Formulas**.

   3. Click the **Select All** box in the upper left corner of the worksheet. This selects all the cells of the worksheet.

   4. Move the pointer to the column heading boundary between any two columns until the pointer becomes a double-headed arrow.

   5. Double-click. This process, called **AutoFit**, will adjust the column widths to fit the formulas displayed. Don't worry if the formatting looks different because displaying the formulas sometimes messes it up.

	A	B	C	D	E	F
1		Pro Fit Marietta				
2		Second Quarter Cardio Sales				
3		April	May	June	Total	Trend
4	Exercise Bikes	68991.12	86894.82	99650.58	=SUM(B4:D4)	
5	Elliptical Machines	28836	22634.23	22828.78	=SUM(B5:D5)	
6	Treadmills	59519.78	82337.98	99823.87	=SUM(B6:D6)	
7	Rowing Machines	81267.17	87867.5	91669.98	=SUM(B7:D7)	
8	Total	=B4+B5+B6+B7	=C4+C5+C6+C7	=SUM(D4:D7)	=SUM(B8:D8)	

   6. Click cell **A1** to deselect all the cells.

h. Print the worksheet. The setup should be the same as for the **Data** worksheet, but check to be sure. In addition, do the following:

1. Tap **Ctrl + p** and then click **Page Setup**.

2. On the **Page** tab, in the **Scaling** section, click the button to the left of **Fit to:** With this checked you are guaranteed the entire worksheet will print on one page.

3. Click the **Sheet** tab. In the **Print** section, check the boxes next to **Gridlines** and **Row and column headings**. Printing these makes it easier to see if the formulas are correct.

4. Click **OK**.

5. Compare the preview with the key. Make needed corrections, print the worksheet, save the workbook, and then close it.

> *You **NEVER** have to print in **color**.*

HW02-2 Plyometric Products Inventory (Based on Project 1B)

Problem: How can you summarize data and construct and format graphs so that they are informative, visually appealing, and clearly display relationships between data?

a. Open the workbook **Lastname_Firstname_1B_Plyo_Products**, which you created while following the directions in the textbook and saved in step 10 on page 361.

b. Tap **F12** to open the **Save As** dialog box. Save the workbook in the **Excel Files** folder using the name **HW02-2 HWID 1B_Plyo_Products_Done** where **HWID** is your four-character homework ID from your syllabus.

c. Do the following to insert a bar chart that displays the **Percent of Total Retail Value** for each Item.

1. Select **A4:A10**. Then, hold down the **Ctrl** key and select **F4:F10**. This selects the range with the item names and also the range with the percents of total sales.

2. On the **Insert** tab, in the **Charts** group. click the bar chart icon and select **3-D Clustered Bar**.
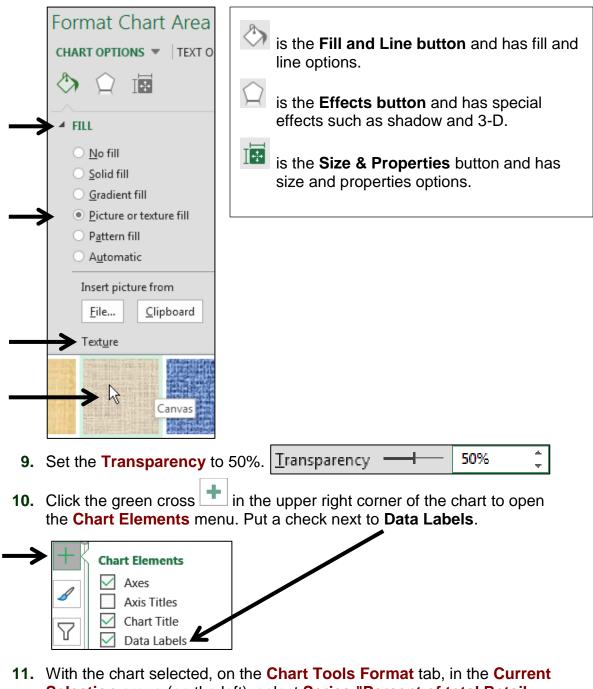
3. With the chart selected, on the **Chart Tools Format** tab, in the **Current Selection** group (on the left), select **Horizontal (Values) Axis**.

4. Click **Format Selection**.

    This will open the **Format Axis** pane.

5. Click **Number**, **Percentage** and set the **Decimal places** to 0.

6. With the chart selected, on the **Chart Tools Format** tab, in the **Current Selection** group (on the left), select **Chart Area**.

7. Click **Format Selection**.

8. Click the paint bucket [icon] to see the **Fill and Line** options. Confirm that **Picture or texture fill** is checked. Then click the **Texture** down arrow and click **Canvas**.

[icon] is the **Fill and Line button** and has fill and line options.

[icon] is the **Effects button** and has special effects such as shadow and 3-D.

[icon] is the **Size & Properties** button and has size and properties options.

Format Chart Area

CHART OPTIONS ▾ | TEXT O

◢ **FILL**

○ <u>N</u>o fill
○ <u>S</u>olid fill
○ <u>G</u>radient fill
⦿ <u>P</u>icture or texture fill
○ Pa<u>t</u>tern fill
○ A<u>u</u>tomatic

Insert picture from

<u>F</u>ile...   <u>C</u>lipboard

Tex<u>t</u>ure

Canvas

9. Set the **Transparency** to 50%. <u>T</u>ransparency ——|—— 50%

10. Click the green cross [icon] in the upper right corner of the chart to open the **Chart Elements** menu. Put a check next to **Data Labels**.

Chart Elements

☑ Axes
☐ Axis Titles
☑ Chart Title
☑ Data Labels

11. With the chart selected, on the **Chart Tools Format** tab, in the **Current Selection** group (on the left), select **Series "Percent of total Retail Value" Data Labels**.

12. Click **Format Selection**.

13. In the format **Data Labels** pane, click **Number**, set the **Category** to **Percentage**, and the **Decimal places** to 0.

◢ **NUMBER**

<u>C</u>ategory

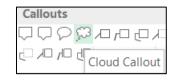Percentage ▾

<u>D</u>ecimal places: 0

14. Click **Close**.

15. With the **Data Labels** still selected, click the **Home** tab, in the **Font** group, select **Arial Black** from the drop-down menu.

16. Move and resize the chart so that the upper left corner is just inside **A12** and the lower right corner is just inside **F27**.

17. Click **A1** to deselect the chart.

18. On the **Insert** tab, in the **Illustrations** group, click **Shapes**, and click **Cloud Callout** (way down at the bottom of the menu). A small cross will appear. +

19. Move the cross to about the middle of **A4**, hold down the left mouse button, and drag down and to the right to insert a cloud callout.

20. Right-click the cloud and select **Edit Text**.

21. Type **Need to reduce this inventory.**

22. Drag the cloud to the position shown below.

23. Drag the little yellow box so that the cloud points to the **Stackable Steps** bar.
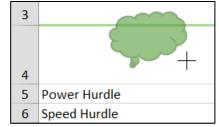
24. Change the name of the worksheet to **Data and Graph**.

d. Tap **Ctrl + p** and set the worksheet to print in **Landscape** orientation, all on **one page**, **centered horizontally** but not vertically, and include a footer that contains the **file name** on the left and the **sheet name** on the right. Compare the preview with the key. Make needed corrections, print the worksheet, save the workbook, and then close it.

> *You NEVER have to print in color.*

HW02-3 Vehicle Sales Charts

Problem: How can you create detailed three-D column charts to visually display relationships between data?

a. Open the workbook **HW02-3 Vehicle Sales Original**, which is one of the files you downloaded at the start of the term.

b. Save the workbook to the **Excel Files** folder using the name **HW02-3 HWID Vehicle Sales Done**

c. Merge and center **A1:E1**.
   Merge and center **A2:E2**.

d. In row **7**, enter formulas that will calculate the sum for cars for each year. Do the same for row **12** for Vans, for row **16** for SUVs, and for row **17** for Grand Total.

e. Click **F17** and type **="Average is "&AVERAGE(B17:E17)**
   The ampersand, **&**, allows you to display more than one item in a cell. It has the effect of concatenating (sticking together) the items. So, the text inside the quotation marks will be displayed followed by the calculated average.

f. Click the **Enter** checkbox ✔ and the cell will display **Average is 84.25**

g. Insert Sparklines as follows:

   1. Click **F5**, insert a **line Sparkline** for the **Sedans** data. Use the options in the **Sparkline Tools Design** tab to make the color red and mark the **High Point** and **Low Point** in dark blue.

   2. Do the same for the **Coupes** in **F6**.

   3. Click **F9**, insert a **column Sparkline** for the **Full Sized Vans** data. Do the same for the **Mini Vans** and the **Four Wheel Drive Vans**. Make the **Sparkline** for **Full Sized** red, for **Mini** green, and for **Four Wheel Drive** orange.

h. Tap **Ctrl + p** and set the worksheet to print in **Portrait**, all on **one page**, **centered horizontally** but not vertically and include a footer that contains the **file name** on the left and the **sheet name** on the right. Compare the preview with the key. Make needed corrections, print the worksheet, save the workbook but do NOT close it.

> *You NEVER have to print in color.*

i. Create a line chart of the **Total Cars** and **Total Vans** and **Total SUVs** for the years **2000** through **2015** by doing the following:

1. Click **A3** and drag across to **E3**. This will set the scale at the bottom of the line chart. Note that even though **A3** is empty you still need to select it so that there is consistency in the selection of the rest of the data.

2. Hold down the **Ctrl** key and select **A7:E7**.

    Be careful when you select the data or your chart will not display correctly. When you make your selection, start at **A3** and drag across to **E3** *without* holding down the **Ctrl** key. Then, let up on the mouse button, point to **A7**, hold down the **Ctrl** key, press and hold the mouse button and drag across to **E7**. Now, both **A3:E3** and **A7:E7** are selected.

	A	B	C	D	E
1	*Vehicle Sales*				
2	*(in hundreds of vehicles)*				
3		*2000*	*2005*	*2010*	*2015*
4	**Cars**				
5	Sedans	23	31	35	29
6	Coupes	14	12	16	15
7	**Total Cars**	37	43	51	44
8	**Vans**				

3. Hold down the **Ctrl** key and select **A12:E12**.

4. Hold down the **Ctrl** key and select **A16:E16**.

5. On the **Insert** tab, in the **Charts** group, click **Line**, and select **Line with Markers**.

6. On the graph, click **Chart Title**, type **Vehicle Sales**, and tap **Enter**.

7. Click the **Chart Elements** button, the green cross in the upper right corner of the chart, to open the **Chart Elements** menu and put a check next to **Axis Titles**.
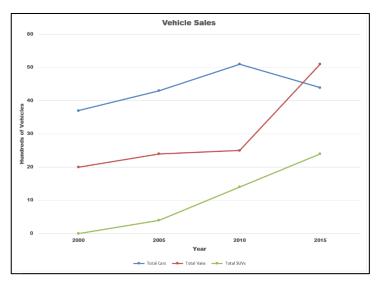
    Chart Elements
    ☑ Axes
    ☑ Axis Titles

8. Click the horizontal **Axis Title**, type **Year**, and tap **Enter**.

9. Click the vertical **Axis Title**, type **Hundreds of Vehicles**, and tap **Enter**.

10. Change the font of the **Title**, the two **Axis Titles**, and the two **Axis Numbers** to Arial Black. A quick way to do it is to click on the title, select Arial Black from the **Font** group on the **Home** tab. Then, click the vertical axis and tap **Ctrl + y**, and then do the same for the horizontal axis and numbers. **Ctrl + y** repeats your last action.

11. On the **Chart Tools Design** tab, in the **Location** group, click **Move Chart** to open the **Move Chart** dialog box.

    Move Chart Location

12. Click the **New sheet:** button and replace **Chart1** with **Line Chart**.

13. Click **OK**. The chart now is in its own chartsheet. Note that this is called a **chartsheet** rather than a **worksheet** because it contains nothing but a chart. If a chart is embedded with data on a sheet then that sheet is called a worksheet.
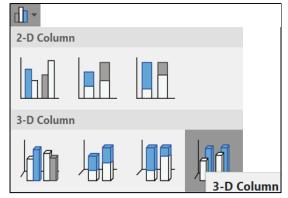

Do NOT print this chart.

j.   Do the following to create a 3-D column chart.

Click the **Data** worksheet tab. Create a **3-D Column** chart for **2000**, **2010**, and **2015** using the data for **Sedans**, **Coupes**, **Full Sized**, **Mini**, and **Regular**. Note that since you are skipping the 2005 column you cannot select the data like you did for the line chart. That is, you cannot drag across the rows of data; you must click each cell individtually left to right, top to bottom.

So, start by clicking **A3** even though it is blank. Then, hold down the **Ctrl** key and *click* (do **NOT** drag) **B3**, then click **D3**, then click **E3**.

Then, move to the next row and, with the **Ctrl** key still held down, click the cells you want, working left to right. Continue in this left to right and top to bottom manner, as if you were reading a book.

Once the data are selected, on the **Insert** tab, in the **Charts** group, click **3-D Column**.

The chart should have these characteristics:

- Type: **3-D Column**
- Location: As a new chartsheet called **3-D Column Chart**
- Chart title (above chart):
  Selected Vehicle Sales for 2000, 2010, 2015
- Horizontal axis title: **Type of Vehicle**
- Vertical axis title: **Hundreds of Vehicles**
- Depth axis title: **Year**
- Make the **Title**, the 3 **Axis Titles**, and the 3 **Axes Labels** 14 pt Arial Black.
- Legend: **None**
- Set the **X Rotation** to **50°** and the **Y Rotation** to **30°** ➔
- Vertical Axis Gridlines: **3 pt red**
- Floor: **3 pt red**

h. Tap **Ctrl + p** and set the chartsheet to print in **Landscape**, and include a footer that contains the **file name** on the left and the **sheet name** on the right. Compare the preview with the key. Make needed corrections, print the chartsheet, save the workbook and close it.

Step 4 Submit You now are ready to submit your homework for grading.

1. Put your 5 homework papers in the following order:

   HW02-1 1A Quarterly Sales Worksheet
   HW02-1 1A Quarterly Sales Formulas Worksheet
   HW02-2 1B Plyometric Products Inventory Valuation
   HW02-3 Vehicle Sales Data Worksheet
   HW02-3 Vehicle Sales 3-D Column Chartsheet

2. Cut out Submission Form 2 and put it on the top of the papers.

3. Staple the papers in the upper left corner.

4. Turn in the packet by the due date.

Step 5 Backup Now would be a good time to backup your files. It will take only a minute or two to copy your files from your USB drive to your computer's hard drive, or to another USB drive, or to upload it to Google Drive.

Project 3
Excel Chapter 2: Functions, Tables, and Large Workbooks

Step 1 Read Read the introductory material on page 385 in the textbook.

Step 2 Activities Turn on the computer and do the following:

Project 2A: Start at the top of page 387.

Instead of Activity 2.01 step 1 do the following:

1. Navigate to your **Excel Files** folder and open **e02A_Tree_Inventory**, which is one of the files you downloaded at the start of the term.

2. Save the file in your **Excel Files** folder using the name **Lastname_Firstname_2A_Tree_Inventory**

3. Complete the rest of the Activities for this Project EXCEPT do **NOT** do steps 12 and 13 in **Activity 2.20** on page 409.

4. **Return here** when you have completed Project 2A on page 409.

> ***Do NOT do GO! With Google Sheets***

Project 2B: When you have completed Project 2A, start at the top of page 413.

Instead of Activity 2.21 step 1 do the following:

1. Navigate to your **Excel Files** folder and open **e02B_Weekly Sales**, which is one of the files you downloaded at the start of the term.

2. Save the file in your **Excel Files** folder using the name **Lastname_Firstname_2B_Weekly_Sales**.

3. Complete the rest of the Activities for this Project EXCEPT do **NOT** do steps 5 and 6 in **Activity 2.36** on page 432.

4. **Return here** when you have completed Project 2B on page 432.

> ***Do NOT do GO! With Google Sheets or GO! To Work***

Step 3 Homework After you have completed Projects A and B return here, do the following additional activities, and turn them in for grading.

HW03-1 Tree Inventory (Based on Project 2A)

Problem: How can you use sophisticated statistics to analyze data?

a. Open the workbook **Lastname_Firstname_2A_Tree_Inventory**, which you created while following the directions in the textbook and saved on page 409.

b. Save the workbook to the Excel Files folder using the name **HW03-1 HWID 2A_Tree_Inventory_Done**

c. When a worksheet has many rows or columns it is often useful to be able to see non-adjacent parts of the worksheet at the same time. The textbook showed you how to do this in a couple of ways:

● **freeze** parts of the screen so specific rows or columns are always in view (textbook page 401)

● **split** the screen horizontally so you can scroll the upper and lower parts independently or split the screen vertically so you can scroll the left and right parts independently (textbook page 406)

A third way is to **hide** rows or columns. To see how this works, do the following:

1. Select rows **17:41** by clicking on row number **17** and dragging to row **41**.

2. While pointing to any selected row number, right-click and select **Hide** from the menu. Now it appears that row **16** is followed by row **42**. The other rows are still there but they are hidden from view. Notice that the count in **B10** has not changed. Even though you cannot see the hidden rows the values are taken into account in the formulas. However, when you print, those hidden rows will not print.

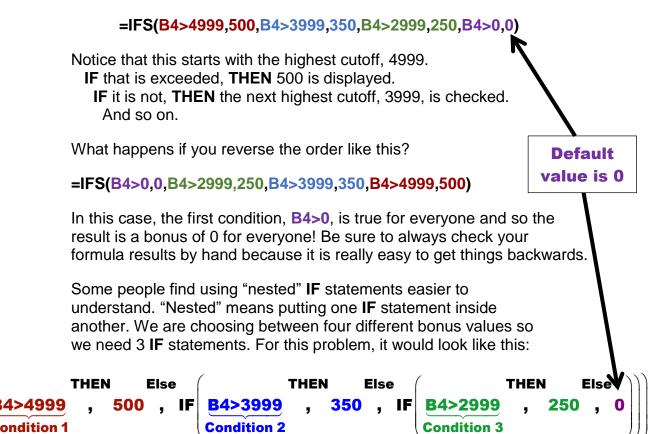|	A	B
10	Oak Trees	13
11	Maple Trees	6 (571 tot⊏
12		
13	**Quantity in Stock**	**Item #**
14	78	13129
15	35	13358
16	60	15688
42	350	43153
43	7/23/2019 13:22	

3. Select rows **16** to **42**, right-click, and select **Unhide**.

d. Hide rows **21** to **41**.

e. Tap **Ctrl + p** and set the worksheet to print in **Landscape**, all on **one page**, **centered horizontally** but not vertically and include a footer that contains the **file name** on the left and the **sheet name** on the right. Click the **Sheet** tab and click **Row and column headings**. Click **OK**. Compare the preview with the key. Make needed corrections, print the worksheet, save the workbook and close it.

HW03-2 Weekly Sales Summary (Project 2B)

Problem: How can you organize and summarize data from different sources?

a. Open the workbook **Lastname_Firstname_2B_Weekly_Sales**, which you created while following the directions in the textbook and saved on page 432.

b. Save the workbook to the **Excel Files** folder using the name **HW03-2 HWID 2B_Weekly_Sales_Done**

c. Click the **Summary** worksheet. Tap **Ctrl + p** and set the worksheet to print in **Portrait**, all on **one page**, **centered horizontally** but not vertically and include a footer that contains the **file name** on the left and the **sheet name** on the right. Compare the preview with the key. Make needed corrections, print the worksheet, save the workbook but do NOT close it.

d. The **IF** function introduced on textbook page 396 allows you to **choose** between two alternatives based on the truthfulness of a condition called a **logical test**. The **IF** function tests the condition and, if the logical test result is true, the first alternative is displayed; otherwise the second alternative is displayed.

The **IFS** function, described on pages 427-429, allows the user to display different things based on more than one condition (hence the **S** in **IFS**). However, the conditions must be placed in the correct order for the function to work properly. Here is the formula the authors provided:

$$=IFS(B4>4999,500,B4>3999,350,B4>2999,250,B4>0,0)$$

Notice that this starts with the highest cutoff, 4999.
   IF that is exceeded, **THEN** 500 is displayed.
    IF it is not, **THEN** the next highest cutoff, 3999, is checked.
     And so on.

What happens if you reverse the order like this?

$$=IFS(B4>0,0,B4>2999,250,B4>3999,350,B4>4999,500)$$

In this case, the first condition, **B4>0**, is true for everyone and so the result is a bonus of 0 for everyone! Be sure to always check your formula results by hand because it is really easy to get things backwards.

Some people find using "nested" **IF** statements easier to understand. "Nested" means putting one **IF** statement inside another. We are choosing between four different bonus values so we need 3 **IF** statements. For this problem, it would look like this:

Default value is 0

	THEN	Else		THEN	Else		THEN	Else
=IF(B4>4999	, 500	, IF(	B4>3999	, 350	, IF(	B4>2999	, 250	, 0))))
Condition 1			Condition 2			Condition 3		

You will learn more about multiple condition **IF** functions on page **SG106**.

e. Print the **Bonus** worksheet formulas by doing the following:

1. Make a copy of the **Bonus** worksheet and name it **Bonus Formulas**.

2. Move the **Bonus Formulas** sheet tab so it is to the right of the **Bonus** sheet tab.

3. Tap **Ctrl + `** to display the formulas.

4. Select all the cells on the worksheet.

5. **AutoFit** the cells.

6. Tap **Ctrl + p** and set the worksheet to print in **Portrait**, all on **one page**, **centered horizontally** but not vertically and include a footer that contains the **file name** on the left and the **sheet name** on the right. Display the **Gridlines** and **Row and column headings** (**Sheet** tab). Compare the preview with the key. Make needed corrections, print the worksheet, save the workbook and close it. Do NOT print the other two worksheets.

HW03-3 Inventory (Based on Project 2G)

Problem: How can you summarize data based on certain conditions?

Project 2G: Start at the top of page 453.

Instead of step 1 do the following:

1. Open the file **e02G_Inventory**, which is one of the files you downloaded at the start of the term.

2. Save the file in your **Excel Files** folder using the name **Lastname_Firstname_2G_Inventory**

a. Follow the directions for steps *2 through 23* for **Project 2G Inventory** on pages 453-454.

b. After you complete step 23, save your file to the **Excel Files** folder using the name **HW03-3 HWID 2G_Inventory_Done**

c. The **Tables** may still be defined for the **Bulbs** and **Trees** worksheets. If necessary, do the following to remove the **Table** designation:

1. Click the **Bulbs** worksheet tab.

2. Click **A15**. If the **Table Tools Design** tab appears then this range is still designated as a table. To remove the table designation, in the **Table Tools Design** tab, in the **Tools** group. click **Convert to Range**. Click **Yes** to confirm the conversion. The **Table Tools Design** tab will no longer be present.

3. Do the same to remove the table from the **Trees** worksheet, if necessary.

d. In step 8, the book showed you one way of determining the quantity in stock of **Tulips** on the **Bulbs** worksheet by using filtering. Below is an easier way of doing that, and one that will automatically update as the data change.

1. Click the **Bulbs** worksheet tab to make it active.

2. In **C11**, type the following **=SUMIF(F15:F42,"Tulips",A15:A42)** and then click the **Enter** checkbox ✔ to keep **C11** active. Notice the number, 433, is the same as the one you typed in **B11**. When the **Quantity in Stock** in column **A** changes this value in **C11** will automatically be updated.
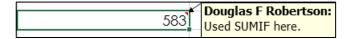
   The **SUMIF** function works just like the **COUNTIF** function you learned about in Project 2A, except **SUMIF** finds the **sum** of selected values rather than counts how many there are. Here is the form of the function:

where to look	what to look for	what to sum
=SUMIF(criteria range ,	criteria ,	sum range)
range that has categories	the word Tulips	range that has quantities in stock

   range: What range of cells do you want to examine?
   You are looking for **Tulips** in the **Category** range so use **F15:F42**.

   criteria: What are you looking for in the above range?
   The word **"Tulips"** The quotation marks are required.

   sum range: When Excel finds **Tulips** in the above range, what should it sum?
   You want to sum the **Quantity in Stock** so use **A15:A42**.

where to look	what to look for	what to sum
=SUMIF(F15:F42 ,	"Tulips" ,	A15:A42)
range that has categories	the word Tulips	range that has quantities in stock

3. Click the **Trees** worksheet tab to make it active.

4. Click **C11** and enter a formula that will sum the quantity in stock for **Evergreens** in the range **F15:F42**. You should get the same number as is in **B11**.

5. Click **C11**, right-click, and select **Insert Note**. In the box, type **Used SUMIF here**.

   Excel **Notes** are useful if you wish to make comment, like a Post-It note. **Notes** do not appear when the worksheet is printed. Notice that Excel inserts the name of the user automatically so if more than one person makes a **Note** you can see who did it.

6. Click **C11**. Depending on how your version of Excel is set up, the **Note** may disappear, leaving only a very small red triangle in the upper right corner of the cell. If you put the white cross mouse pointer in the cell (without clicking) the **Note** text box will appear. To have the **Note** stay on the screen, right-click the cell and select **Show/Hide Note**. To hide a **Note**, right-click and select **Show/Hide Note** again. To delete a **Note**, click the cell, right-click and select **Delete Note**.

e. You can do the same sort of thing with averages. For example, do the following to find the average price for the tulips:

1. Click the **Bulbs** sheet tab to make that sheet active.

2. In **A12** type **Tulips Average Price**

3. In **B12** type **=AVERAGEIF(F15:F42,"Tulips",D15:D42)** The price is in column **D** so the sum range is **D15:D42**. This is just like **SUMIF** but it calculates the average of things that match the **what to look for criteria**.

f. Use the **COUNTIF**, **SUMIF**, and **AVERAGEIF** functions to collect summary data on the **Bulbs** and **Trees**. Do the following:

1. Click the **Summary** worksheet tab.

2. Starting in **A11** type the labels shown. Adjust the column widths, cell alignments, wrap text, and bold the column headings as indicated.

	A	B	C	D
		Number in	Number of	Average
11	Bulbs Category	Stock	Categories	Price
12	Begonias			
13	Callas			
14	Daffodils			
15	Dahlias			
16	Gladiolus			
17	Tulips			
18				
		Number in	Number of	Average
19	Trees Category	Stock	Categories	Price
20	Evergreens			
21	Flowering Trees			
22	Fruit Trees			
23	Nut Trees			
24	Shade Trees			

3. In **B12**, display the sum of the quantities of the different types of begonias in stock on the **Bulbs** worksheet. To do that, click **B12** and type **=sumif(**

```
=sumif(
    SUMIF(range, criteria, [sum_range])
```

Notice how a screen tip appears showing you the structure of the **SUMIF** formula. That is:

range, which means "*Where are you going to look?*" (in the **Category range** on the **Bulbs** sheet).

criteria, which means "*What are you looking for?*" (the word **Begonias**).

[sum_range], which means "*What will you sum when you find it?*" (**Quantity** in stock).

Now, click the **Bulbs** worksheet, select **F15:F42**, and then type a **comma** then click the **Summary** worksheet, click **A12**, and then type a **comma** then click the **Bulbs** worksheet and select **A15:A42** then click the **Enter** checkbox ✔ to keep **B12** active.

B12 should display the number **314**.

The formula bar will show
=SUMIF(Bulbs!F15:F42,Summary!A12,Bulbs!A15:A42)

This is pretty much the same as the previous **SUMIF**. The only difference is that the first and last cell ranges are on the **Bulbs** worksheet and the criteria is not a word in quotes (**"Tulips"**) but a cell reference that has the criteria word in it. That is, **A12** has the word **Begonias**, which acts as the criteria.

where to look	what to look for	what to sum
=SUMIF(Bulbs!F15:F42 ,	**Summary!A12** ,	**Bulbs!A15:A42**)
range that has categories	the word Begonias	range that has quantities in stock

Before copying the formula to **B13:B17**, you need to convert the ranges on the **Bulbs** worksheet to absolute references so when you fill the formula down the ranges on the **Bulbs** worksheet will not change (similar to what you did on page 355 of the textbook). To do that quickly, in the formula click the cell reference **F15** and then tap the **F4** key. The cell reference changes to **$F$15**.

Mac Users: Use **Command + t** instead of the **F4** key.

If you forget about the **F4** key, you can always just type the **$** manually.

Do the same for cell references **F42**, **A15**, and **A42**.

The **F4** key adds **$** to make each cell reference absolute. Now the formula looks like this:

=SUMIF(Bulbs!$F$15:$F$42,Summary!A12,Bulbs!$A$15:$A$42)

Note that you want the cell reference to the criteria, **A12**, to change to **A13** and then **A14** and so on so there are no **$** in **A12**.

4. Point to the lower right corner of **B12** and the **fill handle** (little black cross) will appear. Drag down to **B17** and let up the mouse button. This copies (fills) the formulas. Note that if you double-click the fill handle the formula will be filled down automatically, without having to drag.

	A	B	C	D	E	F	G	H
B12		=SUMIF(Bulbs!$F$15:$F$42,Summary!A12,Bulbs!$A$15:$A$42)						
11	Bulbs Category	Number in Stock	Number of Categories	Average Price				
12	Begonias	314						
13	Callas	101						
14	Daffodils	755						
15	Dahlias	473						
16	Gladiolus	771						
17	Tulips	433						

Note that when you point to a cell you can see one of three icons:

White Cross shows where the mouse is pointing.

Black Cross in lower right corner is the fill handle. To copy a formula down, drag this cross or double-click it.

Four-headed Arrow allows you to drag the contents of the cell in any direction. When you drag a cell onto another cell the contents of that cell will be replaced.

5. Enter similar formulas in cells **B20:B24**. A quick way to do that is to copy the formula in **B12** and paste it into **B20**. Then, in **B20** change **Bulbs!** to **Trees!**. So, the formula in **B20** should be

<div align="center">

where to look   what to look for   what to sum

=SUMIF(**Trees!$F$15 : $F$42** , **Summary!A20** , **Trees!$A$15 : $A$42**)

range that   the word   range that has
has categories   Evergreens   quantities in stock

</div>

6. Fill the formula in **B20** down to **B24**.

g. In **C12:C17**, enter formulas that display the **Number of Categories** (that is, the number of different types of **Begonias**, **Callas**, etc.). Here, you are counting the different types of bulbs so you will use the **COUNTIF** function.[7]

h. In **C20:C24** do the same for **Trees**.

i. In **D12:D17**, enter formulas that display the **Average Price** for the bulbs. Here, you are finding an average so you will use the **AVERAGEIF** function.[8]

j. In **D20:D24** do the same for **Trees**.

k. With the Summary sheet active, tap **Ctrl + p** and set the worksheet to print in **Portrait**, all on **one page**, **centered horizontally** but not vertically and include a footer that contains the **file name** on the left and the **sheet name** on the right. Compare the preview with the key. Make needed corrections, print the worksheet, save the workbook and close it. Do not print the other worksheets.

---

[7] **=COUNTIF(Bulbs!$F$15:$F$42,Summary!A12)**
[8] **=AVERAGEIF(Bulbs!$F$15:$F$42,Summary!A12,Bulbs!$D$15:$D$42)**

HW03-4 Payroll IF

Problem: How can you set up a payroll worksheet that automatically calculates regular, overtime, and total pay, and summary statistics?

Excel's **IF** function that you learned about on textbook page 396 is useful because it enables the computer to carry out alternative actions based on conditions you specify.

The function uses an **IF/THEN/ELSE** structure similar to one you use every day. For example, you might say

IF it is raining **THEN** take umbrella **ELSE** leave umbrella home.

Excel puts it this way:

=IF(logical test , value if true , value if false)

IF	**THEN**	**OTHERWISE**
something	**do this**	**do this**
is TRUE		

logical test is a condition that is either true or false. In the umbrella example, the **logical test** is **raining = yes**. This is either true or false.

value if true is what will be displayed if the logical test is true. In the umbrella example, **value if true** is **take umbrella**.

value if false is what will be displayed if the logical test is not true. In the umbrella example, **value if false** is **leave umbrella home**.

So, the **IF** function allows you to **choose** between two alternatives. The first alternative is displayed if the logical test is true; otherwise the second alternative is displayed.

For this project you will calculate the regular and overtime pay for workers. In Project 5 you will gain experience with more complicated **IF** formulations.

a. Open the workbook **HW03-4 Payroll IF Original**, which is one of the files you downloaded at the start of the term.

b. Save the workbook to your **Excel Files** folder using the name **HW03-4 HWID Payroll IF Done**

c. Sort the data alphabetically by name by doing the following:

1. Select rows **8** through **36**. Be sure to select entire rows and not just the **Name** column or the data will be scrambled. To select an entire row, point to the row **8** number and the cursor will change to a right-pointing arrow. → 8

    Click to select the entire row **8**. Then, drag down to row **36**.

	A	B	C	D	E	F	G	H	I	J
1	Payroll									
2										
3	Date Modified:				Number of people who earned overtime pay =					
4	Time Modified:				Number of women who earned overtime pay =					
5	Current Date:				Sum of Total Pay for people who worked overtime =					
6	Current Time:				Total hours for men whose pay rate is under $5 =					
7					Total					
8	ID	Name	Sex	Pay Rate	Hours	Regular Pay	Overtime Pay	Total Pay	Pay Rank	
9	4346294	Isakson, Evan Y	M	4	30					
10	4378285	Bell, Elmer Gary Peter	M	3	50					

A8 — fx — ID

2. On the **Home** tab, in the **Editing** group, click **Sort & Filter** and select **Custom Sort** from the menu.

3. Be sure there is a check next to **My data has headers** so the titles in row **8** will not be sorted with the rest of the data.

4. Select **Name** from the **Column Sort by** drop-down menu.

+ Add Level	✕ Delete Level	📄 Copy Level	^ ∨	Options...	☑ My data has headers

Column		Sort On		Order	
Sort by	Name ∨	Cell Values	∨	A to Z	∨
	ID				
	Name				

    You want the names in alphabetical order so leave the **Order** as **A to Z**.

5. Click **OK**.

d. Break-up the names in column **B** so that the last names and first names are shown in separate cells by doing the following:

1. Select columns **C** and **D**, right-click, and choose **Insert**. This will move column **C** right to become a new column **E** and leave two blank columns, now called **C** and **D**, for the last and first names.
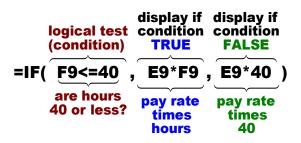
	A	B	C	D	E
1	Payroll				
2					
3	Date Modified:				
4	Time Modified:				
5	Current Date:				
6	Current Time:				
7					
8	ID	Name			Sex
9	4470881	Anderson, Amanda R			F
10	3580435	Baker Jr, Cameron D			M

C1 — fx

2. In cell **C9**, type **Anderson**. This is the last name of the first person on the list. Click the **Enter** checkbox ✔ to accept the typing and remain in cell **C9**.

3. With **C9** still selected, on the **Data** tab, in the **Data Tools** group, click **Flash Fill**. The last names are filled in column **C**. Note that the last name of the second person is listed as Baker Jr. His last name actually is **Baker**; the **Jr** means he was named after his father. If this were a real situation you probably would have to go in and clean up the data (remove the Jr). The same goes for the third person Bastian-Smith III. For this project, do not bother.

4. In cell **D9**, type **Amanda**. This is the first name of the first person on the list. Click the **Enter** checkbox ✔ to accept the typing and remain in cell **D9**.

5. With **D9** still selected, on the **Data** tab, in the **Data Tools** group, click **Flash Fill**. The last names are filled in column **D**.

6. Select column **B**, right-click, and select **Delete** from the menu. The columns to the right are shifted left so now **Sex** is in column **D**, **Pay Rate** is in column **E** and so on.

7. Type **Last Name** in **B8** and **First Name** in **C8**.

e. In **G9**, enter a formula to calculate the regular pay for **Anderson**. You can use the **IF** function to do that. The **IF** function chooses between two alternatives. In this case, the alternatives are two different ways of calculating regular pay, depending on the hours worked.
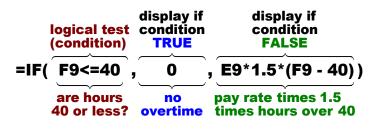
Here is the logic you need to use:

- If she worked 40 hours or less (**F9<=40**) then the regular pay is computed by multiplying rate and hours (**E9*F9**).

- If she worked over 40 hours, then she worked 40 regular hours. In that case, the regular pay is the product of rate and 40 (**E9*40**).

1. Type your formula in **G9** and tap **Enter**.

2. Check the result. Since Anderson worked 21 hours her regular pay will be her **Pay Rate** times her **Total Hours**, 6*21 = 126.

3. Fill the formula in **G9** down to row **36**.

4. Check the result for Baker, in **G10**. Baker worked 50 hours, which is 40 regular hours and 10 overtime hours. So, his regular pay will be his **Pay Rate** times **40**, 5*40 = 200.
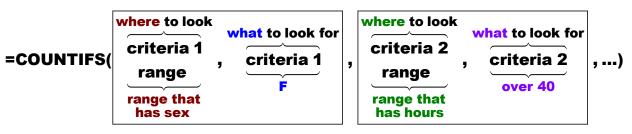
f. In **H9**, enter a formula to calculate the overtime pay for **Anderson**.

- If Anderson worked 40 hours or less (**F9<=40**) then the overtime pay is **0** (she has not worked overtime so her overtime pay is 0).

- If Anderson worked over 40 hours, then her overtime pay is computed by multiplying the rate times 1.5 (for time and a half) times the number of overtime hours worked. Here, the overtime hours will be the total hours minus 40. Remember to use parentheses where appropriate because you want the computer to do the subtraction of the hours before it multiplies by the rate.

    1. Type your formula in **H9** and tap **Enter**.

    2. Check the result. Since Anderson worked 21 hours her overtime pay will be 0.

    3. Fill the formula in **H9** down to row **36**.

    4. Check the result for Baker, in **H10**. Baker worked 50 hours, which is 40 regular hours and 10 overtime hours. So, his overtime pay will be his **Pay Rate** times **1.5** times **10**, 5*1.5*10 = 75.

g. In **I9** (that is *eye nine* not 19) enter a formula that will add the regular and overtime pay for Anderson.

h. In **J9** type **=rank(i9,i9:i36)**. This will calculate Anderson's rank in terms of total pay. The **RANK** function compares the value in **I9** (Anderson's Total Pay) with the values in cells **I9:I36** and displays her rank (1, 2, 3, etc.). Note the use of dollar signs to indicate the range **$I$9:$I$36** is to be held constant when you copy the formula to other cells.

i. Fill the formula in **J9** down to row **36**.
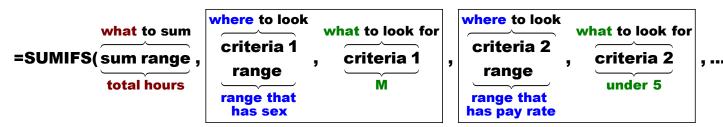
    The ranks range from 1, highest pay, to 28, lowest pay. Notice that Carter, Isakson, and Iverson all made $120 so they are tied for 19th place. Hence, there is no ranking of 20 and 21.

j. In **J3**, insert a function that will display the number of people who earned overtime pay. Since we are looking for a number of things we use **COUNTIF**. The form for **COUNTIF** is **=COUNTIF(range, criteria)** The range is "where to look" and the criteria is "what to look for". Be sure to put the **criteria** inside quotation marks.

k. In **J4**, insert a function that will display the number of **women** who earned overtime pay. To count cells based on multiple criteria (here, sex and overtime pay), use the **COUNTIFS** function. It has the form:

$$\text{=COUNTIFS(}\ \underbrace{\underbrace{\text{criteria 1 range}}_{\text{range that has sex}}}_{\text{where to look}}\ ,\ \underbrace{\underbrace{\text{criteria 1}}_{\text{F}}}_{\text{what to look for}}\ ,\ \underbrace{\underbrace{\text{criteria 2 range}}_{\text{range that has hours}}}_{\text{where to look}}\ ,\ \underbrace{\underbrace{\text{criteria 2}}_{\text{over 40}}}_{\text{what to look for}}\ ,\ ...)$$

It is basically the **COUNTIF** function with two or more ranges and corresponding criteria (hence the **S** in **COUNTIFS**). Again, remember to put the criteria inside quotation marks, as in **"=F"**.[9] **Be sure to read footnotes**

l. In **J5**, insert a **SUMIF** function that will display the sum of the **Total Pay** for people who worked overtime. Set the format for this cell to accounting. Remember, the form for **SUMIF** is **SUMIF(range, criteria, sum range)** Be sure to put the **criteria** inside quotation marks.

m. In **J6**, insert a function that will display the total hours for men whose pay rate is under 5 dollars. To sum cells based on multiple criteria (here, pay rate and sex), use the **SUMIFS** function. It has the form:

$$\text{=SUMIFS(}\ \underbrace{\underbrace{\text{sum range}}_{\text{total hours}}}_{\text{what to sum}}\ ,\ \underbrace{\underbrace{\text{criteria 1 range}}_{\text{range that has sex}}}_{\text{where to look}}\ ,\ \underbrace{\underbrace{\text{criteria 1}}_{\text{M}}}_{\text{what to look for}}\ ,\ \underbrace{\underbrace{\text{criteria 2 range}}_{\text{range that has pay rate}}}_{\text{where to look}}\ ,\ \underbrace{\underbrace{\text{criteria 2}}_{\text{under 5}}}_{\text{what to look for}}\ ,\ ...$$

It is basically the **SUMIF** function with two or more ranges and corresponding criteria (hence the **S** in **SUMIFS**). The form is a bit different from **SUMIF** because the **sum range** comes first, and then the multiple criteria ranges and corresponding criteria. Think about the parts in relation to this problem:

sum range: Which cells do you want to sum? **Total Hours** (**F9:F36**).

criteria 1 range: Whose **Total Hours** do you want to include? Those of **Men**, so use the **Sex** range **D9:D36**
criteria 1: What should the **Sex** be? **M**, so use **"=M"**

criteria 2 range: What kind of men do you want to include? Those who have a certain **Pay Rate**, which is in **E9:E36**
criteria 2: What should the **Pay Rate** be? Under **5**, so use **"<5"**

---

[9] Here is the formula: **=COUNTIFS(D9:D36,"=F",F9:F36,">40")**

n. Create a conditional format so that the last names of the people who worked overtime has **Bold Italic Red** text and a **Yellow** cell fill by doing the following:

1. You want to apply the formatting to the last names, which are in **B9:B36**. So, select **B9:B36**.

2. On the **Home** tab, in the **Styles** group, click **Conditional Formatting** and select **Manage Rules**.

3. Click [New Rule...]

4. Click the last bullet, **Use a formula…**

> ▶ Use a formula to determine which cells to format
>
> Edit the Rule Description:

5. Type this into the formula box: **=f9>40** This tells Excel to see if the value in **F9** (the **Hours** for Anderson) is greater than 40. If it is, apply a special format to **B9**; otherwise, leave the cell alone.

6. Click [Format...] and set the text to **Bold Italic Red** and the fill to **Yellow**.

7. Click **OK** twice.

> Conditional Formatting Rules Manager
>
> Show formatting rules for: [Current Selection ▾]
>
> [⊞ New Rule...] [✎ Edit Rule...] [✕ Delete Rule] [^] [⌄]
>
> | Rule (applied in order shown) | Format | Applies to |
> |---|---|---|
> | Formula: =F9>40 | *AaBbCcYyZz* | =$B$9:$B$36 |

Notice that the formula **=F9>40** looks like it will only evaluate Anderson's pay. However, under **Applies to** the range for this conditional format is **$B$9:$B$36** so Excel will use **=F10>40** for Baker Jr, and **=F11>40** for Bastian-Smith III, and so on.

8. Click **OK** to return to edit mode. The format is applied to the last names of the people who have worked overtime.

o. Insert a conditional format so that the **Pay Rank** cells have **Data Bars** where the length of the data bar represents the value in the cell by doing the following:

1. Select the range **J9:J36**, which has the **Pay Ranks**.

2. On the **Home** tab, in the **Styles** group, click **Conditional Formatting**, select **Data Bars**, and select the green **Gradient Fill** icon

> Data Bars ▶   Gradient Fill

> | Pay Rank |
> |---|
> | 18 |
> | 4 |
> | 17 |
> | 11 |

The conditional formats will look like this:

p. Excel stores dates and times as a whole number representing the number of days since 1900-Jan-0, plus a fractional portion of a 24-hour day. This is called a serial date, or serial date-time. For example, 19 July 2019 at 9:35 am is stored as 43665.3999127315.

Be careful if you switch between Windows and Mac because, for historical reasons, Mac uses its starting date as 1904 rather than 1900. If you change the date system for a workbook that already contains dates, the dates will shift by four years and one day (1462 days taking Leap Years into account).

In Windows, if you want to change your dates to the 1904 version use **File**, **Options**, **Advanced**, **When calculating this workbook** and check the box next to **Use 1904 date system**. This is **NOT** recommended. [10]

Enter the date and time and apply custom formatting by doing the following:

1. Click **B3** and enter the current date. You can either type the date or tap **Ctrl + ;** (that is, hold down the **Ctrl** key and tap the semicolon key) and then tap **Enter**. This is a static date, which means that it will stay at that value until you enter in a new one.

2. Click **B4** and enter the current time. You can either type the time or tap **Shift + Ctrl + :** (that is, hold down both the **Shift** key and the **Ctrl** key and tap the colon key) and then tap **Enter**. This is a static time, which means that it will stay at that value until you type in a new one.

3. Click **B5**, type **=now()** and tap **Enter**. Note the parentheses **()** with nothing inside them! This enters the current date and time and it will automatically change each time Excel recalculates any formula. Excel also has a **DATE** function, but that **does not** display the date! **DATE** displays a number that Excel uses to internally keep track of time. It is not very useful unless you are a programmer.

4. Click **B6**, type **=now()** and tap **Enter**.

5. Select cells **B3** and **B5**. To select non-adjacent cells, click the first cell, then hold down the **Ctrl** key and click the second cell. With the two cells selected, right-click, and select **Format Cells**.

6. Click the **Number** tab and click **Custom**.

7. Replace the text in the **Type:** box with **ddd d mmm yyyy**. This tells Excel to display the date using the day of the week (**ddd**), the date (**d**), the month (**mmm**), and the four-digit year (**yyyy**).

8. Click **OK**. If you see **######** in the cell it means the column is too narrow. Make the column wider if necessary.

---

[10] For more information see https://support.microsoft.com/en-us/help/214330/differences-between-the-1900-and-the-1904-date-system-in-excel

9. Select cells **B4** and **B6** and follow the same procedure except replace the text in the **Type:** box with **h:mm AM/PM** and tap **Enter**. The **h** tells Excel to display the hour, **mm** tells Excel to display the minutes, and **AM/PM** tells Excel to display either **AM** or **PM**, depending on whether the current time is before noon or after noon. Notice that the times in the two cells are different. Cell **B4** displays the time when you tapped **Shift + Ctrl + :** while **B6** displays the current time (it was just updated when you tapped **Enter**).

10. Click **J3**, right-click, and select **Format Cells**. Replace the text in the **Type:** box with **#" people"_)**

> **#** tells Excel to display the number without decimal places,
>
> **" people"** says to display the word **people**,
>
> **_)** says to leave one blank space on the right (so this lines up nicely with the accounting format in **J5**).

11. Click **J4** and follow the same procedure except replace the text in the **Type:** box with **#_)**. This puts a space on the right to line up things.

12. Click **J6** and follow the same procedure except replace the text in the **Type:** box with **#" hours"_)**.

J6		⋮	×	✓	*fx*	=SUMIFS(F9:F36,D9:D36,"=M",E9:E36,"<5")			

	A	B	C	D	E	F	G	H	I	J
1	Payroll									
2										
3	Date Modified:	Wed 19 Jun 2019					Number of people who earned overtime pay =			9 people
4	Time Modified:	7:31 AM					Number of women who earned overtime pay =			6
5	Current Date:	Fri 10 Jan 2020					Sum of Total Pay for people who worked overtime =			$2,137.50
6	Current Time:	12:19 PM					Total hours for men whose pay rate is under $5 =			243 hours

q. Excel allows you to change the font characteristics of text. Try this:

1. Double-click **A1** to enter edit mode.

2. Select the four letters **roll** in the word **Payroll**.

3. On the **Home** tab, in the **Font** group, click the launch dialog button (lower right corner of the **Font** group).

4. Put a check in the box next to **Subscript**, make the color red, and the font Arial Black.

	A
1	**Pay**ᵣₒₗₗ

5. Click **OK** and then tap **Enter**.

r. Follow a similar procedure make the following changes:

In **I3**, make the word **people** bold and purple.
In **I4**, make the word **women** bold and red.
In **I6**, make the word **men** bold and blue.

s. Note that the time in **B4** is the same as it was when you tapped **Shift + Ctrl + :** but the time in **B6** is the current time because you just made a change to **I6** and so Excel did a recalculation of all cells. If you open this file tomorrow, the date in **B3** will be today's but the date in **B5** will be tomorrow's.

t. **Autofit** the columns (see page **SG40**). Then, change the width of column **I** to 13. To do that, point to the column letter **I**, right-click, select **Column Width…**, and type **13**.

u. Tap **Ctrl + p** and set the worksheet to print in **Landscape**, all on **one page**, **centered horizontally** but not vertically and include a footer that contains the **file name** on the left and the **sheet name** on the right. Compare the preview with the key. Make needed corrections, print the worksheet, save the workbook but do **NOT** close it.

v. Copy the **Payroll Data** worksheet and rename the new worksheet **Payroll Formulas**.

w. Tap **Ctrl + `** to display the formulas and **Autofit** the widths of the columns. Then, change the width of column **I** to **6**.

x. Tap **Ctrl + p** and set the worksheet to print in **Landscape**, all on **one page**, **centered horizontally** but not vertically and include a footer that contains the **file name** on the left and the **sheet name** on the right, and **without** gridlines but **with** row and column headings showing. Compare the preview with the key. Make needed corrections, print the worksheet, save the workbook and close it.

Step 4 Submit You now are ready to submit your homework for grading.

1. Put your 6 homework papers in the following order:

    HW03-1 2A Tree Inventory
    HW03-2 2B Weekly Sales Summary Worksheet
    HW03-2 2B Weekly Sales Bonus Worksheet
    HW03-3 2G Inventory Summary Worksheet
    HW03-4 Payroll IF Data Worksheet
    HW03-4 Payroll IF Formulas Worksheet

2. Cut out Submission Form 3 and put it on the top of the papers.

3. Staple the papers in the upper left corner.

4. Turn in the packet by the due date.

Step 5 Backup Now would be a good time to backup your files.

Project 4
Excel Chapter 3: Analyzing Data with Charts and What-If Tools

Step 1 Read Read the introductory material on page 459 in the textbook.

Step 2 Activities Turn on the computer and do the following:

Project 3A: Start at the top of page 461.

Instead of Activity 3.01 step 1 do the following:

1. Navigate to your **Excel Files** folder and open **e03A_Enterprise_Fund**, which is one of the files you downloaded at the start of the term.

2. Save the file in your **Excel Files** folder using the name **Lastname_Firstname_3A_Enterprise_Fund**

3. Complete the rest of the Activities for this Project EXCEPT do **NOT** do steps 9 and 10 in **Activity 3.11** on page 473.

4. **Return here** when you have completed Project 3A on page 473.

> ***Do NOT do GO! With Google Sheets***

Project 3B: When you have completed Project 3A, start at the top of page 476.

Instead of Activity 3.13 step 1 do the following:

1. Navigate to your **Excel Files** folder and open **e03B_Tourism**, which is one of the files you downloaded at the start of the term.

2. Save the file in your **Excel Files** folder using the name **Lastname_Firstname_3B_Tourism**.

3. Complete the rest of the Activities for this Project EXCEPT do **NOT** do steps 11 and 12 in **Activity 3.22** on page 494.

4. **Return here** when you have completed Project 3B on page 494.

> ***Do NOT do GO! With Google Sheets* or *GO! To Work***

Step 3 Homework After you have completed Projects A and B return here, do the following additional activities, and turn them in for grading.

HW04-1 Enterprise Fund (Based on Project 3A)

Problem: How can you visually display the relationship between expenditures for an enterprise?

a. Open the workbook **Lastname_Firstname_3A_Enterprise_Fund**, which you created while following the directions in the textbook and saved on page 473.

b. Save the workbook to the **Excel Files** folder using the name **HW04-1 HWID 3A_Enterprise_Fund_Done**

c. Click the **Expenditures Chart** chartsheet. Tap **Ctrl + p** and set the chartsheet to print in **Landscape** and include a footer that contains the **file name** on the left and the **sheet name** on the right. Compare the preview with the key. Make needed corrections, print the chartsheet, save the workbook but do not close it.

d. Click the **Enterprise Fund Expenditures** worksheet. Tap **Ctrl + p** and set the worksheet to print in **Portrait**, all on **one page**, **centered horizontally** but not vertically and include a footer that contains the **file name** on the left and the **sheet name** on the right. Compare the preview with the key. Make needed corrections, print the worksheet, save the workbook and close it.

HW04-2 Tourism Spending Projection (Based on Project 3B)

Problem: How can you make data-based predictions concerning tourism at a resort?

a. Open the workbook **Lastname_Firstname_3B_Tourism**, which you created while following the directions in the text and saved on page 494.

b. Save the workbook to the **Excel Files** folder using the name **HW04-2 HWID 3B_Tourism_Done**

c. Click the **Expenditures** tab. The background picture makes the chart more interesting and visually pleasing but it may detract from clearly seeing the data. That is a problem with being cute: it sometimes makes it more difficult to see that which is important. Adjust the transparency of the chart by doing the following:

 1. Click anywhere in the chart.

 2. On the **Chart Tools Format** tab, in the **Current Selection** group, click the down arrow and select **Chart Area**.

 3. Click **Format Selection** to open the **Format Chart Area** pane.

 4. Click the paint bucket to show the **Fill & Line** choices.

 5. Click the arrow to the left of **Fill** to show its options.

 6. Make the **Transparency** 30%. Now you can better see the information on the chart. You still can see the picture but it is not so overpowering. Depending your printer, the transparency may not work correctly. If it does not, don't worry about it.

d. Click cell **A1** to be sure the chart is not selected. Tap **Ctrl + p** and set the worksheet to print in **Portrait**, all on **one page**, **centered horizontally** but not vertically and include a footer that contains the **file name** on the left and the **sheet name** on the right. Compare the preview with the key. Make needed corrections, print the worksheet, save the workbook but do not close it.

e. Click the **Advertising** tab. Tap **Ctrl + p** and set the worksheet to print in **Portrait**, all on **one page**, **centered horizontally** but not vertically and include a footer that contains the **file name** on the left and the **sheet name** on the right. Compare the preview with the key. Make needed corrections, print the worksheet, save the workbook and close it.

HW04-3 HLOOKUP Gradebook

Problem: Given the total points earned by students in a course, how can you assign the corresponding letter grades?

a. Open the workbook **HW04-3 HLOOKUP Gradebook Original**, which is one of the files you downloaded at the start of the term.

b. Save the workbook to your **Excel Files** folder using the name **HW04-3 HWID HLOOKUP Gradebook Done**.

At the end of each semester I assign letter grades based on the total number of points students earned on homework and exams. Here is the table I use:

	B	C	D	E	F	G	H	I	J	K	L	M
5	Total Points	0	65	68	70	73	76	80	82	86	90	95
6	Comment	Ouch!	Study lots!	Study!	Fair	Ok	Not bad	Fine	Good	Pretty good	Very good	Great!
7	Grade	F	D	D+	C-	C	C+	B-	B	B+	A-	A

To assign a specific letter grade, I have Excel "look up" the total points in the above table and then display the corresponding letter grade. For this, I use one of Excel's **LOOKUP** functions.

The above table is horizontal so I use the **HLOOKUP** function. If the table were vertical I would use **VLOOKUP**. The **HLOOKUP** function has the following form:

=HLOOKUP(lookup value , table array , row index num , range lookup)

- *what* to look for → total points (lookup value)
- *where* to look → range with total points and grades (table array)
- *row* to display → number of row with letter grades (row index num)
- need *exact* or *approximate* match? → approximate match (range lookup)

• **lookup value** is the value to be found in the first row of the table. It can be a value, a reference, or a text string. In this example it is the **Total Points** earned. For example, Aaron's total points is located in **J11**.

• **table array** is the range where the **lookup value** is to be looked up. In this case, it is **C5:M7**.

- **row index number** is the row number in the table from which the matching value will be displayed. In this example, it is row 3. Note that this is **NOT** the worksheet row number, which is 7. It is the row number within the table.

- **range lookup** is an optional parameter that specifies whether you want Excel to find an **exact** match or an **approximate** match.

   If you type **TRUE** or omit this parameter then the values in the first row of the table must be placed in ascending sort order. In that case, Excel will find an **approximate** match. For example, if the **lookup value** (total points) is **79**, Excel will scan the first row of the table for **79**. Since **79** is not listed, Excel will use the next lowest number in the table (**76**) and display the corresponding letter grade (**C+**). If the **lookup value** were **80**, Excel would display **B-**.

   If you type **FALSE** then the values in the first row of the table need not be in ascending sort order. In that case, Excel will look for an **exact** match. If no exact match exists Excel will display **#N/A**. In this example, Aaron's total of 79 is not in the table so Excel would display the error message.

To see how **HLOOKUP** works, modify a worksheet that has a simplified version of the gradebook I use for my precalculus course by doing the following:

c. Click **K11** and enter the **HLOOKUP** function for Aaron by filling in the parameters for Aaron.

	what to look for	**where to look**	**row to display**	**need exact or approximate match?**
=HLOOKUP(	**lookup value** ,	**table array** ,	**row index num** ,	**range lookup** **)**
	total points	**range with total points and grades**	**number of row with letter grades**	**approximate match**

- **lookup value** is **Aaron's** total points in **K11**.

- **table array** is the range that contains the total points and letter grades. That is the range **C5:M7**.

- **row index num** is the number of the row in the table whose value you want displayed.

   Row 1 has the total points. Note that this is row **5** of the worksheet.
   Row 2 has a comment on the grade. Note that this is row **6** of the worksheet.
   Row 3 has the letter grades. Note that this is row **7** of the worksheet.

   You want the letter grade displayed so the **row index num** should be **3** because the letter grades are in row **3** of the table.

- **range lookup** is **TRUE** (or leave it blank) since you want an approximate rather than an exact match.

Click **K11** and type **=hlookup(**

A **ScreenTip** will appear to remind you of the form of the function.

Total	Grade	Comment
79	=hlookup(	
68		

HLOOKUP(**lookup_value**, table_array, row_index_num, [range_lookup])

Now finish by typing **j11,c5:m7,3)**

Your complete formula should be **=hlookup(j11,c5:m7,3)**
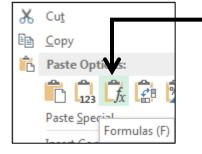
Click the **Enter** checkbox ✔ The grade **C+** appears in **K11** and the formula appears in the **Formula Bar**.

Note the absolute references (the dollar signs) in **c5:m7**. You need the dollar signs so that when you copy the formula for the other students the location of the table will remain constant.
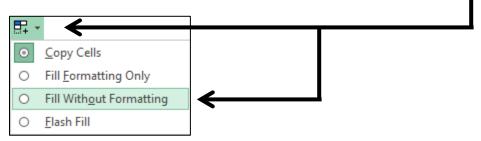
K11   fx   =HLOOKUP(J11,$C$5:$M$7,3)

	A	B	C	D	E	F	G	H	I	J	K
1											
2		Course: Math 1051					Cutoff on Diagnostic Test ->			65	
3		Instructor: Robertson					Cutoff on Total Points Earned ->			65	
4					Num Stu with Diag Below Cutoff and Total Above Cutoff ->					1	
5		Total Points	0	65	68	70	73	76	80	82	86
6		Comment	Ouch!	Study lots!	Study!	Fair	Ok	Not bad	Fine	Good	Pretty good
7		Grade	F	D	D+	C-	C	C+	B-	B	B+
8		Num Stu	7	0	9	3	10	16	12	22	15
9											
10		Name	Attend	HW	Diagnostic	Ex1	Ex2	Ex3	Final Ex	Total	Grade
11		Aaron	80	90	99	56	94	74	74	79	C+

d. To make this large worksheet easier to work with, split the screen by doing the following:

1. Click **B17**.

2. On the **View** tab, in the **Window** group, click **Split**. This splits the screen into two parts. The top shows rows 1 through 16. The bottom shows the rest of the rows.

3. With **B17** still selected, tap the **End** key (just under **Home**) and then tap the down arrow. This will move the active cell to the last non-blank cell in column **B** (**Zachary** in **B121**). This same technique works moving to the last non-blank cell on the right (**End** then **right arrow**) or on the left (**End** then **left arrow**).

e. Copy the formula in **K11** by doing the following:

1. Click **K11** and tap **Ctrl + C** to copy the cell.

2. With **K11** still active, hold down the **Shift** key and click cell **K121**. This selects the range **K11:K121**.

3. Point to **K11** again, right-click, and select **Paste Options: Formulas (F)**.

A second way of duplicating the formula is to use the **Fill Handle**. Point to the lower right corner of **K11** and the fill handle (little black cross) will appear. Click the little black cross and drag down to **K121**. If you copy the formulas this way be sure to select **Fill Without formatting** from the **Auto Fill Options** menu to preserve the heavy black border at the bottom of **K121**.

You could also duplicate the formula by selecting **K11:K121** and then tapping **Ctrl + D**. If you do that, you will have to manually insert the heavy black border at the bottom of **K121** since, like the fill handle, **Ctrl + D** duplicates the contents, formulas, and formatting of cells and **K11** does not have a heavy black border at its bottom.

f. For cells **L11:L121**, create an **HLOOKUP** formula that will display the appropriate comment from the table in cells **C5:M7**. The comment should be based on the **Total** in column **J**. It will look very similar to the formulas in column **K**.

g. In **C8**, enter a formula that will display the number of students that earned the grade in **C7**. Give it a try. You want to count the number of students who earned the grade so you will use **COUNTIF**, which has the form:

The **criteria** are located in row **7** so use a cell reference rather than typing the criteria inside quotation marks. Be sure to use absolute referencing where appropriate so you can duplicate the formula in **D8:M8**.[11]

Be sure to read footnotes

Copy the **C8** formula to **D8:M8**.

---
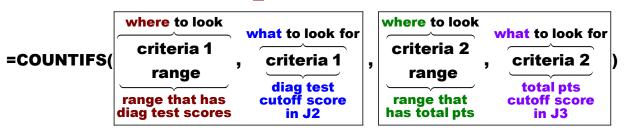
[11] Here is the formula for **C8**: **=COUNTIF($K$11:$K$121,C7)**

h. At the start of the precalculus course, students take a diagnostic pretest to see if they have the necessary background in high school algebra. I want to know how many students who scored below a certain cutoff also scored above a certain cutoff in their final total points. In other words, I want to know how badly a student can do on the pretest and still pass the course.

To do this, create a formula for **J4** that will display the number of students with diagnostic test scores below the diagnostic test cutoff score in **J2** *AND* above the total points cutoff score in **J3**.
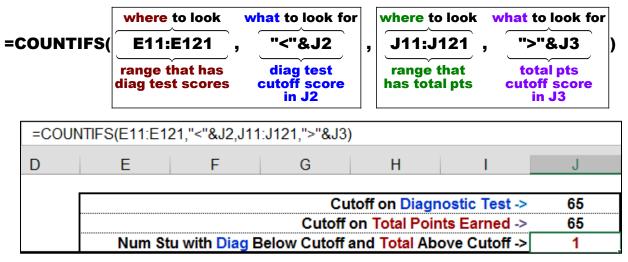
You want to count the number of students who meet **two** criteria at the same time so use the **COUNTIFS** function, which has the form:

criteria 1 range is the location of the diagnostic test scores, **E11:E121**
      criteria 1 is the value in **J2**

criteria 2 range is the location of the total points, **J11:J121**
      criteria 2 is the value in **J3**

To use **>** or **<** with cell references for criteria you must put **>** or **<** inside quotation marks and you must put an ampersand **&** to the left of the cell reference (that does not make sense to me but Excel requires it). Here is the formula:

You can see that out of 111 students only 1 who scored under 65 on the diagnostic test was able to earn at least 65 for a total and pass the course. I have to make a decision: Should I *force* students who score under 65 on the test to drop to a lower course or should I only *suggest* that they do it, knowing that not dropping would almost certainly be a time-wasting and money-wasting mistake.

On the Excel exam, I will not ask you to do something this complicated. I show it here so you can see what Excel is capable of doing and maybe use it on the job.

i. If the worksheet tabs at the bottom of the screen have disappeared, remove the split screen (**View, Split**). Make a copy of the **Gradebook** worksheet and name the copy **Formulas**. Display the formulas on that worksheet and **Autofit** the columns. Set the print area to **I1:L13** (select **I1:L13**, **Page Layout**, **Print Area**, **Set Print Area**).

Tap **Ctrl + p** and set the worksheet to print in **Landscape**, all on **one page**, **centered horizontally** but not vertically and include a footer that contains the **file name** on the left and the **sheet name** on the right. Show the **row and column headings**. Compare the preview with the key. Make needed corrections, print the worksheet, save the workbook, and close it.

HW04-4 VLOOKUP Shipping

Problem: Given the weight of an item, how can you look up the corresponding shipping cost?

The **VLOOKUP** function works the same way as the **HLOOKUP** function except the **table array** is a vertical table rather than a horizontal table.

a. Open the workbook **HW04-4 VLOOKUP Shipping Original**, which is one of the files you downloaded at the start of the term.

b. Save the workbook to your **Excel Files** folder using the name **HW04-4 HWID VLOOKUP Shipping Done**

c. For cells **D10:D69**, you want Excel to display the **Shipping Cost** for each **Item Number**. To do that, you can use the **VLOOKUP** function, which has the same form as **HLOOKUP** except **H** is replaced by **V** and **row** is replaced by **column**.

1. To make things easier with this large set of data, split the screen at row **20**.

2. Click **D10** and type **=vlookup(** A screen tip will appear:
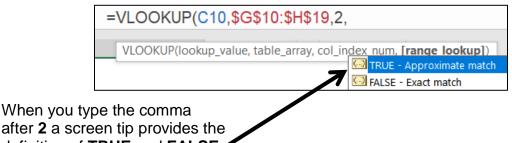
- **lookup_value** is what you want to find, the weight. Type **c10,** (be sure to type the comma).

- **table_array** is the vertical range where you want to look. It is the range that contains the **Weights** and **Shipping costs**. Type **g10:h19,** (be sure to type the comma).

- **col_index_num** is the number of the **column** in the table whose value you want displayed.

    Column **G**, which is Column **1** in the table, contains the **Weights**.

    Column **H**, which is Column **2** in the table, contains the corresponding **Shipping costs**. This is what you want to display so type **2,** (be sure to type the comma).

    =VLOOKUP(C10,$G$10:$H$19,2,

    VLOOKUP(lookup_value, table_array, col_index_num, **[range lookup]**)
    (...) TRUE - Approximate match
    (...) FALSE - Exact match

When you type the comma after **2** a screen tip provides the definition of **TRUE** and **FALSE** for the **[range_lookup]**.

- **[range_lookup]** tells Excel if you want an exact match or an approximate match.

    FALSE says to look for an **exact** match. If there is no exact match the error message **#N/A** will be displayed. This is **not** what you want because the weights are in tenths of a pound and the **table_array Weights** are in whole pounds.

    TRUE says that data in the first column of **table_array** are in **ascending sort order**, which they are, and you want either an exact match or an approximate match. If an exact match is found, great; if not then Excel settles for the next lowest value. The weight in **C10** is **7.5** so Excel would choose the **Shipping Cost** for **7.0** (the next value below **7.5**). This is what you want.

3. Type **true)** and then click the **Enter** checkbox ✔ The cost is $30.60.

4. You are going to fill this formula down to row 69 so you must decide if you need absolute referencing (the **$**)

    Put the **$** in the proper places, click the **Enter** checkbox, and then fill the **D10** formula down to **D69** and **preserve the formatting**. If you get an **#N/A** error then go back and check your absolute references, the **$**.

D10			✕ ✓	*fx*	=VLOOKUP(C10,$G$10:$H$19,2,TRUE)		
	A	B	C	D	E	F	G
8							Weigh
9		Item Number	Weight (lbs)	Shipping Cost			Weight
10		44537	7.5	$30.60			0.0

Note that for this example if a weight is between two whole numbers then the **Shipping Cost** for the **lower** weight is used. Thus, a weight of **7.9** would use the **Shipping Cost** for **7.0**. If you wanted to use the higher weight then you would use **C10+0.99** for the **lookup_value**. The formula would be:

=VLOOKUP(C10+0.99,$G$10:$H$19,2,TRUE) ⟵ **Don't use this one!**

This formula is a bit more complicated but it probably is more realistic because the shipper will always want to charge the highest shipping cost he can.

d. In **G3**, insert a function that will display the total weight and total shipping cost of all the items, as well as text that gives meaning to the numbers. That is, you want to display the following:

Total weight is 329.5 lbs and total shipping cost is $1,555.60

To display this, you need a formula that contains four separate parts which are joined together end to end. Computer programmers refer to this type of joining as **CONCATENATION**. Here are the four parts:

Total weight is	**329.5**	**lbs and total shipping cost is**	**$1,555.60**
Text 1	**Calculation 1**	**Text 2**	**Calculation 2**

Text 1   will go inside quotation marks: **"Total weight is "**
Calculation 1   finds the sum of all the weights: **SUM(C10:C69)**
Text 2   will go inside quotation marks: **" lbs and total shipping cost is "**
Calculation 2   finds the sum of all the shipping costs: **SUM(D10:D69)**

To join these four pieces together in one formula you can use the ampersand, **&**, between the pieces as follows:

1. Type this formula into **G3** and click the **Enter** checkbox ✔

= "Total weight is "&SUM(C10:C69)&" lbs and total shipping cost is "&SUM(D10:D69)

Displays the text between quotation marks **Total weight is**
   then the **SUM** of **C10** through **C69** is displayed
      then the text between quotation marks **lbs and total shipping cost is** displayed
         then the **SUM** of **D10** through **D69** is displayed

G3	▾	⋮	✕	✓	*fx*	= "Total weight is "&SUM(C10:C69)&" lbs and total shipping cost is "&SUM(D10:D69)				

	A	B	C	D	E	F	G	H	I	J	K
1		**Shipping Costs Calculation**									
2											
3		**Calculate Shipping Cost**		**Calculate Shipping Cost**			Total weight is 329.5 lbs and total shipping cost is 1555.6				

2. The formula in **G3** displays the cost as **1555.6**. This is the correct value but it should be in currency style as in **$1,555.60**. To do that you can use the **TEXT** function. It has the form:

=TEXT(value, format)

- **value** is a number or cell reference.

- **format** is the way you want the **value** to be displayed. This part must go inside quotes. For example, use

   "m/d/yyyy" to display **12/31/2019**

   "ddd d mmm yyyy" to display **Tue 31 Dec 2019**

   "$#,###.00" to display **$1,555.60**

The **value** you want to display is calculated by **SUM(D10:D69)** so that will be the **value** in the **TEXT** function. The format you want is currency so **"$#,###.00"** will be the format.

Modify the formula in **G3** by putting **SUM(D10:D69)** inside the **TEXT** function.

G3	▾ ⋮ ✕ ✓ ƒx	= "Total weight is "&SUM(C10:C69)&" lbs and total shipping cost is "&TEXT(SUM(D10:D69),"$#,###.00")

	A	B	C	D	E	F	G	H	I	J	K	L
1		Shipping Costs Calculation										
2												
3		Calculate Shipping Cost		Calculate Shipping Cost			Total weight is 329.5 lbs and total shipping cost is $1,555.60					

e. Enter a function in **G4** that will display the **Item Number** of the item with the highest weight. The **MAX** function can be used to find the highest weight in **C10:C69**. To find the **Item Number** you can use the **VLOOKUP** function. Unfortunately, **Item Number** is to the left of **Weight** in the table so **VLOOKUP** cannot be used directly. To get around this, create a "scratch area" where **Weight** is to the left of **Item Number**. Do the following:

1. In **J8**, type **Scratch Area** and center and merge it across **J8:L8**.

2. In **J9** type **Weight**, in **K9** type **Item Number**, and in **L9** type **Shipping Cost**.

3. In **J10**, type **=c10**, in **K10**, type **=b10** and in **L10** type **=d10**

4. Fill the formulas in **J10:L10** down to **J69:L69**. This creates a new table where the **Weight** is to the left of the **Item Number**, which is required by **VLOOKUP**.

5. To make the table easier to read, format it as shown below (to put in borders select the table, tap **Ctrl + 1**, and click **Boarders** tab):

	I	J	K	L	M
7					
8		Scratch Area			
9		Weight	Item Number	Shipping Cost	
10		7.5	44537	$30.60	
11		9.9	80680	$33.00	
12		8.7	43913	$31.80	
13		5.7	71304	$26.75	

6. In **G4**, enter a **VLOOKUP** function that will display the **Item Number** of the item with the highest **Weight**. Here is the structure:

```
                  what to look for    where to look    column to display    need exact or
                                                                            approximate match?
=VLOOKUP( lookup value , table array , column index num ,   range lookup   )
          highest weight   range with     column with          exact match
                           weights and    item numbers
                           item numbers
```

• **lookup value** is the highest **Weight** in **J10:J69**. To find that, use **MAX**.

• **table array** is the range that contains **Weights** and **Item Numbers** in the scratch area.

- **column index num** is the number of the column *in the table* whose value you want displayed.

  Column **J**, which is Column **1** in the table, contains **Weights**

  Column **K**, which is Column **2** in the table, contains **Item Numbers**

- **range lookup** is **TRUE** or **FALSE**. Make your choice by noting that the **Weights** are **not** in ascending sort order and you want an exact match.

  TRUE for approximate match

  FALSE for exact match

7. Enter your formula and click the **Enter** checkbox ✔.

G4	▼	:	✕	✓	*fx*	=VLOOKUP(MAX(J10:J69),J10:L69,2,FALSE)

	F	G	H	I	J	K	L
3		Total weight is 329.5 lbs and total shipping cost is $1,555.60					
4		80680					

8. Use the Ampersand, **&**, to display the following text to the left of **80680**:

   Highest weight is for item number

   When you tap **Enter** you may see **########**, which indicates the value to display will not fit entirely in **G4**. To fix that, select **G4:L4**, on the **Home** tab, in the **Alignment** group, click **Merge & Center**, and then click the **Align Left** button.[12]

g. Enter a function in **C7** that will display the **Shipping Cost** for an item whose **Item Number** is entered in **B7**. You want to find a number in a vertical list so **VLOOKUP** is a good choice. Do the following:

1. Enter **43913** in **B7**. This is the **Item Number** whose **Shipping Cost** you seek.

2. In **C7**, enter a formula that will display the **Shipping Cost** for the item whose **Item Number** is in **B7**.

<table>
<tr><td></td><td>what to look for</td><td>where to look</td><td>column to display</td><td>need exact or approximate match?</td><td></td></tr>
<tr><td>=VLOOKUP(</td><td>lookup value ,</td><td>table array ,</td><td>column index num ,</td><td>range lookup</td><td>)</td></tr>
<tr><td></td><td>item number</td><td>range with item nums and shipping costs</td><td>column with shipping costs</td><td>exact match</td><td></td></tr>
</table>

- **lookup value** is the **Item Number** in **B7**.

- **table array** is the range that contains **Item Numbers** and **Shipping Costs**. This is **B10:D69**.

- **column index num** is the number of the column in the table whose value you want displayed.

  Column **B**, which is Column **1** in the table, contains **Item Numbers**
  Column **C**, which is Column **2** in the table, contains **Weights**
  Column **D**, which is Column **3** in the table, contains **Shipping Costs**

---

[12] ="Highest weight is for item number "&VLOOKUP(MAX(J10:J69),J10:L69,2,FALSE)

- **range lookup** is **TRUE** or **FALSE**. Note that the **Item Numbers** are not in ascending sort order and you want an exact match.

    TRUE for approximate match
    FALSE for exact match

C7			f_x	=VLOOKUP(B7,B10:D69,3,FALSE)

	A	B	C	D	E	F
1		Shipping Costs Calculation				
2						
3		Calculate Shipping Cost		Calculate Shipping Cost		Total
4		Given Item Number		Given Item Weight		Highe
5		Choose	Shipping	Enter	Shipping	
6		Item Number	Cost	Weight	Cost	
7		43913	$31.80			

i. Enter a function in **E7** that will display the **Shipping Cost** for an item whose **Weight** is entered in **D7**. Give it a try by following the same process you did for the formula in **C7**. If you have difficulty, follow these steps:

what to look for | where to look | column to display | need **exact** or **approximate** match?

=VLOOKUP(**lookup value** , **table array** , **column index num** , **range lookup**)

weight | range with weights and shipping costs | column with shipping costs | approximate match

- **lookup value** is the **weight** in **D7**. Type **1.1** in **D7** as a test value.

- **table array** is the range that contains **Weights** and **Shipping Costs**. This is **G10:H19**.

- **column index num** is the number of the column in the table whose value you want displayed.

    Column **G**, which is Column **1** in the table, contains **Weights**
    Column **H**, which is Column **2** in the table, contains **Shipping Costs**

- **range lookup** is **TRUE** or **FALSE**. The **Weights** are sorted low to high and you want only an approximate match (that is, the exact weight in **D7** need not be listed in **G10:G19**).

    TRUE for approximate match
    FALSE for exact match

E7			f_x	=VLOOKUP(D7,G10:H19,2,TRUE)

	A	B	C	D	E	F
1		Shipping Costs Calculation				
2						
3		Calculate Shipping Cost		Calculate Shipping Cost		Tota
4		Given Item Number		Given Item Weight		High
5		Choose	Shipping	Enter	Shipping	
6		Item Number	Cost	Weight	Cost	
7		43913	$31.80	1.1	$15.75	

The weight in **D7** is 1.1, which is between 1.0 (**Shipping Cost** is $15.75) and 2.0 (**Shipping Cost** is $18.50). Excel chooses the lower value of $15.75.

h. Misspelled words can be embarrassing.[13] For example, a news headline read "Floods from the Mississippi may be prevented by putting big dames in the river." Here is a road sign from South Bend Indiana:

When you misspell a word in an email or letter the reader often can figure out what you are trying to say from the context. Try reading this:

> I cdnuolt blveiee taht I cluod aulaclty uesdnatnrd waht I was rdanieg. The phaonmneal pweor of the hmuan mnid. Aoccdrnig to rscheearch it deosn't mttaer in waht oredr the ltteers in a wrod are, the olny iprmoatnt tihng is taht the frist and lsat ltteer be in the rghit pclae. The rset can be a taotl mses and you can sitll raed it.

Your amazing brain is able to fill in what it needs to make sense of this from the context and your facility with English.

However, if you enter a wrong number in Excel the user probably will not be able to tell if it is wrong by looking at the context, and any analysis that uses that number will be wrong. While you cannot completely prevent data entry errors, Excel allows you to check some of the characteristics of data you enter through its **Data Validation** feature. Let's see how this works.

1. Click **B7**, and then, on the **Data** tab, in the **Data Tools** group, click **Data Validation** and select **Data Validation**. There are a lot of choices that you can explore on your own. For this project, **Item Numbers** must be those that are in the range **B19:B69**.

2. Click the **Settings** tab and select **List** from the **Allow:** drop-down menu.

3. In the **Source** box, type the range where the **Item Numbers** are listed. That is type **=b10:b69** (or select that range with your mouse).

---

13 Adapted from http://www.dummies.com/how-to/content/limit-data-entry-with-data-validation-in-excel-201.html

4. Click the **Input Message** tab and in the **Input message** box type **Select or type item number**.
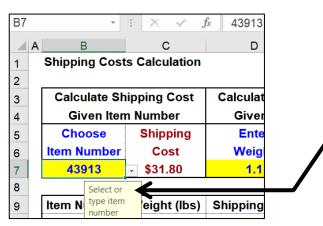
Now, when you click **B7** that message will appear to remind you of what type of data goes in **B7**.

5. Click the **Error Alert** tab and, in the **Error message** box, type **Item Number not found**. Now, if you enter an **Item Number** that is not on the list of numbers in **B10:B69** you will get an error message.
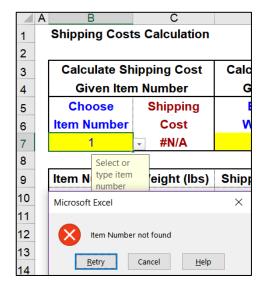
The default under **Style** is **Stop**. That means Excel will not allow a number outside the range. If you change the **Style** to **Warning** Excel will display the error message as a warning but it will allow the value to be entered if you wish.

6. Leave the **Style** as **Stop** and click **OK**, You will see the **Input message** for cell **B6**.

7. To see how data validation works, click **B7**, type **1**, and tap **Enter**.

Here, you can click **Retry** or **Cancel**. Click **Cancel**.

8. When **B7** is active, there will be an upside triangle just to the right of the cell. This is a drop-down menu that can be used to select an **Item Number** rather than type it.

    To see how the drop-down menu works, click the down arrow, scroll up a bit, and select **80680**. The **Shipping Cost** in **C7** will show **$33.00**.

j. Here is another type of validation rule. Set up things so that the weights entered must be between 0 and 10 pounds. Give it a try. If you need help, do the following:

1. Click **D7**, and then, on the **Data** tab, in the **Data Tools** group, click **Data Validation** and select **Data Validation**.

2. Click the **Settings** tab and select **Decimal** from the **Allow** drop-down menu.

3. In the **Data** box, select **between**.

4. In the **Minimum** box type 0.

5. In the **Maximum** box type 10.

6. Click the **Input Message** tab. In the **Input message** box type **Enter decimal between 0 and 10**.

7. Click the **Error Alert** tab and, in the **Error message** box, type **Weight must be a decimal between 0 and 10**.

8. In the **Style** box confirm that **Stop** is selected.

9. Click **OK**.

10. To see how data validation works, click **D7**, type **11**, and tap **Enter**. You should see the error message.

11. Click **Cancel**.

If you want to find cells to which **Data Validation** has been applied, tap the **F5** key, click the **Special** button, click the **Data Validation** option button, and click **OK**. Every cell that has **Data Validation** will be highlighted (**B7** and **D7**).

If you want to get rid of **Data Validation** assigned to a particular cell range, select the range, open the **Data Validation** dialog box, click the **Clear All** button, and click **OK**. **Do NOT do this now.**

k. Set the **Print Area** to **B1:L18**. Tap **Ctrl + p** and set the worksheet to print in **Landscape**, all on **one page**, **centered horizontally** but not vertically and include a footer that contains the **file name** on the left and the **sheet name** on the right. Print without gridlines but with the **row and column headings**. Compare the preview with the key. Make needed corrections, print the worksheet, save the workbook and close it.

Step 4 Submit You now are ready to submit your homework for grading.

1. Put your 6 homework papers in the following order:

   HW04-1 3A Enterprise Fund Expenditures Chartsheet
   HW04-1 3A Enterprise Fund Expenditures Worksheet
   HW04-2 3B Tourism Spending Projection Worksheet
   HW04-2 3B Advertising Worksheet
   HW04-3 HLOOKUP Gradebook Formulas
   HW04-4 VLOOKUP Shipping Data

2. Cut out Submission Form 4 and put it on the top of the papers.

3. Staple the papers in the upper left corner.

4. Turn in the packet by the due date.

Step 5 Backup Now would be a good time to backup your files.

Project 5
Excel: Customize Charts, Make Decisions, and Sort

Step 1 Read For this project, there are no pages to read in your textbook.

Step 2 Activities For this project, there are no textbook activities.

Step 3 Homework Do the problems listed below, and turn them in for grading.
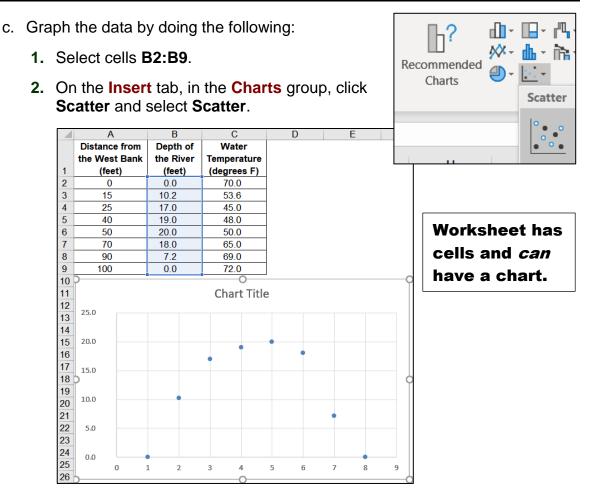
This Project will extend your knowledge of using Excel to make graphs and to help make decisions using **IF/THEN/ELSE** logic.

HW05-1 River Chart
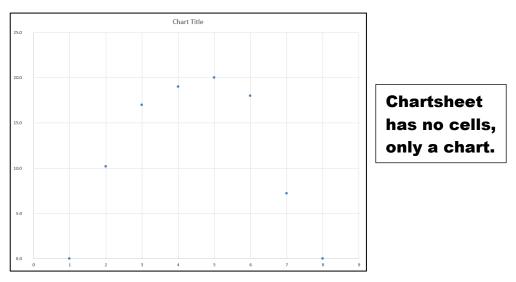
Problem: How can you create a mathematical model (formula) based on empirical data and put two graphs on one chart?

In this exercise you will be given measurements that show the relationship between the depth of a river, the water temperature, and the distance from one of its banks. Water depth measurements are routinely made by government agencies to help keep rivers navigable and to help with flood control and prevention. Your task is to graph this relationship and to create a mathematical model that can be used to predict what the water depth should be at any distance from the shore. Where the actual depth does not match the model might indicate that dredging is needed. On the same graph, you will also graph bottom water temperature versus distance from the river bank. Having these two graphs on one grid will enable you to see the relation between depth and temperature.

a. Open the workbook **HW05-1 River Original**, which is one of the files you downloaded at the start of the term.

b. Save the workbook to your **Excel Files** folder using the name **HW05-1 HWID River Done**.

c. Graph the data by doing the following:

1. Select cells **B2:B9**.

2. On the **Insert** tab, in the **Charts** group, click **Scatter** and select **Scatter**.

Worksheet has cells and *can* have a chart.

3. Be sure the chart is selected and then on the **Chart Tools Design** tab in the **Location** group (way over on the right), click **Move Chart**.

4. Click the button next to **New sheet**, type **River Depth Chart**, and click **OK**. The chart appears in its own chartsheet.

Chartsheet has no cells, only a chart.

Note the difference between **chartsheets** and **worksheets**:

Worksheets contain cells with data and formulas, and *can* contain a chart.

Chartsheets do not have any cells and contain only a chart.

5. Be sure the chart is selected and then on the **Chart Tools Design** tab in the **Data** group (way over on the right), click **Select Data**.

6. Under **Legend Entries (Series)**, click **Edit**.

Mac Users: There is no **Edit** button. The boxes below automatically appear.

7. Fill in the **Edit Series** box as follows:

   • In the **Series name** box type **Depth**. This gives the data a name. In a bit, you will enter another series called **Temperature**.

   • Next to the **Series X values** box, click the collapse dialog button:

   • Click the **River Data** worksheet and select **A2:A9**, which contains the distance data. Notice how the location is inserted in the box:

   • Click the collapse dialog button again.

8. The **Series Y values** should already show the range **B2:B9** in the **River Data** worksheet. Click **OK**.

9. Click **OK** again.

d. Format the chart as follows:

1. Click anywhere in the chart so the chart elements buttons are displayed in the upper right corner.

> **Mac Users**: There are no chart elements buttons. The **Add Chart Element** menu is in the upper left corner of the screen. Click its down arrow to open it.

Open the **Chart Elements** menu by clicking the green cross.

Insert checks as shown below:

2. Click the **Chart Title** text box (it probably has the word **Depth** in it). Click the formula bar, and type **River Depth vs. Distance From West Bank**
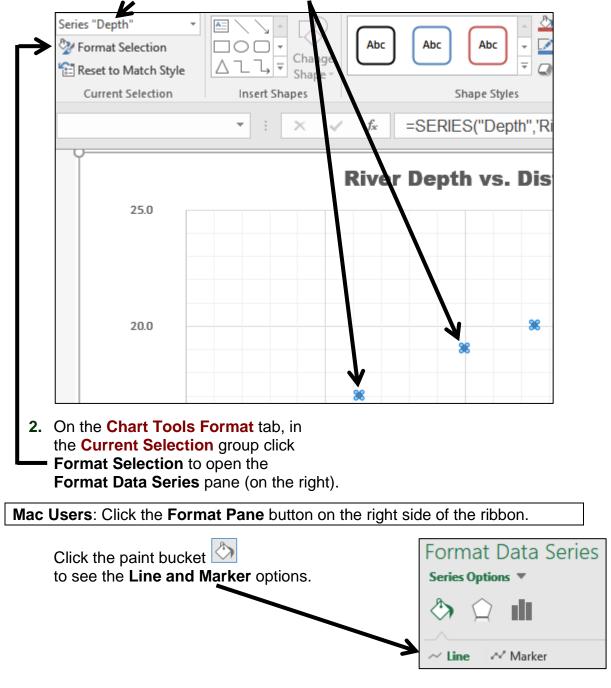
    Tap **Enter** to update the title.

> **Mac Users**: If you have trouble selecting a chart element, tap the **Tab** key to cycle through the elements until the one you want is selected.

3. Using the same technique, change the **Vertical Axis Title** to **Depth (feet)** and the **Horizontal Axis Title** to **Distance From West Bank (feet)**.

4. For each of the three titles, make the font 14 point Arial Black.

e. Format the data points by doing the following:

1. On the **Chart Tools Format** tab, in the **Current Selection** group (way over on the left), click the down arrow and select **Series "Depth"**. This selects the data points.

2. On the **Chart Tools Format** tab, in the **Current Selection** group click **Format Selection** to open the **Format Data Series** pane (on the right).

Mac Users: Click the **Format Pane** button on the right side of the ribbon.

Click the paint bucket to see the **Line and Marker** options.

3. Click **Marker**, click the triangle next to **Marker Options** to open its menu, and then click the **Built-in** button.

   Click the **Type** down arrow and be sure it is set to circle (third choice from the bottom).

   Change the size to **10**.

4. Click the **Fill** triangle to open its menu, click **Solid fill**, and then change the color to dark red.
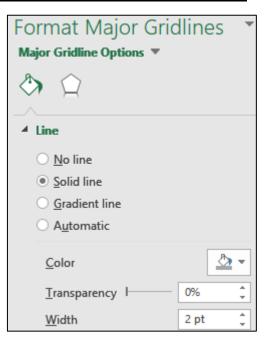
f. Change the background color of the chart by doing the following:

   1. On the **Chart Tools Format** tab, in the **Current Selection** group, click the down arrow, select **Chart Area**, and then click **Format Selection** to open the **Format Chart Area** pane.

   2. If necessary, click the **Fill** triangle to show its menu and then click **Picture or texture fill**.

   3. Click the down arrow to the right of **Texture** and click the **Blue tissue paper** texture.
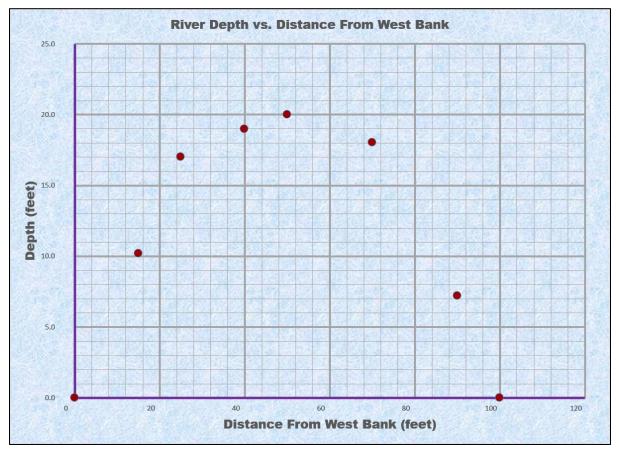
g. Format the axes and gridlines as follows:

   1. On the **Chart Tools Format** tab, in the **Current Selection** group, click the down arrow, select **Vertical (Value) Axis**, and click **Format Selection**.

   3. Click the paint bucket and change the **Line** color to **purple** and make the width **3 pt**.

   4. Follow the same procedure to format the **Horizontal (Value) Axis** line to **3** pt **purple**.

5. On the **Chart Tools Format** tab, in the **Current Selection** group, click the down arrow, select **Vertical (Value) Axis Major Gridlines**, and click **Format Selection**.
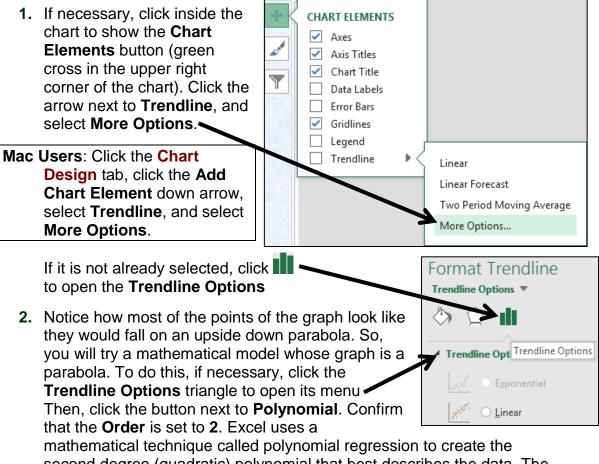
    Click the paint can and change the **Color** to **dark gray** and the **Width** to **2** pt.

Format Major Gridlines

Major Gridline Options ▼

▲ Line

○ No line

◉ Solid line

○ Gradient line

○ Automatic

Color

Transparency   0%

Width   2 pt

6. Use the same procedure to make these changes:

    - Make the **Vertical (Value) Axis Minor Gridlines** 0.5 pt dark gray.

    - Make the **Horizontal (Value) Axis Major Gridlines** 2 pt dark gray.

    - Make the **Horizontal (Value) Axis Minor Gridlines** 0.5 pt dark gray.

River Depth vs. Distance From West Bank

Depth (feet)

Distance From West Bank (feet)

h. Have Excel calculate and insert a trend line by doing the following:

1. If necessary, click inside the chart to show the **Chart Elements** button (green cross in the upper right corner of the chart). Click the arrow next to **Trendline**, and select **More Options**.

> **Mac Users**: Click the **Chart Design** tab, click the **Add Chart Element** down arrow, select **Trendline**, and select **More Options**.

If it is not already selected, click ▉ to open the **Trendline Options**

2. Notice how most of the points of the graph look like they would fall on an upside down parabola. So, you will try a mathematical model whose graph is a parabola. To do this, if necessary, click the **Trendline Options** triangle to open its menu. Then, click the button next to **Polynomial**. Confirm that the **Order** is set to **2**. Excel uses a mathematical technique called polynomial regression to create the second degree (quadratic) polynomial that best describes the data. The graph of the equation is a parabola. You will study regression when you take a statistics course.

3. Check the box next to **Display Equation on chart**.

4. Check the box next to **Display R-squared value on chart**. This value gives an idea of how well the mathematical model describes the data. The optimal value is $R^2 = 1$, which indicates a perfect fit.
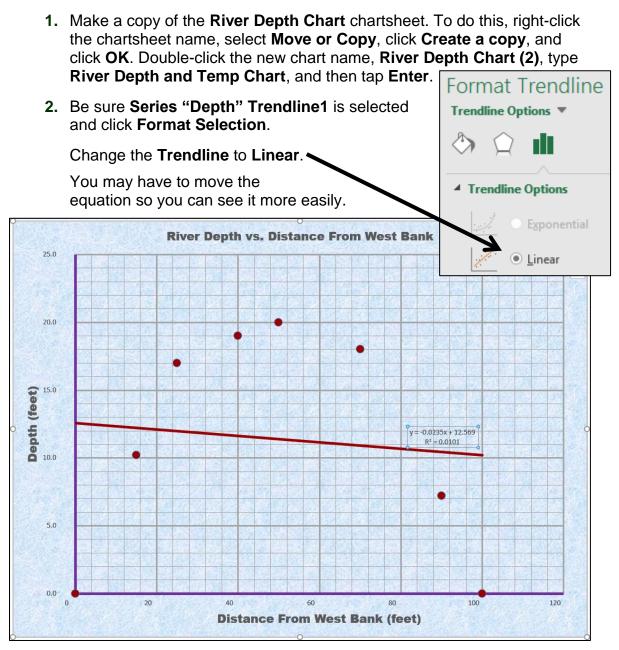
    The actual data points are represented by the red dots and the mathematical model calculated by Excel is represented by the trendline. The displayed R^2 value, 0.9919, indicates that the mathematical model fits the data very well.

5. Click the **Fill & Line** paint bucket ⬦ and change the trendline color to **dark red**, the **Width** to 3 pt, and the **Dash type** to solid.

$$y = -0.0082x^2 + 0.8209x + 0.144$$
$$R^2 = 0.9919$$
80   100

6. Save your file.

i.   Different mathematical models will fit the data more or less precisely. To see this, do the following:

1. Make a copy of the **River Depth Chart** chartsheet. To do this, right-click the chartsheet name, select **Move or Copy**, click **Create a copy**, and click **OK**. Double-click the new chart name, **River Depth Chart (2)**, type **River Depth and Temp Chart**, and then tap **Enter**.

2. Be sure **Series "Depth" Trendline1** is selected and click **Format Selection**.

Change the **Trendline** to **Linear**.

You may have to move the equation so you can see it more easily.

The shape of the trendline changed to a straight line, the mathematical model now has only two terms, and the **R²** value of 0.0101 indicates that this new model does not fit the data very well, which is obvious from the graph.

3. Change the **Trendline** to **Polynomial** and change the **Order** to **6**.
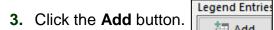
Notice how the shape of the trendline has changed to a more complex curve that better follows the flow of the data, the displayed equation has more terms, and the displayed **R²** value of 0.9985 indicates that this new model fits the data even better than the quadratic model. There is an obvious trade-off here: when the model is more complex it generally fits the data better but it also may be more difficult to work with.

4. Click the equation text box.

   - Change the font to **dark red 9 pt Arial Black**

   - Make the **fill** of the text box **white**

   - Click inside the box and, just to the right of **R² = 0.9919**, type a space, and then type **where y is Depth and x is Distance from West Bank**

Mac Users: Select the **Series "Depth" Trendline 1 Equation**. Point to the very edge of the textbox, right-click, and select **Edit Text**. I found this tricky on my Mac so if you cannot get it to work just leave it out.

$$y = 2E\text{-}09x^6 - 6E\text{-}07x^5 + 7E\text{-}05x^4 - 0.0037x^3 + 0.0778x^2 + 0.1473x - 0.0165$$
$$R^2 = 0.9985 \text{ where y is Depth and x is Distance from West Bank}$$

| 20 | 40 | 60 | 80 | 100 |

j. Do the following to add a second graph that shows how bottom temperature varies from one side of the river to the other: [14]

   1. Click anywhere in the **River Depth and Temp Chart**.

   2. On the **Chart Tools Design** tab in the **Data** group click **Select Data**.

   3. Click the **Add** button.

Mac Users: There is no **Add** button. Under the box labeled **Legend entries (Series)**, click the **✚**

---

4. Fill in the boxes as follows:

   - For the **Series name** type **Temperature**.

   - Next to the **Series X values** box, click the collapse dialog button: ⬆

   - Click the **River Data** worksheet and select **A2:A9**, which contains the distance data. Notice how the location is inserted in the box:

   Edit Series   ?   ✕

   ='River Data'!$A$2:$A$9
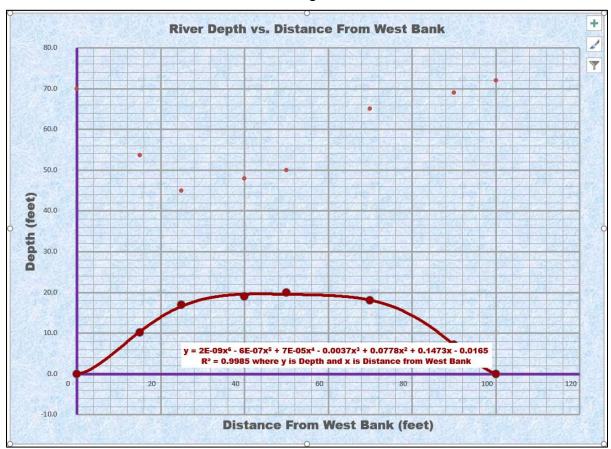
   - Click the collapse dialog button again.

   - For the **Series Y values**, follow the same procedure to select the **Temperature** data in **C2:C9** on the **River Data** worksheet.

   Edit Series   ?   ✕

   Series name:
   Temperature   ⬆   = Temperature
   Series X values:
   ='River Data'!$A$2:$A$9   ⬆   = 0   , 1...
   Series Y values:
   ='River Data'!$C$2:$C$9   ⬆   = 70.0   , 5...

   OK   Cancel

---
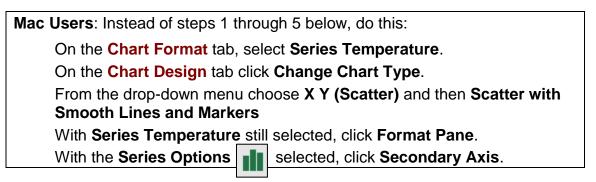
[14] For **Mac** users, check out **https://www.youtube.com/watch?v=99XaQFINf_Q**

- Click **OK** and then click **OK** again.

River Depth vs. Distance From West Bank

$y = 2E\text{-}09x^6 - 6E\text{-}07x^5 + 7E\text{-}05x^4 - 0.0037x^3 + 0.0778x^2 + 0.1473x - 0.0165$
$R^2 = 0.9985$ where y is Depth and x is Distance from West Bank

k. Do the following to add a secondary vertical axis scale:

Mac Users: Instead of steps 1 through 5 below, do this:

On the **Chart Format** tab, select **Series Temperature**.
On the **Chart Design** tab click **Change Chart Type**.
From the drop-down menu choose **X Y (Scatter)** and then **Scatter with Smooth Lines and Markers**
With **Series Temperature** still selected, click **Format Pane**.
With the **Series Options** selected, click **Secondary Axis**.

---

1. On the **Chart Tools Design** tab in the **Type** group click **Change Chart Type**.

2. At the bottom of the choices on the left, click **Combo**

3. Put a check in the **Secondary Axis** box next to the right of **Temperature**.

Choose the chart type and axis for your data series:

Series Name	Chart Type	Secondary Axis
▌ Depth of the River (feet)	Clustered Column ⌄	☐
▌ Temperature	Line ⌄	☑

Notice the graph types have automatically changed. Use the down arrows to select **Scatter** for the **Depth** and **Scatter with smooth line and markers** for the **Temperature**.

Series Name	Chart Type		Secondary Axis
▮ Depth	Scatter	⌄	☐
▮ Temperature	Scatter with Smooth Lines...	⌄	☑

4. Click **OK**.

5. On the **Chart Tools Format** tab, in the **Current Selection** group select **Series "Temperature"** and click **Format Selection**.

Mac Users: Continue with Step 6 below.

6. Click the paint bucket, change the line color to **blue** and the **Width** to **3** pt.

l. Format the vertical and horizontal axes as follows:

1. On the **Chart Tools Format** tab, in the **Current Selection** group, select **Vertical (Value) Axis**, and click **Format Selection**.

2. In the **Format Axis** pane on the right, click the **Axis Options** icon

3. If necessary, click the triangle to the left of ◢ **Axis Options** to open its menu. If necessary, under **Bounds** change the **Minimum** to **0** and the Maximum to **25**.

4. If necessary, click the triangle to the left of ◢ **Number** to open its menu.

5. Under **Category**, select **Number** from the drop-down menu and set the number of decimal places to **0**.

6. Format the vertical axis numbers to **dark red 10** pt **Arial Black**.

◢ **Number**

Category

Number ▾

Decimal places: 0

7. Repeat this process to change the **Horizontal (Value) Axis Minimum** to **0** and **Maximum** to **100**. Also, under **Number** change the **Category** to **Number** with **0** decimal places. Format the axis numbers to **10** pt **Arial Black**. Leave the color as is.

8. Repeat this process to change the **Secondary Vertical (Value) Axis Minimum** to **0** and **Maximum** to **80**. Also, under **Number** change the **Category** to **Number** with **0** decimal places. Format the secondary vertical axis numbers to **blue 10** pt **Arial Black**.

Notice that the right scale numbers shown do not line up with the major gridlines. It will make the graph look better if those numbers line up with the major gridlines. Since the right vertical axis scale goes from 0 to 80 and there are 5 major gridlines, we divide 80 by 5 to get 16.
Thus, change the **Major Units** to **16**.
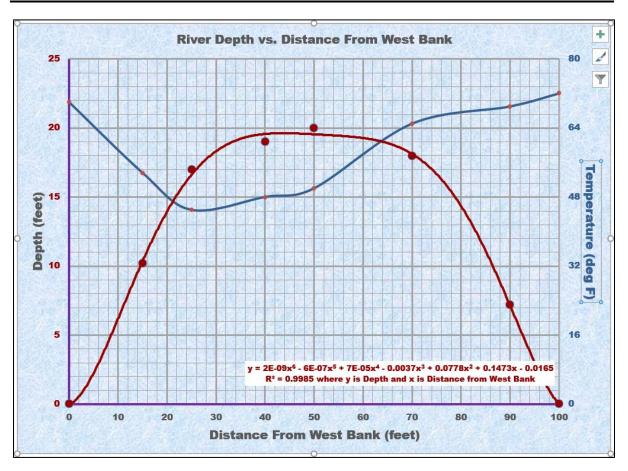
9. Click the **Green Cross** to open the **Chart Elements** menu, click the triangle to the right of **Axis Titles**, and put a check next to **Secondary Vertical**.

10. Click the **Secondary (Right) Vertical Axis** title and type **Bottom Temperature (deg F)**. Make the font **blue 14 pt Arial Black**.

11. With the **Right Vertical Axis** title still selected, click the **Size and Properties** icon and, under **Alignment Text direction**, select **Rotate all text 90º**.
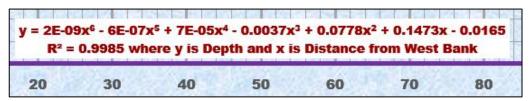
The two graphs clearly show that the depth and temperature are inversely related. That is, as you go from the shore to the middle of the river the depth increases while the temperature decreases.

m. Color code the graphs, equation, and labels to make it easier to distinguish them by doing the following:

1. Click the title and change it to **River Depth and Bottom Temperature vs. Distance From West Bank**

2. Select the **Left Vertical Axis** title **Depth (feet)** and make the color **dark red**.

3. In the title, select the word **Depth** and make its color **dark red**.

Mac Users: I don't think you can change individual words on a Mac. You can skip it.

4. In the title, select the **Bottom Temperature** and make its color **blue**.

5. Center the equation text box just above the horizontal axis.

n. Tap **Ctrl + p** and set the **River Depth and Temp Chart** chartsheet to print in **Landscape** and include footer that contains the **file name** on the left and the **sheet name** on the right. Compare the preview with the key. Make needed corrections, print the worksheet, save the workbook and close it.
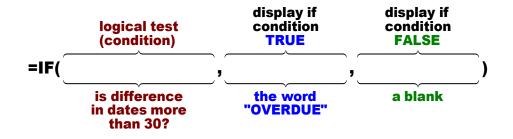
HW05-2 Loans IF

Problem: How can you determine if a loan payment is overdue?

The worksheet you develop for this problem will determine if a loan payment is more than 30 days past due and, if so, it will calculate the number of days it is overdue. This project and the next two will give you more experience in working with the **IF** function, which you used to calculate regular and overtime pay on page **SG59**.

a. Open the workbook **HW05-2 Loans IF Original**, which is one of the files you downloaded at the start of the term.

b. Save the workbook using the name **HW05-2 HWID Loans IF Done**.

c. For cells **D6:D9**, construct a formula that uses the **IF** function to display the word **OVERDUE** if the payment is more than 30 days overdue. To help you write the complete **IF** function, consider the following three parts:

Logical test — how will Excel choose between the two possibilities (to display the word **OVERDUE** or to display a blank)? The difference of **Today's Date** and the **Due Date** must be greater than 30. Write this inequality as you would in algebra using cell references instead of variables.

Value if true — if the **Logical test** is true, what should be displayed? You want to display the word **OVERDUE**. You must put **OVERDUE** inside quotation marks or Excel will think it is a special function or a named range and not know what to do with it.

Value if false — if the **Logical test** is false, what should be displayed? You want to display a blank so you must type two sets of double quotation marks next to each other, like this **""**. This is called a **null string** since it contains nothing (it is null).

In the space below, write the **IF** statement for **D6**:

1. Once you have constructed the formula, type it in
   D6 and then fill down to **D9**. After you fill, be sure
   to click the down arrow on the **Auto Fill Options**
   button and select **Fill Without Formatting** to
   preserve the original formatting of the cells. If you
   do not, the bottom border of **D9** will be incorrect.

◉	Copy Cells
○	Fill Formatting Only
○	Fill Without Formatting
○	Flash Fill

	A	B	C	D
1		*Loan Payments*		
2				
3	Today's Date: 13 Jul			
4				
5	**Loan**	**Due Date**	**Amount**	**Loans more than 30 days overdue**
6	Boat	11 Jun	$450.00	OVERDUE
7	Car	30 Jun	$520.00	
8	Home	04 Jul	$980.00	#VALUE!
9	Student	24 May	$300.00	

Notice the **#VALUE!** error in **D8**. Click **D8** to show the formula it contains:

D8	▾ ⋮	✕ ✓ *fx*	=IF(B5-B8>30,"OVERDUE","")

When you filled down the formula, Excel changed the row numbers in the
formula one at a time. That is, **B6** became **B7**, and then **B7** became **B8**,
and so on. That is what you want. However, Excel also changed **B3** to
B4, and then **B4** to **B5** and so on. That is **NOT** what you want because
Today's Date is in **B3** and so **B3** should remain **B3** in all the formulas.

To tell Excel to keep **B3** the same use an **absolute reference**. So, in **D6**
change **B3** to **B$3**. The $ to the left of **3** means to keep that row number
constant (**absolute**) when you fill down. Note that you also could use **$B$3**
but since you are not copying left or right the **B** will not change anyway.

2. Correct the formula in **D6** and fill down, again preserving the formatting.

D9	▾ ⋮	✕ ✓ *fx*	=IF(B$3-B9>30,"OVERDUE","")

	A	B	C	D	E
1		*Loan Payments*			
2					
3	Today's Date: 13 Jul				
4					
5	**Loan**	**Due Date**	**Amount**	**Loans more than 30 days overdue**	**Number of days overdue**
6	Boat	11 Jun	$450.00	OVERDUE	
7	Car	30 Jun	$520.00		
8	Home	04 Jul	$980.00		
9	Student	24 May	$300.00	OVERDUE	

3. Check **D6**. It should display **OVERDUE** since **Today's Date**, 13 Jul is 30 days after the **Due Date**, 11 Jun.

4. Check **D7**. It should be blank since **Today's Date**, 13 Jul is only 14 days after the **Due Date**, 30 Jun.

d. For cells **E6:E9**, construct a formula that will display the number of days the loan is overdue, if it is, or a blank, if it is not. These formulas will be almost the same as the formulas in cells **D6:D9** but in place of **"OVERDUE"** have Excel calculate the actual difference in dates by subtracting them.

In the space below, write the **IF** statement for **E6**:

e. Make a copy of the worksheet and rename the new worksheet **Loan Formulas**.

f. Tap **Ctrl + `** to display the formulas and **Autofit** the widths of the columns.

g. Tap **Ctrl + p** and set the **Loan Formulas** worksheet to print in **Landscape**, all on **one page**, **centered horizontally** but not vertically and include a footer that contains the **file name** on the left and the **sheet name** on the right. Show the row and column headings. Compare the preview with the key. Make needed corrections, print the worksheet, save the workbook, and close it.

HW05-3 Rent IF
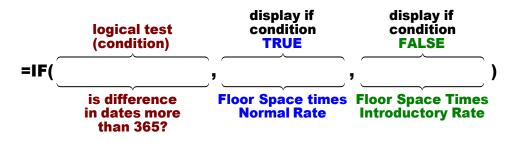
Problem: How can you determine which of several rates should be applied to various rental properties?

The worksheet you develop for this problem will determine the payment that is due for renting floor space. In this situation, there are two possible rates: a low, introductory rate of $5.00 per square foot for clients that have been renting for under a year, and a regular rate of $9.00 per square foot for older clients.

a. Open the workbook **HW05-3 Rent Original IF**, which is one of the files you downloaded at the start of the term.

b. Save the workbook as **HW05-3 HWID Rent IF Done**

c. For cells **D9:D12**, construct a formula that displays the payment for renting floor space. The condition in the **IF** function should test to see if the difference of **Today's Date** and the **Initial Date** is greater than 365 (that is, one year). If it is, the payment is calculated by multiplying the **Floor Space** by the **Normal Rate** (in **B5**); otherwise, the payment is calculated by multiplying the **Floor Space** by the **Introductory Rate** (in **B6**).

   To help you write the complete **IF** function, fill in the following three parts:

   Logical test — how will Excel choose between the two possibilities (what criteria will Excel use to choose between the formula that uses the **Normal Rate** or the **Introductory Rate**)?

   Value if true — if the **Logical test** is true, what should be displayed (which formula should be used)?

   Value if false — if the **Logical test** is false, what should be displayed (which formula should be used)?

   In the space below, write the **IF** statement for **D9**:

   1. Once you have constructed the formula, type it into **D9**. Be sure to include absolute references (the **$**) where appropriate.

   2. Check **D9**. The **Initial Date**, 10 Oct 2009, is more than 365 days from **Today's Date**, 11 July 2013, so the payment should use the **Normal Rate**: 9*5000 = 45000.

3. If your formula displays 45000, fill it down to **D12**. Otherwise, fix it. After you fill, be sure to click the down arrow on the **Auto Fill Options** button and select **Fill Without Formatting** to preserve the original formatting of the cells. If you do not, the bottom border of **D12** will be incorrect.

4. Check the value in **D10**. The difference between **Today's Date** and the **Initial Date** is less than 365 so the **Introductory Rate** should be used: **5***1500 = 7500. If that does not check, look at your formula. Did you put in absolute referencing for the cells that should not change (**B3**, **B5**, and **B6**)? If necessary, click **D9**, put in the **$** where appropriate, fill down again preserving formatting, and check the results.

5. Format the dollar amounts in column **D** as currency with two decimal places.

d. Apply custom formats to some cells by doing the following:

1. Select cells **B5:B6**, right-click **B5**, select **Format Cells**, click the **Number** tab, and click **Custom**. The shortcut for displaying **Format Cells** is **Ctrl + 1**.

2. Change the text in the **Type** box to **$#.00" per sq. ft."** (the quotation marks are needed).

   $ says to display the dollar sign;

   #.00 is a place holder that says to display the number, rounded to two decimal places.

   " per sq. ft." says to display the text between the quotation marks exactly as it is shown.

3. Click **OK**.

4. Select cells **B9:B12** and follow the same procedure as above to apply this custom format: **#,###" sq. ft."**

   • the **#,###** says to display the number with a comma if the number is over one thousand;

   • the **" sq. ft."** says to display the text between the quotation marks exactly as it is shown.

5. Click **OK**.

	A	B
8	**Company**	**Floor Space**
9	Lisa's Camping Supply	5,000 sq. ft.
10	Badtke Burger Barn	1,500 sq. ft.
11	Brainiac Books, Inc.	800 sq. ft.
12	Know It All Notions	2,000 sq. ft.

e. In **D14**, enter a formula that displays the number of payments that are over $8,000. Here, you are counting something so use the **COUNTIF** function. If you forget the form, type **=countif(** and a **ScreenTip** will remind you.

```
=countif(
   COUNTIF(range, criteria)
```

If you have an internet connection, you can click the underlined blue COUNTIF for a more extensive explanation.

1. Type the formula. Remember to use quotation marks around the condition. [15]

2. Check your answer (there are 2 payments over $8,000).

3. Left align the cell and format the number with zero decimal places.

f. In **D15**, display the sum of the payments that are over $8,000.

1. Type the formula. Here, you are finding a sum so use the **SUMIF** function. [16]

```
=sumif(
   SUMIF(range, criteria, [sum_range])
```

2. Check your answer. The first and last payments are over $8,000 so the sum should be 45000 + 10000 = 55000.

3. Left align the cell and format it as currency with two decimal places.

g. In **D16**, display the sum of the **Floor space** where the **Payment** is over $8,000.

1. Type the formula. Here, you are finding a sum so use the **SUMIF** function. Note that the **range** where the **criteria** is checked (**D9:D12**) is different from the **sum_range** that you will sum (**B9:B12**).

2. Check the result. The first and last payments are over $8,000 so the sum should be 5000 + 2000 = 7000.

3. Format the cell the same as **B9**.

h. Tap **Ctrl + p** and set the worksheet to print in **Portrait**, all on **one page**, **centered horizontally** but not vertically and include a footer that contains the **file name** on the left and the **sheet name** on the right. Compare the preview with the key. Make needed corrections, print the worksheet, save the workbook, but do not close it.

i. Copy the worksheet and rename the new worksheet **Rent Formulas**.

j. Tap **Ctrl + `** to display the formulas and **Autofit** the widths of the columns. Then, change the width of column **C** to **6**.

k. Tap **Ctrl + p** and set the worksheet to print in **Portrait**, all on **one page**, **centered horizontally** but not vertically and include a footer that contains the **file name** on the left and the **sheet name** on the right. Show the **gridlines** and **row and column headings**. Compare the preview with the key. Make needed corrections, print the worksheet, save the workbook, and close it.

---

[15] The formula is **=COUNTIF(D9:D12,">8000")**
[16] The formula is **=SUMIF(D9:D12,">8000",D9:D12)**

HW05-4 Commission IF

Problem: How can you determine an employee's commission, total pay, and target pay based on their sales record?

a. Open the workbook **HW05-4 Commission IF Original**, which is one of the files you downloaded at the start of the term.

b. Save the workbook using the name **HW05-4 HWID Commission IF Done**

c. In **D4**, enter a formula that will calculate Sherri's hardware commission. Use the following rules to construct the formula:

  • If an employee sells up to $20,000 worth of hardware, she earns a hardware commission of 10% of her hardware sales. For example, Mary will earn 10% of $13,500, which is $1,350.

  • If an employee sells more than $20,000 worth of hardware, she earns a hardware commission of 10% of $20,000 plus 12% of the amount that her hardware sales were over $20,000. For example, Sherri will earn 10% of $20,000 plus 12% of $3,000, which is $2,000 + $360 = $2,360.

This is a tough problem so be sure to spend some time thinking carefully about how the commission is to be calculated. Write out the decision logic before you begin to type the formula. Basically, you want to use the **IF** function to select between two formulas: one that calculates the commission if the hardware sales are $20,000 or less and the other if the sales are over $20,000. This commission problem is similar to the overtime pay problem described in **Project HW03-4** on page **SG57**.

In the space below, write the **IF** statement for **D4**:

logical test (condition)	display if condition TRUE	display if condition FALSE
=IF(	**,**	**)**
is Hardeware Sales 20000 or less?	10% times Hardware Sales	10% times 20000 + 12% of excess

1. Type the formula in **D4** and tap **Enter**.

2. Check the result. Sherri's Hardware Sales were 23000. So, her commission should be 10%*20000 + 12%*3000 = 2360.

3. Fill **D4** down to row **80**. Check the result for Mary in **D5**. Her Hardware Sales were 13500 so her commission should be 10%*13500 = 1350.

d. Click **E4** and enter an Excel formula to calculate the software commission. An employee earns 8% on software sales. You do not need an **IF** function here because there is no decision to be made—every software commission is calculated in the same way.

e. Click **F4** and enter an Excel formula to calculate the total commission (the sum of the **Hardware Commission** and the **Software Commission**).

f. Click **G4** and enter an Excel formula to calculate the **Total Earnings** for Sherri. Employees earn a base salary plus their **Total Commission**. The base salary is calculated as follows:

$10,000 if the **Total Commission** is $1,200 or less;
$11,000 if the **Total Commission** is between $1,200 and $1,400;
$12,000 if the **Total Commission** is over $1,400.

Follow the directions below to do this calculation using "nested" **IF** formulas; that is, one **IF** formula inside another. You use nested **IF** logic in your daily life. For example, when you approach a traffic signal while driving your car:

> **IF** green light **THEN** keep going, **ELSE**
>> **IF** red light **THEN** stop **ELSE**
>>> the light is yellow so speed up or slow down depending on how far you are from the light

For this problem the logic will go like this:

> **IF Total Commission** <= 1200 **THEN** 10000 + **Total Commission ELSE**
>> **IF Total Commission** < 1400 **THEN** 11000 + **Total Commission ELSE**
>>> 12000 + **Total Commission**

When you write your Excel formula, you will use the cell reference for **Total Commission** (**F4** for Sherri) rather than the words, and commas instead of **THEN** and **ELSE**. If your version of Excel has the **IFS** function you could use that instead of nested **IF**s, but the logic will be the same.

Do the following:
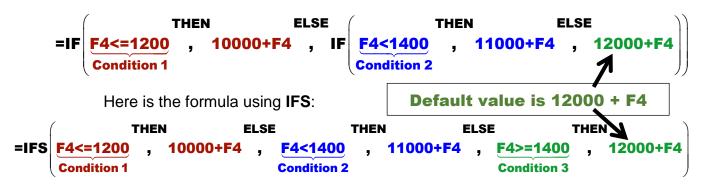
1. Type your formula in **G4** and tap **Enter**.

2. Check the result. Sherri's **Total Commission** is 2,424. Since this is over 1,400 her base will be 12,000. So, her **Total Earnings** should be 12,000 + 2,424, which is 14,424.

3. Fill **E4:G4** down to row **80**.

   Check the result for Mary in **G5**. Her **Total Commission** is 1,390, which is between 1,200 and 1,400, so her base is 11,000. Her **Total Earnings** should be 11,000 + 1,390, which is 12,390.

   Check the result for Monica in **G8**. Her **Total Commission** is 970.24, which is less than 1,200, so her base is 10,000. Her **Total Earnings** should be 10,000 + 970.24, which is 10,970.24.

   Do **NOT** put commas in the numbers in the formula. Excel considers commas delimiters (seperators) between parts of a formula and will give you an error messate.

   The formula is on the next page:

$$\text{=IF}\left(\underbrace{\overset{}{\text{F4<=1200}}}_{\text{Condition 1}}\overset{\text{THEN}}{,}\ 10000\text{+F4}\ \overset{\text{ELSE}}{,}\ \text{IF}\left(\underbrace{\overset{}{\text{F4<1400}}}_{\text{Condition 2}}\overset{\text{THEN}}{,}\ 11000\text{+F4}\ \overset{\text{ELSE}}{,}\ 12000\text{+F4}\right)\right)$$

Here is the formula using **IFS**:

Default value is 12000 + F4

$$\text{=IFS}\left(\underbrace{\overset{}{\text{F4<=1200}}}_{\text{Condition 1}}\overset{\text{THEN}}{,}\ 10000\text{+F4}\ \overset{\text{ELSE}}{,}\ \underbrace{\overset{}{\text{F4<1400}}}_{\text{Condition 2}}\overset{\text{THEN}}{,}\ 11000\text{+F4}\ \overset{\text{ELSE}}{,}\ \underbrace{\overset{}{\text{F4>=1400}}}_{\text{Condition 3}}\overset{\text{THEN}}{,}\ 12000\text{+F4}\right)$$

g. In cells **B81:G81**, enter formulas for the **Totals** of columns **B:G**.

h. In cells **B82:G82**, enter the formulas for the **Averages** of columns **B:G**.

i. Perform a **Goal Seek** for Lawrence to see what his **Hardware Sales** would have to be to make his **Total Earnings** $15,000 (**Data, What-If, Goal Seek**). The answer is $28,200.00

Click **B6** and insert a note that says **Used Goal Seek here** (right-click, **New Note**).

	Mary	$	15,300.00
6	Lawrence	$	28,200.00
7		$	75,400.00

Douglas F Robertson:
Used Goal Seek here.

j. Set up a conditional format to highlight the high performers by making the cell fill for **Employee** names yellow if their **Total Earnings** is over $20,000.[17]

---

[17] Select **A4:A80** since that is where you want the formatting to appear. Click **Conditional Formatting**, **Manage Rules**, **New Rule**, **Use a formula to determine which cells to format,=G4>20000**, **Format**, **Fill**.

k. Split the worksheet below row **10** (**View, Split**) and adjust things so you can see the top and bottom rows.

l. Format the worksheet so that it looks like the following:

	A	B	C	D	E	F	G
1			*MicroMania, Inc., Sales and Earnings Summary*				
2							
3	Employee	Hardware Sales	Software Sales	Hardware Commission	Software Commission	Total Commission	Total Earnings
4	Sherri	$ 23,000.00	$ 800.00	$ 2,360.00	$ 64.00	$ 2,424.00	$ 14,424.00
5	Mary	$ 13,500.00	$ 500.00	$ 1,350.00	$ 40.00	$ 1,390.00	$ 12,390.00
6	Lawrence	$ 28,200.00	$ 200.00	$ 2,984.00	$ 16.00	$ 3,000.00	$ 15,000.00
7	Brady	$ 75,192.00	$ 960.00	$ 8,623.04	$ 76.80	$ 8,699.84	$ 20,699.84
8	Monica	$ 9,500.00	$ 253.00	$ 950.00	$ 20.24	$ 970.24	$ 10,970.24
9	Jezebel	$ 79,944.00	$ 919.00	$ 9,193.28	$ 73.52	$ 9,266.80	$ 21,266.80
10	Abigail	$ 31,013.00	$ 112.00	$ 3,321.56	$ 8.96	$ 3,330.52	$ 15,330.52
76	Marisa	$ 25,271.00	$ 782.00	$ 2,632.52	$ 62.56	$ 2,695.08	$ 14,695.08
77	Sean	$ 98,630.00	$ 810.00	$ 11,435.60	$ 64.80	$ 11,500.40	$ 23,500.40
78	Max	$ 62,357.00	$ 958.00	$ 7,082.84	$ 76.64	$ 7,159.48	$ 19,159.48
79	Amy	$ 33,883.00	$ 974.00	$ 3,665.96	$ 77.92	$ 3,743.88	$ 15,743.88
80	Jessica	$ 58,418.00	$ 388.00	$ 6,610.16	$ 31.04	$ 6,641.20	$ 18,641.20
81	Totals	$ 4,050,169.00	$ 44,539.00	$ 456,120.06	$ 3,563.12	$ 459,683.18	$ 1,378,683.18
82	Averages	$ 52,599.60	$ 578.43	$ 5,923.64	$ 46.27	$ 5,969.91	$ 17,904.98

(Note on cell B5/C5: "Used Goal Seek here.")

There is no **AutoFormat** style that you can use to do the formatting. So, you will have to use the buttons on the **Home** tab and the **Format Cells** dialog box. For example:

- For columns **A** through **G**, set the width to **14**.

- For **Row 1**, center the title across the table, and make it bold, italic, 16 pt.

- For **Row 3**, bold the cells. To make the text wrap where you want, use a manual line break. For example, in **B3** place the insertion point to the left of the **S** in **Sales** and tap **Alt + Enter**. This places **Sales** below **Hardware**.

- For **Row 3** through **Row 82**, use **Format Cells** and the **Border** tab to set the different border types. For the borders, be sure you select the cells whose borders you wish to set before choosing **Format Cells**. Once you are in the **Border** tab, click the style of the line you want (light line, double line, thick line) in the **Line Style** box, click where you want the line to be applied in the **Border** box, and then click **OK**. This will take some experimentation on your part and will help you gain familiarity with these powerful formatting features.

l. Do the following to print the worksheet:

1. Remove the split screen.

2. Set the **Print Area** to **A1:G82**.

3. Hide rows **11** through **75**.

4. Tap **Ctrl + p** and set the worksheet to print in **Landscape**, all on **one page**, **centered horizontally** but not vertically and include a footer that contains the **file name** on the left and the **sheet name** on the right. Show the column and row headings. Remember that **Notes** do not print. Compare the preview with the key. Make needed corrections, print the worksheet, save the workbook, and close it.

HW05-5 Sorting Values

Problem: How can you create summary information on home values and then display particular values based on certain conditions?

a. Open the workbook **HW05-5 Sorting Values Original**, which is one of the files you downloaded at the start of the term.

b. Save the workbook using the name **HW05-5 HWID Sorting Values Done**.

c. Do the following:

1. Insert two new blank columns to the left of column **A**. Now, the **Addresses** are in column **C**.

2. In **B1**, make the fill match that of **C1**.

3. In **B2**, type **Num** and make it bold.

d. It often is useful to be able to distinguish between cells that contain formulas and those that contain labels or raw data. To see how this works, do the following:

1. Click the **Select All** triangle in the upper left corner of the worksheet.

2. On the **Home** tab, in the **Styles** group, click **Conditional Formatting** and select **Manage Rules**.

3. Click [New Rule...]

4. Click the last bullet, **Use a formula…**

    ► Use a formula to determine which cells to format

    Edit the Rule Description:

5. Type this into the formula box: **=isformula(a1)**. This is true if a cell contains a formula (that is, it begins with an **=** sign).

6. Click [Format...] and set the font color to dark red.

7. Click **OK** three times. You do not yet have any formulas in the worksheet so nothing turns red.

e. Number the addresses by doing the following:

1. In **B3**, type **=ROW()** to display the row number of the cell and click the **Enter** checkbox ✔. The number **3** is displayed.

2. Change **B3** to **=ROW()-2** and click the **Enter** checkbox ✔. The number **1** is displayed. This is the first entry in the list. Later, when you sort the rows, the number **1** will remain in **B3** indicating that there is a new number **1** in the list. Notice that **1** is in red because it is the result of a formula.

3. Fill the formula down to **B17**. You can see that there are 15 items in the list.

f. Create a conditional format so that the data for homes whose **Lot Sizes** are greater than 1 will have an orange fill. If you need help, follow the steps below:

1. You want to apply the formatting to all the data so select **B3:I17**.

2. On the **Home** tab, in the **Styles** group, click **Conditional Formatting** and select **Manage Rules**.

3. Click [New Rule...]

4. Click the last bullet, **Use a formula...**

▶ Use a formula to determine which cells to format
Edit the Rule Description:

5. Type this into the formula box: **=$f3>1** This tells Excel to see if the value in **F3** (the **Lot Size** for the first home) is greater than **1**. If it is, Excel will apply a special format; otherwise, the format will not change. Note the use of the **$**. You need that so that Excel will always check the value in column **F** and not values in other columns.

6. Click [Format...] and set the fill to light orange.

7. Click **OK** three times.

	A	B	C	D	E	F	G	H	I
1					Home Values				
2		Num	Address	Estimated Value	Property Tax	Lot Size (acre)	Cable TV Hookup	Small Lot with Cable	Small Lot or Cable
3		1	1457 Via Colinas	$ 252,467	$ 1,969.00	0.80	Yes		
4		2	1459 Via Colinas	$ 301,582	$ 2,352.00	1.20	Yes		
5		3	1461 Via Colinas	$ 285,456	$ 2,227.00	0.94	Yes		
6		4	23 Fourth Street	$ 242,467	$ 2,051.00	1.12	No		

g. Create additional summary information by doing the following:

1. In **C21**, enter a formula that will display the number of houses that have a **Cable TV Hookup**. Check the result. [18]

2. In **C22**, enter a formula that will display the number of properties that are over one acre in size and whose **Property Taxes** is under $2,100. Check the result. [19]

3. In **C23**, enter a formula that will display the sum of the **Property Taxes** for lots that are over one acre. Check the result. A quick way of checking is to click the **Property Tax** of home **2**, hold down the **Ctrl** key, and then click the **Property Taxes** of homes **4**, **9**, and **10**. Now, look in the bottom right corner of the screen, on the **Status Bar**, and you can see the **SUM** of the selected cells is $8,724.00.

Average: $2,181.00 Count: 4 Sum: $8,724.00								+ 130%

---

[18] You are counting the number of houses based on a condition so use **COUNTIF**.
[19] You are counting the number of houses based on **two** conditions so use **COUNTIFS**.

4. In **C24**, enter a formula that will display the sum of the **Estimated Value** of the properties whose **Lot Size** is over 1 and that do not have **Cable TV Hookup**. Check the result. [20]

5. In **C25**, type **Click here to open Zillow.com to see more home values in any area you choose.** Click the **Enter** checkbox ✔ to keep **C25** active.

6. With **C25** still active, tap **Ctrl + k**. This is the shortcut for **Insert Hyperlink**. You can also click **Hyperlink** on the **Insert** tab.

7. Near the bottom of the **Insert Hyperlink** dialog box, in the **Address** box, type the URL for Zillow: http://www.zillow.com/

8. Click **OK**. The hyperlink is created and the style for the **URL** is automatically set to **Hyperlink** (underlined blue text).

9. Point to (do NOT click) **C25** to see the hyperlink.

10. Click **C25** and your web browser will open and take you to the web site. Just for fun, if you wish, type your home address and Zillow will show you its estimated value. Here is what you will see if you type 1600 Pennsylvania Ave NW, Washington, DC 20006. This is the White House, valued at about $400 million.

11. Close the web browser.

1600 Pennsylvania Ave NW,
Washington, DC 20006
16 beds · 35 baths · 55,000 sqft Edit

● OFF MARKET
Zestimate®:
$399,872,241
I disagree
Rent Zestimate®: $2,159,420 /mo

---

[20] **=SUMIFS(D3:D17,F3:F17,">1",G3:G17,"No")**

If you want to select the cell that contains the hyperlink, point to it and hold down the left mouse button for 3 seconds. That selects the cell without activating the link.

If you want to remove the link, select the cell, tap **Ctrl + k**, and the click the **Remove Link** button.

h. In Project 1 you used **Boolean Operators** when searching for files that contained specific words. Those operators, **AND**, **OR**, and **NOT** can be used in **IF** functions. To see how this works, do the following:

1. Click **H3**. You want to create a formula that will determine which homes have a **small lot** AND **cable TV**. To do that you can use the **AND** operator inside an **IF** formula.

2. Type **=if(and(F3<1,G3="Yes"),"Yes","")** and click the **Enter** checkbox ✔ Here, the **AND** function requires that **both** conditions be met. That is, **F3**, the **Lot Size**, must be **less than 1** and also **G3**, **Cable TV Hookup**, must be **Yes**. If either is not true then the condition is not true.

    Check the result. The **Lot Size** for the first home is **0.80**, which is less than 1, **AND** the **Cable TV Hookup** is **Yes** so the result should be **Yes**.

3. Fill the formula down to row **17**. Check the result for the second home. It's **Lot Size** in **1.20**, which is greater than 1, and the **Cable TV Hookup** is **Yes**. Since one of the two conditions is not true, the entire condition is not true and so **H4** displays a blank.

4. Click **I3**. You want to create a formula that will determine which homes have a **small lot** OR **cable TV**. To do that you can use the **OR** operator inside an **IF** formula.

    Type **=if(or(F3<1,G3="Yes"),"Yes","")** and click the **Enter** checkbox ✔.

    Here, the **OR** function requires that **either** condition be met. That is, **F3**, the **Lot Size**, must be **less than 1** OR **G3**, **Cable TV Hookup**, must be **Yes**. If both are not true then the condition is not true.

    Check the result. The **Lot Size** for the first home is **0.80**, which is less than 1, and the **Cable TV Hookup** is **Yes** so the result should be **Yes**.

5. Fill the formula down to row **17**. Check the result for the second home. It's **Lot Size** in **1.20**, which is greater than 1 so that does not match. But, the **Cable TV Hookup** is Yes and that does match. So it meets at least one of the conditions and so **I4** displays **Yes**.

i. Do the following to filter the data in the table so that only rows with the **Property Tax** between **1500** and **2100** are displayed:

1. Select the range **B2:I17**

2. On the **Home** tab, in the **Editing** group, click **Sort & Filter**, and select **Filter**. This puts little upside down triangles in row **2**.

3. Click the triangle in **E2**, select **Number Filters**, and select **Between**.

4. Enter **1500** and **2100** in the **Custom Autofilter** dialog box.

5. Click **OK**.

	A	B	C	D	E	F	G	H	I
1				**Home Values**					
2		Nur	Address	Estimated Value	Property Tax	Lot Size (acre)	Cable TV Hookup	Small Lot with Cable	Small Lot or Cabl
3		1	1457 Via Colinas	$ 252,467	$ 1,969.00	0.80	Yes	Yes	Yes
6		4	23 Fourth Street	$ 242,467	$ 2,051.00	1.12	No		
7		5	3579 Lake Avenue	$ 252,467	$ 2,056.00	0.90	No		Yes
8		6	1458 Via Colinas	$ 260,890	$ 2,035.00	0.70	Yes	Yes	Yes
11		9	3580 Lake Avenue	$ 262,890	$ 1,891.00	1.05	No		
13		11	3581 Lake Avenue	$ 311,582	$ 2,051.00	0.88	Yes	Yes	Yes
14		12	21 Fourth Street	$ 275,456	$ 2,040.00	0.60	Yes	Yes	Yes
17		15	22 Fourth Street	$ 263,578	$ 1,969.00	0.82	Yes	Yes	Yes

j. Add a second filter so that only rows whose **Address** has an orange fill are displayed. To do this, click the filter button in cell **C2** and select **Filter by Color** and click the orange box.

Now, the only data displayed are for those whose **Property Tax** is between 1500 and 2100 **AND** whose **Address** cell fill is orange (which corresponds to **Lot Size** is greater than 1).

	A	B	C	D	E	F	G	H	I
1					**Home Values**				
2		Num ▾	Address ⟱	Estimated Value ▾	Property Tax ⟱	Lot Size (acre) ▾	Cable TV Hookup ▾	Small Lot with Cable ▾	Small Lot or Cabl ▾
6		4	23 Fourth Street	$ 242,467	$ 2,051.00	1.12	No		
11		9	3580 Lake Avenue	$ 262,890	$ 1,891.00	1.05	No		

k. Set the **Print Area** to **B1:I26**. Tap **Ctrl + p** and set the **Values Original** worksheet to print in **Portrait**, all on **one page**, **centered horizontally** but not vertically and include a footer that contains the **file name** on the left and the **sheet name** on the right. Include **row and column headings**. Compare the preview with the key. Make needed corrections, print the worksheet, save the workbook, and do not close it.

l. Do the following to sort the data in ascending order by **Cable TV Hookup** status and then, within that, in descending order by **Estimated Value**.

1. Copy the **Values Original** worksheet and rename the new worksheet **Values Sorted**.

2. Remove the filters so all rows show.

3. Select rows **2:17** (be sure to select the entire rows by clicking the row numbers on the left).

4. On the **Home** tab, in the **Editing** group, click **Sort & Filter**, and then select **Custom Sort**.

    Be sure ☑ My data has headers is checked.

5. In the **Sort by** drop-down menu, select **Cable TV Hookup** and confirm that the **Order** is **A to Z**.

6. With the **Sort** dialog box still open, click ⊕ Add Level. This provides an additional level of sorting.

7. In the **Then by** section select **Estimated Value** and choose **Largest to Smallest** from the drop-down menu under **Order**.

Sort			? ✕
⊕ Add Level ✕ Delete Level ⎙ Copy Level ⋀ ⋁ Options...			☑ My data has headers
Column	Sort On	Order	
Sort by Cable TV Hookup ⋁	Cell Values ⋁	A to Z ⋁	
Then by Estimated Value ⋁	Cell Values ⋁	Largest to Smallest ⋁	

8. Click **OK**. The data are sorted by **Cable TV Hookup** with the **No's** first, and then the **Yes's**. Within the **No's**, the data are sorted by **Estimated Value** in reverse numerical order. Likewise, within the **Yes's**, the data are sorted by **Estimated Value** in reverse numerical order.

	A	B	C	D	E	F	G	H	I
1					Home Values				
2		Num	Address	Estimated Value	Property Tax	Lot Size (acre)	Cable TV Hookup	Small Lot with Cable	Small Lot or Cable
3		1	24 Fourth Street	$ 262,990	$ 2,430.00	1.10	No		
4		2	3580 Lake Avenue	$ 262,890	$ 1,891.00	1.05	No		
5		3	3578 Lake Avenue	$ 261,578	$ 2,149.00	0.80	No		Yes
6		4	3579 Lake Avenue	$ 252,467	$ 2,056.00	0.90	No		Yes
7		5	23 Fourth Street	$ 242,467	$ 2,051.00	1.12	No		
8		6	25 Fourth Street	$ 50,000	$ 2,313.00	0.95	No		Yes
9		7	3581 Lake Avenue	$ 311,582	$ 2,051.00	0.88	Yes	Yes	Yes
10		8	1459 Via Colinas	$ 301,582	$ 2,352.00	1.20	Yes		Yes
11		9	1460 Via Colinas	$ 297,566	$ 2,321.00	0.97	Yes	Yes	Yes
12		10	3582 Lake Avenue	$ 296,566	$ 390.00	0.77	Yes	Yes	Yes
13		11	1461 Via Colinas	$ 285,456	$ 2,227.00	0.94	Yes	Yes	Yes
14		12	21 Fourth Street	$ 275,456	$ 2,040.00	0.60	Yes	Yes	Yes
15		13	22 Fourth Street	$ 263,578	$ 1,969.00	0.82	Yes	Yes	Yes
16		14	1458 Via Colinas	$ 260,890	$ 2,035.00	0.70	Yes	Yes	Yes
17		15	1457 Via Colinas	$ 252,467	$ 1,969.00	0.80	Yes	Yes	Yes

Notice that the **Num** column is still in order but the numbers are assigned to different houses. That is because rather than typing the numbers individually you used the **ROW()** function to have them keyed to the row number.

m. Do the following to print the formulas:

1. Copy the **Values Sorted** worksheet and make the new name **Values Sorted Formulas**.

2. Tap **Ctrl + `** to display the formulas and **Autofit** the widths.

3. Change the width of column **C** to **19**, **D** to **9**, and **E**, **F**, and **G** to **4**.

4. Set the **Print Area** to be **B1:I25**. Tap **Ctrl + p** and set the **Values Sorted Formulas** worksheet to print in **Landscape**, all on **one page**, **centered horizontally** but not vertically. Make the left and right margins 0.25 inch. Include a footer that contains the **file name** on the left and the **sheet name** on the right. Include **gridlines** and **row and column headings**. Compare the preview with the key. Make needed corrections, print the worksheet, save the workbook, and close it.

HW05-6 Find and Macros

Problem: How can you download data, break up the values into meaningful pieces, and use buttons to sort data and to move about a worksheet?

Before the start of each semester, I download from the University's database Excel files that contain my class lists. A typical file looks like this:

ID	Name	Sec	Type	UntsTaken	Grd Basis	Acad Career	Acad Level	PrimaryProgram	Primary Plan	Email	FERPA
7023072	Bergameister,Alexandra D	1	LAB	4	A-F	UGRD	Senior	CLA	Economics	berg7023@umn.edu	Suppress
7266721	Bets,Sam A	1	LAB	4	A-F	UGRD	Senior	EHD	Kinesiology	bets7266@umn.edu	
2106779	Biff,Timothy B	1	LAB	4	A-F	UGRD	Freshman	CLA	Computer Science		
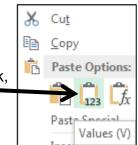
For each student, I need to place the last name and first name in separate cells so I can access each individually. In **HW03-4 Payroll IF** (page **SG59**) you did just that by using the **Flash Fill** feature in the **Data Tools** group on the **Data** tab. That was quick and easy and is fine if you occasionally need to break up data strings. However, every semester I have to set up a gradebook for each of the 8 sections of the 2 different courses that I regularly teach so using **Flash Fill** would not be efficient. To get around this I created Excel formulas to do the separation automatically. To see how this works, do the following.

a. Open the workbook **HW05-6 Find and Macros Original**, which is one of the files you downloaded at the start of the term. This is a simplified version of my gradebook for CI 1871 section 1.

b. Save the workbook using the name **HW05-6 HWID Find and Macros Done**.

c. Open the workbook **HW05-6 Find and Macros DATA Original**, which is one of the files you downloaded at the start of the term. This is the file I downloaded from the University's database. For privacy sake, I scrambled the names, emails, and student IDs.

d. Select the data in the range **B11:L45** (I do not need the FERPA data in column **M**). Here are three ways of doing the selection (your choice):

- Click **B11** and drag to **L45**. This is fine for small ranges but if the range crosses multiple screens the scrolling can be a pain.

- Type **B11:L45** in the **Name Box.** Tapping **Enter** will select the range. This is fine if you know the range exactly. The files I download have between 1 and 50 rows of data so this method does not work for me.

- Select **B11:L11**, press and hold down **Shift**, tap **End**, and then tap the down arrow. This selects the cells in columns **B:L** until just before the first blank row. This method is great for large files.

e. Tap **Ctrl + C** to copy the selected cells.

f. Switch to the **HW05-6 HWID Find and Macros Done** workbook, click the **Server** tab, right-click **B3**, and click **Paste Values**. This will paste the data without its formatting.

Close **HW05-6 Find and Macros DATA Original**.

g. You need to put the **Last Name** and **First Name** in separate cells but in the data file they are in a single cell with this structure:

Last Name, **comma**, **First Name**, **space**, **middle initial** (if there is one).

Name
Bergameister,Alexandra D

This means that the **Last Name** consists of the characters from the start of the name until the comma. You will have Excel find the position of the comma and then display the letters to the left of that position.

The **FIND** function can be used to find the position of the comma in cell **C3**. The **FIND** function has the form**:**

=FIND(find text,within text)

You are looking for the comma in the cell that has the student name:

=FIND(what to look for , where to look)

Looking for comma   C3 has the name
so use ","   so use C3

To see how this works, do the following:

1. In **V3** type **=find(",",c3)** and click the **Enter** checkbox. For **Bergameister,Alexandra D** the comma is the 13th character from the left so **13** will be displayed. That means the last name is the first 12 characters in the string.

V3				fx	=FIND(",",C3)	
	S	T	U		V	W
1					Scratch Area	
2	Email	First name	Last name		Comma	Space
3					13	

If there had been no comma in **C3**, then **#VALUE!** would have been displayed.

2. The **First Name** consists of the characters between the comma and the space. Use **FIND** to find the position of the space.

=FIND(what to look for , where to look)

Looking for space   C3 has the name
so use " "   so use C3

In **W3** type **=find(" ",c3)** and click the **Enter** checkbox.

For **Bergameister,Alexandra D** the space is the 23rd character from the left so **23** will be displayed. If there had been no space in **C3**, then **#VALUE!** would have been displayed.

Note that the **FIND** function does not help you "find" something in a range. For that you would use one of the **LOOKUP** functions (see page **SG69**).

h. Use the **LEFT** function to display in **U3** the **Last name**. LEFT has the form:

=LEFT(text,num chars)

You are looking in the cell that contains the student name and want to display the characters up to the comma.

=LEFT(where to look , number of characters)

        C3 has the name   **Position of comma - 1**

The position of the comma is in **V3** so the number of characters for the first name is **V3 – 1**. That is, 13 - 1 = 12 for **Bergameister**.

In **U3** type **=left(c3,v3-1)** and click the **Enter** checkbox ✔
Since the value in **V3** is 13, this will pick off the first 12 characters in **C3**.
Bergameister will be displayed.

U3	▼	⋮	✕	✓	*fx*	=LEFT(C3,V3-1)	
◢	S		T	U		V	W
1						Scratch Area	
2	Email		First name	Last name		Comma	Space
3				Bergameister		13	23

i. The **First Name** consists of the characters between the comma at position 13 and the space at position 23.

comma at 13

Bergameister ; Alexandra   D

    Last   **First**   **MI**

        space at 23

The **MID** function can be used to display text in the **mid**dle of a string. The **MID** function has the form:

=MID(text,start num,num chars)

You are looking in the cell that contains the student name, starting to the right of the comma, and choosing the characters between the space and the comma.

=MID(where to look , position where to start ,   number of characters   )

  C3 has the name   **Position of comma + 1**   **Position of space - 1 - Position of comma**

The **position** of the comma is in **V3** so the position where to start is one more than that, **V3+1**.

The **number** of characters is the difference between the position of the space (in **W3**) and the position of the comma (in **V3**) minus 1, which is **W3-V3-1**.
Click **T3** and type **=mid(c3,v3+1,w3-v3-1)** and click the **Enter** checkbox ✔
This will pick off the characters in the middle of the string between the comma and the space. **Alexandra** is displayed.

OK, whew, that was a fair amount of work but now that you know how to do it you can use the formulas and techniques to automatically break up any string of characters you wish. [21]

j. In cell **N3**, display the **Last name** and **First name**, separated by a comma and a space. For **Bergameister,Alexandra D** it should look like **Bergameister, Alexandra**. You can use the **&** to concatenate the **Last name**, the comma and space, and the **First name**.[22] Be sure to read footnotes

k. In cells **O3:S3** insert formulas to display the **ID**, **College** (**Program**), **Year** (**Acad Level**), **Major** (**Primary Plan**), and **email** for each student. These will be simple reference statements. For example, to display the **ID** in **O3** you would enter **=B3** since **B3** is where the **ID** is displayed.

N	O	P	Q	R	S	T	U	V	W
Copy and paste in Sec 1 sheet at A11								Scratch Area	
Name	ID	College	Year	Major	Email	First name	Last name	Comma	Space
Bergameister, Alexandra	7023072	CLA	Senior	Economics	berg7023@umn.edu	Alexandra	Bergameister	13	23

l. The worksheet has both raw data and formulas. It will be helpful to make their fonts different colors so you can easily distinguish them. As you did in **HW05-5**, you can do that using a conditional format. Do the following:

1. Click the **Select All** box to select all the cells.

2. On the **Home** tab, in the **Styles** group, click **Conditional Formatting** and choose **New Rule**.

3. Click **Use a formula to determine which cells to format**.

4. Click inside the box and type **=isformula(a1)** The **ISFORMULA** function is **TRUE** if the cell contains a formula (that is, it begins with an **=** sign).

5. Set the format so that the font for formulas is red.

6. Click **OK** two times. The font of the cells that contain formulas turns red.

m. Fill the formulas for **N3:W3** down to row **42** and preserve the formatting.

The rows that have no student data (**38** to **42**) have errors and zeros displayed. That is no big deal because you will not use those cells. If you want things to look nicer, you could use the **IF** function to tell Excel to display a blank for each cell that does not correspond to a student. For example, cell **N3** would be **=IF(C3="","",U3&", "&T3)** rather than simply **=U3&", "&T3**

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[21] This is too complicated to ask you to do on a test. I show it here so you can see what Excel is capable of.
[22] The formula is **=U3&", "&T3**

The error **#VALUE!** appears in **T6**. That indicates the formula cannot be calculated. The problem is that the name in cell **C6** looks like this: **Bing Jr,William Henry**. Here, a space appears to the **left** of the comma and that means in the formula **=MID(C6,V6+1,W6-V6-1)** the **W6-V6** is a negative number and the **MID** function does not know what to do with it. You could put in more formulas to take such a situation into account but it would make the worksheet much more complicated and since this seldom occurs it is easiest to simply change **Bing Jr** to **Bing**. This brings up the important point that unexpected errors can occur and so you should always eyeball your formula results to be sure things look OK. To make locating errors like this easier to find, set up a conditional format to make them stand out by doing the following:

1. Select the entire **Server** worksheet.

2. On the **Home** tab, in the **Styles** group, click **Conditional Formatting** and choose **New Rule**.

3. Click **Use a formula to determine which cells to format**.

4. In the box, type **=iserror(a1)** The **ISERROR** function is **TRUE** if the cell contains one of these errors: **#N/A**, **#VALUE!**, **#REF!**, **#DIV/0!**, **#NUM!**, **#NAME?** or **#NULL!**

5. Set the format so the cells with an arror have an orange fill.

6. Click **OK** two times. The cells that contain **#VALUE!** are highlighted.

N	O	P	Q	R	S	T	U
Copy and paste in Sec 1 sheet at A11							
Name	ID	College	Year	Major	Email	First name	Last name
Bergameister, Alexandra	7023072	CLA	Senior	Economics	berg7023@umn.edu	Alexandra	Bergameister
Bets, Sam	7266721	EHD	Senior	Kinesiology	bets7266@umn.edu	Sam	Bets
Biff, Timothy	2106779	CLA	Freshman	Computer Science	0	Timothy	Biff
#VALUE!	3263672	CLA	Sophomore	Pre Business	bing3263@umn.edu	#VALUE!	Bing Jr

7. Fix the problem for **Bing Jr,William Henry** by deleting **space Jr** in **C6**.

N	O	P	Q	R	S	T	U
Copy and paste in Sec 1 sheet at A11							
Name	ID	College	Year	Major	Email	First name	Last name
Bergameister, Alexandra	7023072	CLA	Senior	Economics	berg7023@umn.edu	Alexandra	Bergameister
Bets, Sam	7266721	EHD	Senior	Kinesiology	bets7266@umn.edu	Sam	Bets
Biff, Timothy	2106779	CLA	Freshman	Computer Science	0	Timothy	Biff
Bing, William	3263672	CLA	Sophomore	Pre Business	bing3263@umn.edu	William	Bing
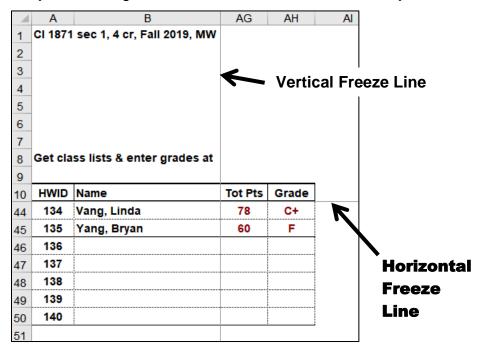
The **#VALUE!** error has disappeared.

9. There is also a problem with **Tondryk,Marvin** in row **33**. Marvin has no middle name so there is no "space" for the **FIND** function to locate. Fix this by clicking **C33** and adding a space to the end of the name **Marvin**. Again, you could take care of this automatically by adding more code but it seldom occurs so do not bother. If you are interested, here is a fix:

=IF(ISERROR(FIND(" ",C33)), LEN(C33)+1 , FIND(" ",C33))

        If no space is found   THEN pretend   OTHERWISE show
                                    space is at end position of space

This says if there is an error in attempting to find the space then pretend there is a space at the end of the string. Otherwise, display the location of the real space.

n. Set up the gradebook by doing the following:

   1. On the **Server** worksheet, copy **N3:U37**. Notice we are leaving off the rows that have no data and so show errors.

   2. Click the **Sec 1** worksheet tab, click **B11**, and use **Paste Special** to paste the values only. To save you lots of typing, I have already entered scores for the students so you can test the formulas you will enter that calculate the **HW**, **Tot Pts**, and **Grade**.

   3. The email for **Biff, Timothy** in **G13** is **0**. On the original data file that cell was blank but when you entered the formula **=L5** in cell **S5** on the **Server** worksheet Excel replaced the blank with a **0**. Delete the 0 in **G13**.

   4. Autofit the widths of columns **B:K**.

   5. Like the **Server** worksheet, the **Sec 1** worksheet has both raw data and formulas. As you did on page **SG109**, set up a conditional format that will make the font **red** for all cells that contain formulas.

o. This workbook is larger than can fit on a single screen. Do the following to freeze the panes so that the column headings (row **10**) and the student names (column **B**) are always visible.

   1. Click **C11**. When you apply **Freeze Panes** the <u>rows above</u> **11** and the <u>columns to the left</u> of **C** will be frozen.

   2. On the **View** tab, in the **Window** group, click **Freeze Panes** and select **Freeze Panes**.

   3. To see how freeze panes works, scroll horizontally and vertically until the screen looks like the one below. The freeze lines are indicated by the vertical line just to the right of column **B** and the horizontal line just below row **10**.

p. In **AF11**, enter a formula that will calculate the score for homework, rounded to the nearest whole number. A student's homework score is the sum of the student's scores divided by the sum of the points possible for each homework project, and then multiplied by 100. That is, for **AF11**

$$HW = \frac{\text{sum of R11 through AE11}}{\text{sum of R9 through AE9}} * 100$$

Written in Excel code this is **=SUM(R11:AE11)/SUM($R$9:$AE$9)*100**

Notice the use of the absolute references (the **$** signs) in the denominator. Those are needed so that when the formula is filled down the data in row **9** are always used in the denominator.

To round off the homework score to a whole number, use the **ROUND** function, which has the form:

=ROUND(number,num digits)

You want to round **SUM(R11:AE11)/SUM($R$9:$AE$9)*100** to 0 digits:

=ROUND(SUM(R11:AE11)/SUM($R$9:$AE$9)*100,0)

If a student name is blank, you want a blank displayed rather than a 0. Use an **IF** function to do that. That is, if the name in **B11** is blank, display a blank (a null string **""**); otherwise, display the results of the formula.

=IF(B11="","",ROUND(SUM(R11:AE11)/SUM($R$9:$AE$9)*100,0))

Enter this formula into **AF11** and click the **Enter** checkbox ✔

q. In **AG11**, enter a formula that will calculate the total points for each student. Total points is calculated using weightings of 25% for the Excel exam, 20% for the Word exam, 35% for the final exam, and 20% for the homework score. That is:

Total points = 25% * Excel exam score + 20% * Word exam score + 35% * Final exam score + 20% * Homework score

The weights for the exams are listed in **O5:Q5** and the weight for the homework is in **AF9**. The Excel code will use those cell references along with the cell references of the scores.

=($O$5*O11+ $P$5*P11+ $Q$5*Q11+ $AF$9*AF11) / 100

       Excel   **Word**   **Final**   **Homework**   **Converts to a percent**

Now, add the **ROUND** and **IF** functions as you did for the homework score and type your formula in cell **AG11**.[23] | **Be sure to read footnotes** |

---

[23] The formula is **=IF(B11="","",ROUND(($O$5*O11+$P$5*P11+$Q$5*Q11+$AF$9*AF11)/100,0))**

r. In **AH11**, enter a formula that will display the grade based on the total points in **AG11** and the table of points and letter grades in **U1:AE2**. You are looking up a letter grade in a horizontal table so use **HLOOKUP**. Remember to use absolute references, **$**, where appropriate.

Use an **IF** function to display a blank if the student name is blank.[24]

AF	AG	AH
HW	Tot Pts	Grade
100	100	A
90	86	B+
85	77	C+

s. Fill the formulas in **AF11:AH11** down to row **50** and preserve the formatting.

t. If a student registers for a class, and then drops, instructors are required to keep the name in the gradebook and record a grade code of either **NOL** or **W**.

NOL stands for **N**ot **O**n **L**ist. This is for students who drop before week 3 of the semester. In that case, the course will not appear on their transcript.

W stands for **W**ithdraw. This is for students who drop after week two of the semester. In that case, the course will appear on their transcript with a grade of **W**.

It helps to keep track of such students by using a conditional format to gray fill the cells that contain their data. Do the following:

1. In **K14** enter **NOL** and in **K15** enter **W** so you can see if your conditional format works properly.

2. Select **A11:AH50**.

3. On the **Home** tab, in the **Styles** group, click **Conditional Formatting**, select **New Rule**, and click **Use a formula to determine which cells to format**.

4. Enter a formula that will be true if **K11** is either **NOL** or **W**. Since there are two conditions, use the **OR** function to make the cells have a gray fill if **either** condition is true.

The formula is **=or($k11="NOL",$k11="W")**

Note that a **$** is needed to the left of **K11** to ensure that Excel only checks column **K**, where the grade code is located. If you leave off the **$** the formula will still work but only the cells in column **A** will be shaded.

5. Set the format to gray fill.

---

[24] The formula is **=IF(B11="","",HLOOKUP(AG11,$U$1:$AE$2,2))**

u. There are some operations that you have to do repeatedly within a workbook. For example, in my gradebook I sometimes need student names in alphabetical order, such as when I check registrations and submit my final grades, while other times I need the names in HWID order, such as when I insert scores from the paper grader. Since I do these two types of sorts many times throughout the semester for each of my gradebooks, I have constructed **macros** so I can do the sorts with a single mouse click. A **macro** is a small program or set of commands you can have Excel carry out with a single mouse click or keystroke. Think of them as **mini-apps**. While very useful, macros have the potential to completely mess up a worksheet so it is a good idea to make a backup copy of the workbook before constructing macros.

To see how macros work, do the following:

1. To be safe, make a backup. To do that, save your workbook. Then, tap **F12** to open the **Save As** dialog box and type a new name, such as **HW05-6 HWID Find and Macros Done BU**, and tap **Enter**. Close the backup file and reopen **HW05-6 HWID Find and Macros Done**

2. Add a new student by typing the following data in cells **B46:I46** of the **Sec 1** worksheet.

	A	B	C	D	E	F	G	H	I
46	136	Apple, Ben	1234567	CLA	Senior	Biology	appl0001@umn.edu	Ben	Apple

3. If the **Developer** tab is not showing, click the **File** tab, click **Options**, click **Customize Ribbon**, and put a check in the box next to **Developer**. Then, click **OK**.

File	Home	Insert	Page Layout	Formulas	Data	Review	View	Developer

Excel macros use a programming language called **Visual BASIC**. If you know the language you can directly write your own macros. If you do not know the language, you can ask Excel to record your keyboard and mouse actions and it will write the code for you. To see how this works, do the following:

4. Click the **Developer** tab.

5. In the **Code** group, click **Record Macro**.

6. In the **Macro name**: box, type **SortByName**. Macro names can contain only letters and numbers and must begin with a letter.

7. Click **OK**. Excel will record all of your keystrokes and mouse actions until you tell it to stop.

8. Select rows **11:50**.

9. On the **Home** tab, in the **Editing** group, click **Sort & Filter**, and select **Custom Sort**.

10. Be sure that there is no check in **My Data has headers**. In the **Sort by** box, select **Column B** and be sure **A to Z** is selected.

11. Click **OK**.

12. Tap **Ctrl + Home**.

13. Click the **Developer** tab and click **Stop Recording**. You should see **136 Apple, Ben** at the top of the list.

10	HWID	Name	ID	College	Year	Major
11	136	Apple, Ben	1234567	CLA	Senior	Biology
12	101	Bergameister, Alexandra	7023072	CLA	Senior	Economics
13	102	Bets, Sam	7266721	EHD	Senior	Kinesiology

14. On the **Developer** tab, in the **Code** group, click **Macros**.

Macros
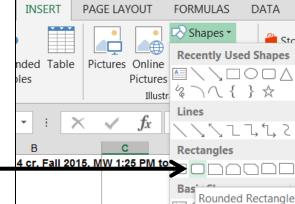
Macro

Macro name:

SortByName

The new macro is listed. To see what the code looks like, click **Edit**.

```
Sub SortByName()
'
' SortByName Macro
'

'
    Rows("11:50").Select
    ActiveWorkbook.Worksheets("Sec 1").Sort.SortFields.Clear
    ActiveWorkbook.Worksheets("Sec 1").Sort.SortFields.Add Key:=Range("B11:B50") _
        , SortOn:=xlSortOnValues, Order:=xlAscending, DataOption:=xlSortNormal
    With ActiveWorkbook.Worksheets("Sec 1").Sort
        .SetRange Range("A11:CN50")
        .Header = xlGuess
        .MatchCase = False
        .Orientation = xlTopToBottom
        .SortMethod = xlPinYin
        .Apply
    End With
    Range("C11").Select
End Sub
```
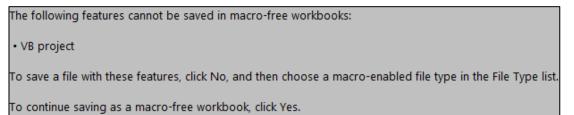
Sub at the top and **End Sub** at the bottom indicate that this is what programmers call a **subroutine**, which is a mini-program within a larger one. The apostrophes indicate comment lines where you can write any comments you wish. The rest of the lines are the executable code.

15. Tap **Alt + Q** to close the **Visual Basic** window.

v. Follow a similar procedure to create a macro called **SortByHWID** that sorts the data by the **HWID** in column **A**.

w. To create buttons that you can click to run the macros, do the following:

1. On the **Insert** tab, in the **Illustrations** group, click **Shapes** and click **Rounded Rectangle**.

The curser will turn into a small cross.

INSERT   PAGE LAYOUT   FORMULAS   DATA

Shapes

Recently Used Shapes

Lines

Rectangles

Rounded Rectangle

2. Drag the cross down and to the right
    to form the rectangle.

3. Let up the mouse button to reveal the rectangle.

4. Make the height of the rectangle **0.4** and the width **1.5**.

5. Move the rectangle to the upper left corner of the window, about at cell **A2**.

6. Right-click the rectangle, select **Edit text**, and type
    Sort By Name. Make the font 12 pt **Arial Black**.

7. Right-click the rectangle and click **Assign Macro**.

8. Click **SortByName** and then **OK**. Now, you have a button that will run the
    macro with a single mouse click.

9. Select the button by holding down the **Ctrl** key and clicking the button.

10. Tap **Ctrl + D** to create a duplicate of the button.

11. Change the name to **Sort By HWID**.

12. Assign the **SortByHWID** macro to this button.

13. **Ctrl + Click** the new button and move it so that it
    is just below the other one.

14. Click the **Sort By Name** button and notice how the data
    are sorted by **Name** with **136 Ben Apple** at the top

15. Click the **Sort By HWID** button and notice how the data
    are sorted by **HWID** with **101 Bergameister, Alexandra**
    at the top.

16. Tap **Ctrl + s** to save the file. You will get an error message that says:

> The following features cannot be saved in macro-free workbooks:
>
> • VB project
>
> To save a file with these features, click No, and then choose a macro-enabled file type in the File Type list.
>
> To continue saving as a macro-free workbook, click Yes.
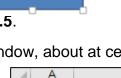
This says that you cannot save a file that has macros (**V**isual **B**asic
subroutines) unless you save it as a macro-enabled file. If you click **Yes**
the file will be saved without the macros. **DON'T DO THAT!**

17. Click **No** and the **Save As** dialog box will open.

18. Navigate to your **Excel Files** folder.

19. Change the file type to **Excel Macro-Enabled Workbook**.

File name:	HW05-6 Lastname Firstname HWID Find and Macros Done
Save as type:	Excel Macro-Enabled Workbook

20. Click **Save**. Now when you save your file the macros will be saved also.
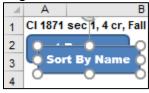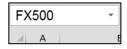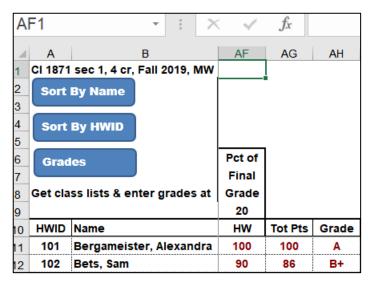
x. Macros can be used to move to specific places in a worksheet with the click of a button. This is useful for large worksheets where scrolling would be time consuming. To see how this works, do the following:

1. On the **Developer** tab, in the **Code** group, click **Record Macro**.

2. In the **Macro name**: box, type **Grades** and then click **OK**.

3. In the **Name Box**, type **fx500** and tap **Enter**. This will move the active cell to a place far away from the cell I want to go to. This is needed because if the active cell is close to the cell I want to go to Excel may not adjust the screen properly.
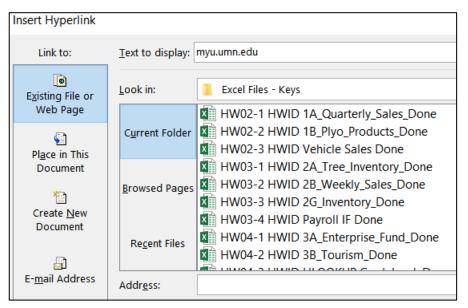
4. In the name box, type **af1** and tap **Enter**. This is where I want to be.

5. Click the **Developer** tab and click **Stop Recording**.

6. Create a button with the label **Grades** and assign this new macro to it. Move the button so it is just below the **Sort By HWID** button.

7. Try your new macro by tapping **Ctrl + Home** to make **C11** active and then click the **Grades** button to make **AF1** active.

	A	B	AF	AG	AH
1	CI 1871 sec 1, 4 cr, Fall 2019, MW				
2	Sort By Name				
3					
4	Sort By HWID				
5					
6	Grades		Pct of		
7			Final		
8	Get class lists & enter grades at		Grade		
9			20		
10	HWID	Name	HW	Tot Pts	Grade
11	101	Bergameister, Alexandra	100	100	A
12	102	Bets, Sam	90	86	B+

y. As a reminder of where to get class lists and enter final grades, insert a hyperlink to the U's PeopleSoft program by doing the following:

1. In **A8** type **Get class lists & enter grades at**

2. In **A9** type **myu.umn.edu** and click the **Enter** checkbox ✔ to keep **A9** active.

3. Tap **Ctrl + k**. This is the shortcut for inserting a hyperlink. You can also click **Hyperlink** on the **Insert** tab.

The top box shows the text that will be displayed, **myu.umn.edu**. Leave that as is so if someone is reading a printed copy she will be able to see what **URL** to type to get to the web page.

4. Type this **URL** in the **Address** box at the bottom: **https://myu.umn.edu**

5. Click **OK**. The hyperlink is created and the style for the **URL** is automatically set to **Hyperlink** (underlined blue text).

6. Click the hyperlink and your web browser will take you to the **MyU** web site.

7. Close the web browser.

If you want to select the cell that contains the hyperlink, point to it and hold down the left mouse button for 3 seconds. That selects the cell without activating the link.

If you want to remove the link, select the cell, tap **Ctrl + k**, and the click the **Remove Link** button.

z. Enter formulas that summarize the total points for students in different colleges and at different academic levels by doing the following:

   1. In **D3**, enter a formula that will display the number of **CLA** students in the gradebook. Since you want the **NUMBER** of students who meet a certain criterion, **COUNTIF** would be a good choice. Be sure to use **$** where appropriate. [25]

   2. In **E3**, enter a formula that will display the average total points of **CLA** students in the gradebook. Since you want an **AVERAGE** of students who meet a certain criterion, **AVERAGEIF** would be a good choice. [26]

   3. Fill down the formulas in **D3:E3** and preserve the formatting.

   4. In **H3**, enter a formula that will display the number of **Freshmen**.

   5. In **I3** (that is eye three not 13), enter a formula that will display the average total points of **Freshmen** in the gradebook.

   6. Fill down to row **8** the formulas in **H3:I3** and preserve the formatting.

za. In **G1**, use the **NOW** function to enter the current date and time. Then, format the cell so it displays something like **Printed Tue 14 Jul 2019 at 11:06 AM**. Merge **G1:I1** and left align.

zb. Set the print area of the **Sec 1** worksheet so that the range **A1:AH15** will be printed (select **A1:H15**, click **Page Layout**, **Print Area**, **Set Print Area**).

zc. Hide columns **C:F** (select the columns, right-click, select **Hide**). Also hide columns **L:AC**.

zd. Tap **Ctrl + p** and set the worksheet to print in **Landscape**, all on **one page**, **centered horizontally** but not vertically and include a footer that contains the **file name** on the left and the **sheet name** on the right. Set all margins to 0.25 inch. Print with row and column headings. Compare the preview with the key. Make needed corrections, print the worksheet, save the workbook, but do not close it.

ze. Click the **Server** worksheet. Tap **Ctrl + `** to display the formulas. Set the print area to **T1:W8**.

zf. Tap **Ctrl + p** and set the worksheet to print in **Landscape**, all on **one page**, **centered horizontally** but not vertically and include a footer that contains the **file name** on the left and the **sheet name** on the right. Set all margins to 0.25 inch. Print with row and column headings. Compare the preview with the key. Make needed corrections, print the worksheet, save the workbook, but do not close it.

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[25] The formula is **=COUNTIF($D$11:$D$50,C3)**
[26] The formula is **=AVERAGEIF($D$11:$D$50,C3,$AG$11:$AG$50)**

Step 4 Submit You now are ready to submit your homework for grading.

1. Put your 9 homework papers in the following order:

    HW05-1 River Chartsheet Modified
    HW05-2 Loans IF Formulas
    HW05-3 Rent IF Worksheet
    HW05-3 Rent IF Formulas Worksheet
    HW05-4 Commission IF
    HW05-5 Sorting Values Filtered Worksheet
    HW05-5 Sorting Values Formulas Worksheet
    HW05-6 Find and Macros Sec 1 Worksheet
    HW05-6 Find and Macros Server Worksheet

2. Cut out Submission Form 5 and put it on the top of the papers.

3. Staple the papers in the upper left corner.

4. Turn in the packet by the due date.

Step 5 Backup Now would be a good time to backup your files.

Project 6
Sample Exam Questions for Excel

Step 1 Read For this project, there are no pages to read in your textbook.

Step 2 Activities For this project, there are no textbook activities.

Step 3 Homework Review for the Excel exam. The 90 minute exam will be closed book and notes but you may use one 8.5 inch by 11 inch sheet of notes, both sides. The notes may be typed, hand written, scanned, whatever. Your notes sheet will be collected when you hand in the exam so be sure to put your name and HWID on it.

HW06-1 Sample Exam Questions for Excel

Problem: How can you do well on the Excel exam?

Go back through projects 2 through 5 and be sure you know how to do the activities in both the textbook and this Study Guide. You do not have to re-do them all, just skim them and, if you think you have forgotten how to do something, read through the material on that objective and make notes on your notes sheet.

After reviewing the textbook activities, do the following sample exam questions.

As you go through the sample questions, if you get stuck on something or forget something write that down on your notes sheet. That will be a great help when you take the real exam. ***Go through these sample questions several times!***

When I grade your exam, I will look at your formulas rather than the displayed results. So, if you cannot get something to work **DO NOT waste time** trying to figure out the answer by hand and typing in the result. You will get no points for that. Instead, write as much of the formula as you can and type it WITHOUT the equal sign. That way, you may earn partial credit.

As you work through the questions, recall that as you start typing a function Excel will display a screen tip that will show the structure of the function. So, for example, typing **=vlookup(** will display the following:

The screen tips should help jog your memory. Here, it shows that you must enter:

- **lookup_value** (the cell reference of the thing you are looking for, e.g. **A4**)

- **table_array** (the range of cells where you are looking, e.g., **C5:D12**)

- **col_index_num** (the number of the column in the **table_array** that contains the thing you want to display, e.g., **2**)

- **[range_lookup]** (**TRUE** if the **table_array** is sorted low to high and you want only an approximate match, or **FALSE** if you must have an exact match. The square brackets **[ ]** mean this is optional. It is assumed to be **TRUE** if you leave it out)

Below are some tips on the seven functions students find most difficult:

=VLOOKUP(what to find, where to look, what column to display, TRUE or FALSE)

Used to **find** an item in a vertical list and then to display something in the same row. See **SG74**. If the list is horizontal, use **HLOOKUP**. See **SG69**.

Example: **=VLOOKUP(B6,B9:D68,3,FALSE)** from **HW04-4**

=IF(logical test, display if true, display if false)

Used to choose between two things based on a **logical test**. See **SG59**.

Example: **=IF(F9<=40,E9*F9,E9*40)** from **HW03-4**

If there is more than one condition, use **IFS** (**SG51**) or nested **IF**s (**SG106**).

=COUNTIF(where to look, what to look for)

Used to find the **number** of things that match the **what to look for** criteria. Criteria must be inside quotes. See **SG60**.

Example: **=COUNTIF($F$9:$F$36,">40")** from **HW03-4**

If there is more than one condition, use **COUNTIFS** (**SG60**).

=SUMIF(where to look, what to look for, which cells to sum up)

Used to find a **total** of things that match the **what to look for criteria**. Criteria must be inside quotes. See **SG53**.

Example: **=SUMIF(F15:F42,"Tulips",A15:A42)** from **HW03-3**

If there is more than one condition, use **SUMIFS** (**SG53**).

=AVERAGEIF(where to look, what to look for, which cells to average)

This is just like **SUMIF** but it calculates the average of things that match the **what to look for criteria**. Criteria must be inside quotes. See **SG54**.

Example: **=AVERAGEIF(Bulbs!$F$15:$F$42,Summary!A12,Bulbs!$D$15:$D$42)** from **HW03-3**

If there is more than one condition, use **AVERAGEIFS**.

Conditional format

Used to highlight values that match a specific criteria. Select the range you want to format **BEFORE** you open the conditional formatting dialog box. Then, choose **Conditional Formatting**, **Manage Rules**, **New Rule**, Type the condition that describes what you want to find and then choose a format. See **SG62**.

Example from **HW03-4**:

Projects HW03-4 and HW04-4 use many of the above functions so going through those projects again will be good preparation for the Excel exam.

The key for the following sample exam questions is in the Excel Exam folder in the file

HW06-1b HWID Excel Practice Questions KEY Original

Do the following:

a. Go to the **Excel Files** folder, open the **Excel Exam** folder, and then open the **Word document HW06-0 Notes Sheet for CI 1871 Excel Exam Original**, which is one of the files you downloaded at the start of the term.

b. Replace **LastName**, **FirstName HWID** with your information.

c. Save the document to your **Excel Exam** folder using the name **HW06-0 Notes Sheet for CI 1871 Excel Exam Done**.

You may want to print this file and then close it. Then, write on the printout as you go through the following sample questions. Or, keep it open while you do the sample questions, type your notes on it, and then print it. You will hand in this sheet when you finish the exam.

d. Open the workbook **HW06-1a Excel Practice Questions Original**, which is one of the files you downloaded at the start of the term.

e. Save the workbook to your **Excel Exam** folder using the name **HW06-1b HWID Excel Practice Questions Done**.

f. Click the **Sales Data** worksheet tab and do the following:

If you get stuck, look up the question in "How to Solve Sample Exam Questions for Excel" starting on page SG138 of this Study Guide.

  1. Insert the following data in between the rows for **Braasch** and **Good**:
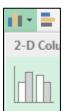
| 7 | Clover, May | Sales | 5584 |
| 8 | Day, Dennis | Marketing | 6588 |

  2. In **C17**, insert a formula that will find the total of the values in **C4:C15**.

This formula and all the others you construct must work if the data change. In other words, you cannot simply figure out the sum on your calculator and then type in the answer.

  3. In **C18**, insert a formula that finds the average of the values in **C4:C15**.

4. In **D4**, enter a formula that will calculate the commission for Adams. If her total sales are below $5,000, the commission is $9,000 plus 8% of her total sales. Otherwise, the commission is $9,400 plus 12% of the total sales that are above $5,000. Fill the formula down to **D15**.

5. In **E4**, enter a formula that will calculate the percent of **Total Sales** for Adams. This is the value in **C4** divided by the total in **C17** and then multiplied by 100. Fill the formula down to **E15**.

6. Format **C4:D20** as currency with two decimal places and the dollar sign showing. Use currency style, not accounting style.

7. Format **E4:E15** so that one decimal place is shown.

8. In **F4**, display the word **Great** if Adams' **Total Sales** in **C4** are over $8,000, **Good**, if **C4** is between $6,000 and $8,000, and **Poor** if **C4** is $6,000 or less. Fill the formula down to **F15**.

9. In **D20**, enter a formula that will display the sum of the **Total Sales** for people whose **Commissions** are over $9,800.

10. Create a conditional format so that the names and department of the people in the **Marketing Department** whose commissions are over $9,600 have a yellow fill.

11. In **D22**, enter a formula that will display the number of commissions that are over $9,600 for people in the **Marketing Department**.

12. In **D1**, enter a formula that will automatically display the date and time the worksheet is printed. The format should look like **Printed on Tue 9 July 2019 at 11:50 AM**.

13. Change the value in **C4** so that Kathy Adam's **% of Total Sales** is exactly **25.00**.

14. Change the widths of all the columns to **12**.

15. Merge **D1:F1** and left align it.

16. Center and wrap the text in **D21**.

17. Center **D19:D22**.

18. Set the **Print Area** to **A1:F22**.

19. Tap **Ctrl + p** and set the worksheet to print in **Landscape**, all on **one page**, **centered horizontally** but not vertically with 1 inch margins. Include a footer that contains the **file name** on the left and the **sheet name** on the right. Show **gridlines** and **row and column headings**. Compare the preview with the key. Make needed corrections, print the worksheet, save the workbook, but do not close it.

g. Create a **chart** of the data on the **Sales Data** worksheet.

1. Create a clustered column chart of the data in **C4:C15**.

2. Place the chart on a new chartsheet called **Column Chart**.
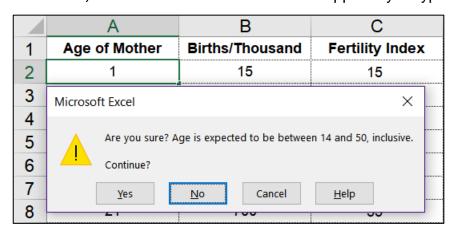
3. Use the data in **A4:A15** for the horizontal axis.

4. Type your four-character **HWID** as the **Chart Title**.

5. Type **Total Sales** for the **Vertical Axis Title**.

6. Type **People** for the **Horizontal Axis Title**.

7. Display the **Data Labels** and make their font Arial Black and red.

8. Do not show the **Legend**.

9. Insert a picture in the upper right corner of the chart. Any image will do. Resize it so it is 1" high and 2" wide. Move the picture so it is just under the title,

10. Make the font of the title, axes labels, and axes values Arial Black.

11. Add a **callout** with the text **High Achiever** to highlight the highest sales (**Adams**). Make the font 18 pt Arial Black and the color yellow. Have the callout point to **Adams** data label.

12. Change the background of the chart parchment texture.

13. Tap **Ctrl + p** and set the **Column Chart** chartsheet to print in **Landscape** and include a footer that contains the **file name** on the left and the **sheet name** on the right. Compare the preview with the key. Make needed corrections, print the chartsheet, save the workbook, but do not close it.

h. Click the **Bonus Data** worksheet. Remember, the **SOLUTIONS** to these questions start on page **SG138** of this Study Guide.

1. Click **A1** and make the text bold and red, center the text across columns **A:G**, and make the fill light blue.

2. Enter a formula in **C4** that will display the bonus for the sales value in **B4**. Use the data table in **B10:G12**. Fill the formula down to **C8** and **preserve the formatting**.

3. Sort the rows of data by **Bonus** in decreasing order.

4. Create a conditional format that will make the **Names**, **Sales**, and **Bonuses** bold red and the background of the cell light green if the bonus for a person is between $300 and $900.

5. In **A2**, display this: **Highest Bonus Awarded was $x,xxx.00**, where **xxx** is the largest value in **C4:C8**. If necessary, merge **A2:D2** so all the characters can be seen.

A2		×	✓	fx	="Highest Bonus Awarded was "&TEXT(MAX(C4:C8),"$#,###.00")		
	A	B	C	D	E	F	G
1			**Bonus Data**				
2	Highest Bonus Awarded was $1,000.00						
3	**Name**	**Sales**	**Bonus**				

6. Create a **Column Sparkline** in **C9** that references **C4:C8**. Make the color orange.

7. In cell **E3**, enter a formula that shows the average of the **Total Sales** on the **Sales Data** worksheet. Format **E3** so that it displays **Average of Total Sales is $x,xxx.00**.

8. Make a copy of the **Bonus Data** worksheet and name the new worksheet **Bonus Data Two**.

9. In the **Bonus Data Two** worksheet, freeze the panes so that rows **1**, **2**, and **3** and column **A** are always on the screen.

10. Hide rows **5** and **6**.

11. Zoom the screen to 200%.

12. Tap **Ctrl + p** and set the **Bonus Data Two** worksheet to print in **Landscape**, all on **one page**, **centered horizontally** but not vertically and include a footer that contains the **file name** on the left and the **sheet name** on the right. Include gridlines and row and column headings. Compare the preview with the key. Make needed corrections, print the worksheet, save the workbook, and close it.

i. Make the **Sort Data** tab active and do the following:

1. Delete **Row 8** (it has red text).

2. Delete **Column C** (it has blue text).

3. Sort the data by **Class** in ascending order (A to Z) and, within **Class** by **Trend** in descending order (Largest to Smallest).

4. Filter the data in **A1:D33** so that only rows with **Class** to **C** or **T** are showing.

j. Click the **Births Data** worksheet tab. Remember, the **SOLUTIONS** to these questions begin on page **SG138** of this Study Guide.

1. Split the screen just below row **9** and then scroll the bottom half of the screen down so you can see row **28**.

9	22	802	36	
28	49	30	1	

2. Set up **Data Validation** for **A2:A28**. The ages should be whole numbers between 14 and 50, inclusive. If an error occurs, have a **Warning** message display the text **Are you sure? Age is expected to be between 14 and 50, inclusive.** Here is what should happen if you type 1 in **A2**.

	A	B	C
1	**Age of Mother**	**Births/Thousand**	**Fertility Index**
2	1	15	15

Microsoft Excel   ✕

⚠ Are you sure? Age is expected to be between 14 and 50, inclusive.

Continue?

[Yes]   [No]   [Cancel]   [Help]

3. Create an **XY Scatter** plot of the data in columns **A** and **B**. Do not connect the points by a smooth line.

4. Move the chart to its own chartsheet called **Births Chart**.

5. Make the Chart Title **Live Births Per Thousand Women vs. Age** Make the font 14 pt Arial Black.

6. Make the Horizontal Axis title **Age (years)** Make the font 12 pt Arial Black.

7. Make the Vertical Axis Title **Live Births Per Thousand Women** Make the font 12 pt Arial Black.

8. Show the Major and Minor gridlines for both axes.

9. Make the data points square, green, and 8 point width.

10. Add a **Trendline** that is a degree 5 polynomial. Display the equation and **R** squared value. Make its font 10 pt Arial Black. Make the fill color pink. Make the trendline solid, red, and 3 pt width.

11. Make the color of the **Plot** area pink.

12. Make the horizontal and vertical axes 4 point width and dark blue and the numbers Arial Black.

13. Make the major gridlines 2 point width and dark gray.

14. Do not display the minor gridlines.

15. Scale the horizontal axis so that it starts at **12** and ends at **52** and make the interval between major grid lines 4.

16. Add a second set of data markers using **Age** for the horizontal (X) axis and **Fertility Index** for the vertical axis (Y). Use **Index** for the **Series name**.

17. Move the equation and **R** squared value text box so it is just above the horizontal axis.

18. Add a **Thought Bubble: Clout 1** callout that points to the data gap between ages 25 and 29. Insert the text **Data unavailable**

19. Arrange the sheet tabs alphabetically left to right.

| **Births Chart** | Births Data | Bonus Data | Bonus Data Two | Column Chart | Sales Data | Sort Data |

20. Tap **Ctrl + p** and set the **Births Chart** chartsheet to print in **Landscape** and include a footer that contains the **file name** on the left and the **sheet name** on the right. Compare the preview with the key. Make needed corrections, print the chartsheet, save the workbook, and close it.

Step 4 Submit You now are ready to submit your homework for grading.

1. Put your 4 homework papers in the following order:

   HW06-1 Sales Data Worksheet
   HW06-1 Column Chartsheet
   HW06-1 Bonus Data Two Worksheet
   HW06-1 Births Chartsheet

2. Cut out Submission Form 6 and put it on the top of the papers..

3. Staple the papers in the upper left corner.

4. Turn in the packet by the due date.

> **The Excel file key for this project is HW06-1b Excel Practice Questions KEY Original. Take a look if you would like to see the actual formulas.**
>
> **Be sure to go through this project several times as a part of your preparation for the Excel exam and the final exam.**

How to Solve Sample Exam Questions for Excel

I hope the following brief explanations are helpful as you study for the Excel exam.

Sales Data worksheet – Solutions

f1. Question **f1** is on page **SG133**. Here is how to solve it:

Click the number for row **7**, drag down to row **8**, right-click, and select **Insert**. Then, type the new data.

f2. You are finding a total of numbers so use **SUM**. Type **=sum(**, drag down from **C4** through **C15**, type **)**, and the tap **Enter**.

f3. Do the same as for **f2** but replace the word **SUM** with **AVERAGE**.

f4. You are entering a formula that displays one of two things. That is, the formula will choose between

Choice 1: $9,000 plus 8% of total sales.

Choice 2: $9,400 plus 12% of the total sales that are above $5,000.

The formula makes the choice by seeing if total sales are below 5000. So, the condition is **C4<5000**. Type **=IF(C4<5000,**

If the condition is true, display Choice 1, which is $9,000 plus 8% of her total sales. Since total sales are in **C4**, add this to the formula **9000+8%*C4,** to get **=IF(C4<5000,9000+8%*C4,**

If the condition is false, display Choice 2, which is $9,400 plus 12% of the total sales that are above $5,000. To find the total sales that are above 5000 subtract **C4-5000** (for Adams this will be 5644-5000, which is 644). Then, take 12% of that. Note that you must use parentheses so the computer does the subtraction first and then multiplies by 12%. That is, **12%*(C4-5000)**. Finally, add 9400 to this to get **9400+12%*(C4-5000)**. Thus, the final formula is

=IF(C4<5000,9000+8%*C4,9400+12%*(C4-5000))

Tap **Enter**.

To fill the formula, click **D4**, drag down to **D15**, and tap **Ctrl + D**. Or, use the Fill Handle by pointing to the lower right corner of **D4** (so the little black cross appears), and drag down to **D15**.

f5. To find the percentage that something is of a whole, divide that something by the whole. That gives a decimal. Multiply by 100 to convert the decimal into a percent. For Adams, her total sales are in **C4** and the sum of the total sales for all employees is in **C17**. So, type **=C4/C17*100**

You are going to fill this formula down to row 15. You want the **C4** to change to **C5**, and then to **C6** and so on. But, you want **C17** to always remain **C17** so you must use an absolute reference (the $ signs). Thus the formula is **=C4/$C$17*100**. To fill the formula, click **E4**, drag down to **E15**, and tap **Ctrl + D**.

f6. Select **C4:D20**, right-click, **Format Cells**, **Number** tab, **Currency**. Be sure the **Symbol** is $ and **Decimal places 2**.

f7. Select **E4:E15**, right-click, **Format Cells**, **Number** tab, **Number**, **Decimal places 1**. Note that since we multiplied by 100 in the formula we do not use the percentage format. If you did, Adams would show 716.6%.

f8. You need to display one of three words depending on the value in **C4**. Since there are three choices you need two **IF** statements, one nested inside the other.

First, check to see if **Total Sales** are over 8000. That is, **=IF(C4>8000**

   If that is true, display "Great".**=IF(C4>8000,"Great"**

      If it is not true, check to see if **C4** is over 6000.

         If that is true, display "Good". **IF(C4>8000,"Great",IF(C4>6000,"Good"**

            If that is not true display the word "Poor"
            =IF(C4>8000,"Great",IF(C4>6000,"Good","Poor"))

Or, you could do it in the reverse order like this:
=IF(C4<=6000,"Poor",IF(C4<8000,"Good","Great"))

Or, you could do it this way:
=IF(C4>8000,"Great",IF(C4<6000,"Poor","Good"))

If your version of Excel has the **IFS** function, you could use that instead of the nested **IF**s. In that case, the formula would be:

=IFS(C4>8000,"Great",C4>6000,"Good",C4<=6000,"Poor")

Note that on the key I put in all four of these formulas so you could see how they work. Fill down in the usual way.

f9. You want to find a sum of **Total Sales** for people who meet a certain condition (**Commissions** are over $9,800). So, use **SUMIF**.

The range to look in to see if the condition is met is **D4:D15**. So, you have **=SUMIF(D4:D15**

The condition is >9800. So you have **=SUMIF(D4:D15,">9800"** Note the quotation marks on the condition. This is different than when using **IF**.

You want to sum the **Total Sales**, which are in **C4:C15**. So, you have **=SUMIF(D4:D15,">9800",C4:C15)**

f10. For conditional formats, first select the cells that are to be formatted. Here, you want the names formatted so select **A4:B15**.

Click **Conditional Formatting**, **New Rule**, **Use a formula to determine which cells to format**.

The employee must meet two criteria: **Department** (column **B**) is **Marketing**, and **Commission** (column **D**) is over **9600**. So, use the **AND** function: **=AND($B4="Marketing",$D4>9600)** The $ are needed because you want two columns formatted. Also, notice that here you do not put in the range **B4:B15** but only **B4.** Same goes for column **D**. For Conditional Formatting, you put in the rule for the first person and Excel does it for all the people that you have selected in **A4:B15**. This seems strange to me but that is how Conditional Formatting is set up.

Finally, click the **Format** button, click **Fill**, and click **yellow**. Click **OK** a couple of times to close the conditional formatting dialog box.

f11. You are to display the number of things based on two criteria so use **COUNTIFS**.

The first condition is that the **Commission** (in column **D**) must be over 9600. So, you have **=COUNTIFS(D4:D15,">9600"**

The second condition is that the department is **Marketing** (in column **B**). So you have **COUNTIFS(D4:D15,">9600",B4:B15,"Marketing")**

Note that in each case the condition must be inside quotation marks.

f12. To have the date and time update automatically, **NOW()**. Do NOT use **DATE** since that is used when you need to take three separate values and combine them to form a date (not very useful).

Once you have entered **=NOW()** click the green check. The date is stored as the number of days it is after January 1900. The time is stored as a fractional portion of a 24 hour day. So, if the date and time are 9 July 2019 at 11:50 AM, the number will be 43655.49313.

To format the date and time, right-click, **Format Cells**, **Number** tab, and **Custom**. The phrase **Printed on** must be in quotes since it is text. Then, enter the code for the day (**ddd**), the date (**d**), the month (**mmm**), the year (**yyyy**), the word " at " and the hour (h) a colon, the minutes (mm) and am/pm so Excel uses our normal 12 hour clock rather than military time. This is **"Printed on " ddd d mmm yyyy" at "h:mm am/pm**

f13. Use **Data**, **Forecast**, **What-If**, **Goal Seek** to get the exact value.

The answer is **24370.6624489115**.

Goal Seek	
Set cell:	E4
To value:	25
By changing cell:	$C$4
OK	Cancel

f14. Select the entire worksheet, point to column heading **A**, right-click, select **Column width**, and enter **12**.

f15. Select **D1:F1**, click **Merge and Center**, then click **Right align**.

f16. Select **D21**, click **Center align**, click **Wrap text**.

f17. Select **D19:D22** and click **Center align**.

f18. Select **A1:F23**. On the **Page Layout** tab, in the **Page Setup** group, click the **Print Area** down arrow, and click **Set Print Area**.

f19. Tap **Ctrl + p**, click **Page Setup**, and make the settings look like these:

Page	Margins	Header/Footer	Sheet

Orientation

○ Portrait   ◉ Landscape

Scaling

○ Adjust to: 100 % normal size
◉ Fit to: 1 page(s) wide by 1 tall

Page	Margins	Header/Footer	Sheet

Top: 1   Header: 0.5

Left: 1   Right: 1

Bottom: 1   Footer: 0.5

Center on page

☑ Horizontally

Footer

To format text: select the text, then choose the Format Text button.
To insert a page number, date, time, file path, filename, or tab name: position the
    insertion point in the edit box, then choose the appropriate button.
To insert picture: press the Insert Picture button. To format your picture, place the
    cursor in the edit box and press the Format Picture button.

Left section: Center section: Right section:
&[File]   &[Tab]

Page	Margins	Header/Footer	Sheet

Print area: A1:G23

Print titles

Rows to repeat at top:

Columns to repeat at left:

Print

☑ Gridlines   Comments: (None)
☐ Black and white   Cell errors as: displayed
☐ Draft quality
☑ Row and column headings

Column Chart Chartsheet – Solutions

g1. Select **C4:C15**. Click the **Insert** tab and select **2-D column**.

g2. Do NOT copy and paste the chart into a new **work**sheet. Click **Chart Tools Design Location**, **Move Chart**. and type the name **Column Chart**. This creates a new **chart**sheet that contains only the chart and no cells.

g3. Click **Chart Tools Design**, **Select Data**, **Horizontal (Category) Axis Labels Edit**. Click ⬆ to collapse the dialog, switch to the Sales Data worksheet, select **A4:A15**, and click ⬆ again.

Click **OK** and click **OK** again.

g4. Remember, the green cross ✚ allows you to put in many different chart elements. Put a check next to **Chart Title**, if necessary. With Chart Title selected, type your HWID.

g5. Click the green cross and put a check next to **Axis Titles**. If necessary, click the vertical axis title so select it. Type **Total Sales** and tap **Enter**.

g6. Click the horizontal axis title and type **People** and tap **Enter**.

g7. Click the green cross and put a check next to **Data Labels**. Then, on the **Chart Tools Format** tab, way over on the left, click the down arrow and select **Series 1 Data Labels** to select them.

With the **Data Labels** selected, click the **Home** tab and change the font.

g8. Click the green cross and be sure **Legend** is NOT checked.

g9. Click anywhere in the **Chart Area**. Click **Insert**, **Illustrations**, **Pictures**, and then navigate to any picture on your computer. On the **Picture Tools Format** tab in the **Size** group, click the launch dialog button to open the **Format Picture** pane. Be sure to uncheck **Lock aspect ratio** so you can change each dimension separately. Then, enter **1** in the **Height** box and **2** in the **Width** box.

g10. Click the title to select it and, on the Home tab, in the Font group, select Arial Black. Repeat for the axes titles and values.

g11. Click **Insert**, **Illustrations**, **Shapes**, **Callouts**. Drag to open the callout. Type the text and then format the font. To point to the **Adams** column, grab the little orange circle at the end of the point and drag it to the desired position.

g12. On the **Chart Tools Format** tab, way over on the left, click the down arrow, select **Chart** area, and click **Format selection**. Click the paint bucket and under **Fill** click **Picture or texture fill**. Click the down arrow to the right of **Texture** and select **Parchment**.

g13. Set up to print as usual.

Bonus Data worksheet – Solutions

h1. To center across cells, select **A1:G1** and click **Home**, **Alignment**, **Merge and Center**.

h2. The sales and bonus data are in **B10:G12**. This is a horizontal table so use **HLOOKUP**.

You want to look up the value in **B4** so use **=HLOOKUP(B4**
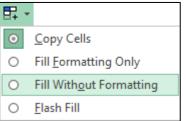
You want to lookup that value in the horizontal table **B10:G12** so use **=HLOOKUP(B4,$B$10:$G$12** Note the use of absolute references (the **$**). This is because when you fill down this formula you want the location of the table to remain constant, which is what the **$** do.

When the value of **B4** is found in row 1 of the table, you want to display the value in row 3, so use **=HLOOKUP(B4,$B$10:$G$12,3**

Since you do not need an exact match, type **TRUE** as the last parameter, **=HLOOKUP(B4,$B$10:$G$12,3,TRUE)**. **TRUE** is the default so you can leave it off if you wish.

When you fill down, to preserve the formatting be sure to select **Fill Without formatting** from the **Auto Fill Options**.

h3. Be sure you select all the data in each row and not just the data in column **C**. That is, click the number for row **4** and drag down to row **8** to select those five rows and then **Home**, **Editing**, **Sort & Filter**, **Custom Sort**. Under **Sort by**, select **Column C** and **Largest to smallest**, and then click **OK**.

h4. Select the cells you want to format. That is, select **A4:C8**. Then **Home**, **Styles**, **Conditional Formatting**, **New Rule**, **Use a formula to determine which cells to format**. There are basically two conditions, less than 900 and also greater than 300. Use **AND** for the condition, like this: **=and($c4<900,$c4>300)**. Notice the use of the $ because you have selected more than one column and you want all three to have the format.

Name	Sales	Bonus
Maren	$38,200	$1,000
Sue	$30,123	$800
Melissa	$25,821	$600
Elana	$22,054	$400
Kathy	$17,866	$200

h5. Here are two ways of doing this:

Method I: Since you are looking for the highest number in **C4:C8** use **=MAX(C4:C8)**. This gives you the number **$1,000**. To format the cell right-click, select **Format Cells**, click the **Number** tab, click **Custom** and type **"Highest Bonus Awarded was "$#,###.00** The part inside quotes is text that will be displayed exactly as written. To the right of the quote shows the format for the number: The **$** indicates currency, the **#** indicates numbers (you cannot use x's here), the **comma** indicates that it should be put there if the value is over one thousand, the **period** shows the decimal point, and the **00** shows that zeros should be displayed if needed. If you see **########** displayed, select **A2:D2** and click **Merge & Center**, and then **Align Left**.

Method II: This method uses the **&** to connect (concatenate) the text **Highest Bonus Awarded was** with the number **1000**. So, use **="Highest Bonus Awarded was "&TEXT(MAX(C4:C8),"$#,###.00")** The **TEXT** function must be used to show Excel how to format the number. If you do it this way you will not have to use **Merge & Center** to see the result.

h6. Click **C9**. On the **Insert** tab, in the **Sparklines** group, click **Column Sparkline**. For the **Data Range** enter **C4:C8**, for the **Location** enter **C9**. Then click **Sparkline Tools Design Style**, **Sparkline color**, and select **Orange**.

h7. Click **E3**, type **=**, click the **Sales Data** worksheet, click **C18**, tap **Enter**. The formula will look like this: **='Sales Data'!C18** This says go to the **Sales Data** worksheet and display the contents of cell **C18**.

Right-click **E3**, **Format Cells**, **Number** tab, **Custom**, type **"Average of Total Sales is "$#,###.00**

Select **E3:G3**, **Home**, **Alignment**, **Merge & Center**, **Align Left**.

h8. Right-click the **Bonus Data** worksheet tab and select **More or Copy**. Put a check next to **Create a copy** and click **OK**. Double-click the new tab name, **Bonus Data (2)**, type **Bonus Data Two**, and tap **Enter**.

h9. To freeze panes, click the cell that is just below and to the right of the rows and columns you want to always keep on the screen. Since you want rows **1**, **2**, and **3** and column **A** click **B4.** Then on the **View** tab, in the **Window** group, click the **Freeze Panes** down arrow and then select **Freeze Panes**. The frozen cells are indicated by the black line between rows **3** and **4** and between columns **A** and **B**.

h10. Click the number for row **5** and drag down to row number **6**. Right-click, select **Hide**.

h11. On the **View** tab, in the **Zoom** group, click **Zoom**, click **200%**, and click **OK**.

h12. Set up print as usual.

Sort Data worksheet – Solutions

i1. Click the number for row **8**, right-click, and select **Delete**. Row **9** becomes row **8**. This gets rid of the entire row and not just the data in a row.

i2. Click the letter for column **C** (**Height**), right-click, and select **Delete**. Column **D** becomes column **C**.

i3. Click the number for row **1** and drag down to the number for row **33**. This selects all the data in those rows and not just the data in a particular column. On the **Home** tab, in the **Editing** group, select **Sort & Filter**, **Custom Sort**. Be sure **My data has headers** is checked. Under **Sort by**, select **Class** and **A to Z**, click **Add Level**, select **Trend** and **Largest to Smallest**. Click **OK**.

i4. Select **A1:D1**. On the **Home** tab, in the **Editing** group, select **Sort & Filter** and click **Filter**. Click the **Class** down arrow and click **Select All** (to deselect everything) and then click **C** and **T**. Click **OK**.

	A	B	C	D
1	Level ▾	Trend ▾	Width ▾	Class ⍋
5	1	9	7	C
6	5	5	85	C
7	2	3	111	C
8	2	3	111	C
22	5	5	7	T
23	5	5	7	T
24	1	4	114	T
25	2	3	111	T

Births Data worksheet – Solutions

j1. Click the number for row **10** and on the **View** tab, in the **Window** group, click **Split**. Scroll the bottom part of the screen so row 28 shows.

j2. Select **A2:A28**. Since the screen is split, rather than scrolling it will be faster to click **A2**, hold down **Shift**, and click **A28**.

On the **Data** tab, in the **Data Tools** group, click the **Data Validation** down arrow and select **Data Validation**. On the **Settings** tab, under **Allow**, select **Whole number**. Under **Data** select **between**, under **Minimum** enter **14**, and under **Maximum** enter **50**. Click the **Error Alert** tab and under **Style** select **Warning**, and under **Error message** type **Are you sure? Age is expected to be between 14 and 50, inclusive.** Click **OK**.

In cell **A2**, type **1** to check if the warning comes up. Click cancel and the **1** will return to its original value.

j3. Select **A2:B28**. On the **Insert** tab, in the **Charts** group, select **XY Scatter**.

j4. On the **Chart Tools Design** tab, in the **Location** group, click **Move Chart**. Next to **New sheet**, type **Births Chart**, and click **OK**.

j5. Click the green cross and put a check next to **Chart Title**, if necessary. On the **Chart Tools Format** tab, in the upper left corner, click the down arrow and select **Chart Title**, Type **Live Births Per Thousand Women vs. Age**. Change the font size and type.

j6. Do the same for the **Horizontal (Category) Axis Title** and type **Age (years)**. Change the font size and type.

j7. Do the same for the **Vertical Axis Title** and type **Live Births Per Thousand Women**. Change the font size and type.

j8. Click the green cross, click the triangle to the right of **Gridlines** and put a check next to each box.

☑ Gridlines ▶	☑ Primary Major Horizontal
☐ Legend	☑ Primary Major Vertical
☐ Trendline	☑ Primary Minor Horizontal
	☑ Primary Minor Vertical

j9. On the **Chart Tools Format** tab, in the upper left corner, click the down arrow and select **Series 1**. This selects the data points. Just under that click **Format Selection** to open the **Format Data Series** pane. Click the **paint bucket** and click **Marker** and then **Marker options**.

To the right of **Type**, select square, to the right of **Size**, select 8 pt.

Click the triangle next to **Fill**, click **Solid fill**, and select green.

j10. Click the green cross, click the arrow to the right of **Trendline** and select **More Options** to open the **Format Trendline** Pane. Click the little column graph, click **Polynomial** and set the **Order** to **5**. Put checks next to **Display Equation** and **Display R-squared**. Select those on the chart and, on the **Home** tab, make the font 12 pt Arial Black and the fill color white. Drag it up so it is centered just above the horizontal axis.

Click the **Trendline** to select it. Click the paint bucket, click the **Dash Type** down arrow, select the **solid line**, change the **Width** to **3**, and the color to red.

j11. In the upper left corner select **Plot Area** from the drop-down menu and click **Format Selection** to open the **Format Plot Area** pane. Click the paint bucket, click **Fill**, click **Solid fill** and select pink as the **Color**.

j12. In the upper left corner select **Horizontal (Value) Axis** from the drop-down menu and click **Format Selection** to open the **Format Axis** pane. Click the paint bucket and then **Line** if necessary. Set the **width** to **4** pt and the **color** to **dark blue** and the numbers **Arial Black**. Repeat for the **Vertical (Value) Axis**.

j13. In the upper left corner select **Horizontal (Value) Axis Major Gridlines** from the drop-down menu and click **Format Selection** to open the **Format Major Gridlines** pane. Click the paint bucket and then **Line** if necessary. Set the **Width** to **2** pt and the **Color** to gray. Do the same for the **Vertical (Value) Axis Major Gridlines**.

j14. In the upper left corner select **Horizontal (Value) Axis Minor Gridlines** from the drop-down menu and click **Format Selection** to open the **Format Minor Gridlines** pane. Click **No line**. Do the same for the **Vertical (Value) Axis Minor Gridlines**.

j15. In the upper left corner select **Horizontal (Value) Axis** from the drop-down menu and click **Format Selection** to open the **Format Axis** pane.

Click the little column graph ▮▮▮, click **Axis Options** and set the **Minimum** to **12** and the **Maximum** to **52**. Set **Units Major** to **4** (no need to set the **Minor** units since the minor gridlines are not showing).

j16. Click the **Chart Tools Design** tab, click **Select Data**, and click the **Add** button to open the **Edit Series** dialog box. For **Series name** type **Index**.

For **Series X values**, click the collapse dialog button ⬆, click the **Births Data** worksheet tab, select **A2:A28**, and click the collapse dialog button again.

For **Series Y values**, click the collapse dialog button, click the **Births Data** worksheet, select **C2:C28**, and click the collapse dialog button again.

Click **OK**. Click **OK** again.

Edit Series
Series name:
Index ⬆
Series X values:
='Births Data'!$A$2:$A$28 ⬆
Series Y values:
='Births Data'!$C$2:$C$28 ⬆

j17. Select the text box and drag it under the title.

j18. Click anywhere in the chart. On the **Insert** tab, in the **Illustrations** group, click the **Shapes** down arrow and, near the bottom, select the **Thought Bubble** callout. Drag the tiny cross to open the callout and enter the text. Grab the tiny orange circle and drag it to the data gap.

j19. Click each tab and drag it into position.

j20. Set up print as usual.

Information on the Excel Exam

The first exam will cover only Excel.

Date: Check your syllabus for the exact date and time.

Location: 128 Appleby Hall, our regular classroom.

Length: 90 minutes

Materials: At the exam I will give you a handout with the questions on it and a USB drive that has the files you will need. You will save your modified files to this USB drive. You will not print anything.

Notes: All exams will be closed book and notes but you may use one 8.5 inch by 11 inch sheet of notes, both sides, typed, hand written, scanned, or whatever. Your notes sheet will be collected when you hand in the exam so be sure to put your name and HWID on it. The exam room printer will be disabled during the exam time so be sure you print your notes sheet **before** you enter the classroom.

Use the Word file **HW06-0 Notes Sheet for CI 1871 Excel Exam Done**, which you saved on page **SG133**, as your notes sheet.

What to Bring to the exam: Your student photo ID, your notes sheet, and a pen or pencil. I will provide everything else.

The Excel exam is timed.
You must complete the exam in one and a half hours.

Since you will only have one and a half hours for the exam you must practice a lot so that you can do the computer operations quickly and efficiently from memory. If you do not have your own computer, to get extra practice time go to one of the campus labs, such as 103 Walter Library. See the following for public lab locations:
http://www.oit.umn.edu/computerlabs/

Ground Rules for Taking the Exam

The exam begins and ends at specific times. So, for example, if you show up 15 minutes late you will have 15 minutes less time to work on it. It is a good idea to plan on getting to class 15 minutes early on exam day as a cushion in case you are delayed for some reason.

Before you enter the exam room, plug your parking meter, go to the bathroom, sharpen you pencil, turn off your cell phone, take out a pen or pencil and your **U of M student photo ID**.

After you enter the exam room

- Sit at the computer with your name on it.

- Log in using the **User Name** and **Password** displayed on the screen. Your own log in will not work.

- Place your **U of M student photo ID** on system unit. For security reasons, you will not be allowed to take the exam without your student photo ID.

- Take out your notes sheet.

- Place all your papers, notes, books, cell phone, CD player, headphones, bottled water, etc. in your pack and zip it up. Place your pack under the table. You will not be allowed to get anything from your pack during the exam.

- On exam day, you may **not** use a classroom computer to do activities other than take the exam. If you need to check your email or print something you will have to do it at another location. The internet and printing access will be disabled.

The exam starts when I begin to hand out the exam papers.

- You may not leave your seat or the room until you hand in your exam.

- You may not ask questions, unless you think your computer is defective.

- You may not talk to anyone, get help from anyone, look at anybody else's work, use any notes (except for your one sheet), use your textbook or Study Guide, etc.

- You may not get anything out of your pack, purse, pockets, or anywhere else.

- You may not use a cell phone or headphones or listen to CDs, tapes, radio, etc.

- When you finish the exam, raise your hand and I will come to you to pick up your exam paper, notes sheet, and USB drive. Then, pick up your pack and leave the room quietly.

> **Do NOT log off the computer until I tell you to do so or your work may be lost and you will end up with a 0 for the exam.**

- When I say to stop working you must stop immediately and wait for your exam paper, notes sheet, and USB drive to be picked up. Failure to do so may result in your getting a score of 0 for the exam.

Project 7
Word Chapter 1: Creating Documents

Step 1 Read Read the introductory material on page 103 of the textbook.

Step 2 Activities Turn on the computer and do the following:

Project 1A: Start at the top of page 105.

Instead of Activity 1.01 step 1 do the following:

1. Open a blank Word document and save it to your **Word Files** folder using the name **Lastname_Firstname_1A_Flyer**

> *We are not going to use sub folders (e.g., Word Chapter 1). You will put all your Word files in the Word Files folder so you can see them all at once.*

2. Complete the rest of the Activities for this Project EXCEPT do **NOT** do steps 7 and 8 in **Activity 1.16** on page 123.

3. **Return here** when you have completed Project 1A on page 123.

> ***Do NOT do GO! With Google Docs***

Project 1B: When you have completed Project 1A, start at the top of page 127.

Instead of Activity 1.17 step 1 do the following:

1. Navigate to your **Word Files** folder and open **w01B_Programs**, which is one of the files you downloaded at the start of the term.

2. Save the file in your **Word Files** folder using the name **Lastname_Firstname_1B_Programs**

3. Complete the rest of the Activities for this Project EXCEPT do **NOT** do steps 5 and 6 in **Activity 1.29** on page 146.

4. **Return here** when you have completed Project 1B on page 146.
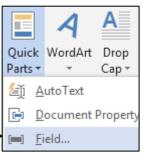
> ***Do NOT do GO! With Google Docs or GO! To Work***

Step 3 Homework After you have completed Projects A and B return here, do the following additional activities, and turn them in for grading.

HW07-1 Flyer (Based on Project 1A)

Problem: How can you create a flyer to advertise an upcoming event?

a. Open the document **Lastname_Firstname_1A_Flyer**, which you created while following the directions in the textbook and saved on page 123.

b. Save the document in the **Word Files** folder using the name **HW07-1 HWID 1A_Flyer_Done**

c. In this project you learned how to insert a **field code** that displayed the name of the file in the footer. This is a bit different from Excel but the result is the same. Insert a few more field codes by doing the following:

   1. Tap **Ctrl + End** to go to the bottom of the document.

   2. Tap **Enter** and type **Today's Date:** and then a space.

   3. On the **Insert** tab, in the **Text** group, click **Quick Parts** and select **Field**.

   4. In the **Field** names group, scroll down and click **Date**.

   5. In the **Date formats** group, select the format that has day, month, date, and year.
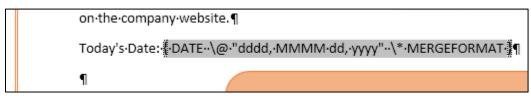
   6. Click **OK**. The current date will be shown.

   7. To make it easy to identify text that is the result of a field code, tell Word to highlight all fields in the document by doing this: Click the **File** tab, click **Options**, click **Advanced**, scroll down to the **Show document content** group, click the **Field shading** down arrow, and select **Always**.

8. Click **OK**. The date now appears with a shaded background. However, the shading will not appear on the printed copy.

Today's Date: Friday, July 12, 2019

9. Tap **Alt + F9** to view the actual field code:

on·the·company·website.¶

Today's·Date:·{·DATE··\@·"dddd,·MMMM·dd,·yyyy"··*·MERGEFORMAT·}¶

¶
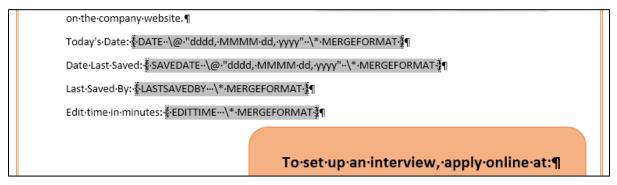
To show the results of the field codes, you would tap **Alt + F9** again. But, *do not do that yet*. **Alt + F9** is called a toggle because it switches (toggles) between two things.

10. Use the same technique to insert under the date field the following fields with appropriate text, one per line. If necessary, adjust the position and height of the orange text box so that it does not cover the field codes.

    Date Last Saved: **SAVEDATE**

    Last Saved By: **LASTSAVEDBY**

    Edit time in minutes: **EDITTIME**

on·the·company·website.¶

Today's·Date:·{·DATE··\@·"dddd,·MMMM·dd,·yyyy"··*·MERGEFORMAT·}¶

Date·Last·Saved:·{·SAVEDATE··\@·"dddd,·MMMM·dd,·yyyy"··*·MERGEFORMAT·}¶

Last·Saved·By:·{·LASTSAVEDBY···*·MERGEFORMAT·}¶

Edit·time·in·minutes:·{·EDITTIME···*·MERGEFORMAT·}¶

To·set·up·an·interview,·apply·online·at:¶

d. You are going to add a footer that contains the file name for every Word document you save. Here is a quick way of doing that using Word's **AutoText** feature. First, you will add **AutoText** to the **Quick Access Toolbar**.

Outdent 2,o2,s⏷   ▯▯ ▯ ▭ ▯ ▾ ¶   Ω ▾ ☑ Document Map ▨ ▾ ⯮

File   Home   Insert   Design   Layout   References   Mailings

1. Click the **File** tab.

2. Click **Options**.

3. Click **Quick Access Toolbar**.

4. In the list under **Choose commands from**, click **All Commands**.

5. Scroll through the list of commands until you see **AutoText**.

6. Click **AutoText**.

7. Click **Add**. The **AutoText** button appears in the **Quick Access Toolbar**.

8. Click **OK**.

e. To add an entry to the **AutoText** gallery, do the following:

1. Select the text that you want to add to the **AutoText** gallery. In this case, double-click the footer area where the file name appears and select the file name field code.

2. In the **Quick Access Toolbar**, click **AutoText**, and then click **Save Selection to AutoText Gallery**.

3. Type **FileName** in the Name box of the **Create New Building Block** dialog box.

Leave the other boxes as they are.

4. Click **OK**.

5. Click the **AutoText** button and you will see the **FileName** entry you just created.

Even though the actual file name shows the **AutoText** entry it is really the field code that will change if you change the file name.

f. Do the following to insert the **AutoText** entry:

1. Double-click anywhere in the body of the document to close the **Header/Footer** window and then tap **Ctrl + End** to place the insertion point at the end of the document.

2. Click the **AutoText** button on the **Quick Access Toolbar** and select **FileName**. The file name field code is inserted.

3. Tap **Ctrl + z** to undo the insertion so you do not have two file names listed.

g. You can have Word insert the file name field code directly into the footer without having to open the footer first. To do that, click the the **AutoText** button on the **Quick Access Toolbar** point to **FileName**, right-click, and select **Insert at Page Footer**.

The file name field code is inserted directly into the footer (now it is there twice). If necessary, adjust the size of the orange text box so the file names in the footer are visible.

h. So I can see the codes, I want you to print them instead of their results. This is similar to your printing formulas in Excel.

1. Click the **File** tab, click **Options**, click **Advanced**, scroll down to the **Print** group, and click inside the box next to **Print field codes instead of their values**.

2. Click **OK**.

i. Tap **Ctrl + p** and compare the preview with the key. Notice the field codes print but the shading does not. Make needed corrections and print the document.
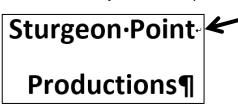
> ***You NEVER have to print in color.***

j. Now, turn off printing the field codes by unchecking the box you just checked.

1. Click the **File** tab, click **Options**, click **Advanced**, scroll down to the **Print** group, and click the box next to **Print field codes instead of their values** to remove the check.

2. Click **OK**.

3. Tap **Alt + F9** to view the results of the field codes rather than the codes.

k. After you print you might notice that the edit time has not changed. Fields usually are updated when a document is printed or saved, depending on how your computer is set up. Manually update the fields by doing the following:

1. Tap **Ctrl + A** to select the entire document.

2. Tap **F9** to update all the fields. Note the updated edit time.

3. Save the document and then close it.

HW07-2 Programs (Based on Project 1B)

Problem: How can you create a flyer that advertises available internships?

a. Open the document **Lastname_Firstname_1B_Programs**, which you created while following the directions in the textbook and saved on page 146.

b. Save the document in the **Word Files** folder using the name **HW07-2 HWID 1B_Programs_Done**

c. Do the following to adjust the title so that it is on two lines.

   1. Click just to the left of the word **Productions** in the title.

   2. Tap the **Backspace** key to remove the blank space.

   3. Tap **Shift + Enter** to insert a line break. This is called a **manual** line break. It is indicated by a little left-pointing arrow ↵

   This means the two lines are still considered a single paragraph. If you had tapped **Enter** the two lines would be considered separate paragraphs.

d. Insert a piece of clip art and then modify it by doing the following.

   1. Tap **Ctrl + Home** to be sure the insertion point is at the start of the document.

   2. On the **Insert** tab, in the **Illustrations** group, click **Online Pictures**.

   In the search box type **movie camera** and tap **Enter**.

   Click any illustration to select it and then click **Insert**.

   > *If Online Pictures does not open, you can insert one from your computer. To do this, on the Insert tab, in the Illustrations group, click Pictures. Navigate to your Word Files folder and double-click HW07-2 Movie Camera Original.*

e. Modify the image by doing the following.

   1. If necessary, remove the text box at the bottom. To do this, click the text anywhere and then click the edge of the text box and tap **Delete**.

2. Click the image and then, on the **Picture Tools Format** tab, in the **Size** group, click the launch dialog button 🔲 (lower right corner) to open the **Layout** dialog box. Click the **Size** tab, if necessary.

   There is a check next to **Lock aspect ratio**. That means if you change the height the width will automatically change to keep the same relative dimensions (this known as the aspect ratio). If you uncheck this box, you can change the height and width independently of each other (but that may cause the image to be distorted). Remove the check and change both the height and width to 1.2 inches. Click **OK**.

3. Click the **Layout Options** button and select **In Front of Text**. This will allow you to move the image to any location on the screen independently of the text.

4. Point to the little circle at the top of the image.

5. With the tip of the pointer on the circle, hold down the left mouse button and drag right until the image is rotated about 45 degrees. Let go of the button.
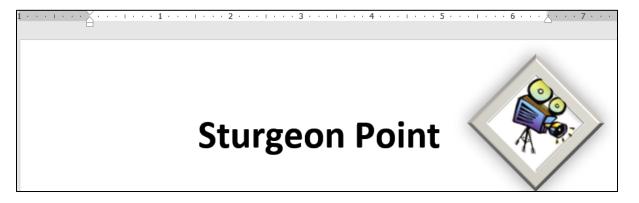
   To get an exact rotation, on the **Picture Tools Format** tab, in the **Arrange** group, click **Rotate**, and select **More Rotation Options**.

6. On the **Picture Tools Format** tab, in the **Picture Styles** group, click the **Metal Frame** button to place a frame around the picture.

7. Drag the picture to the upper right corner of the window.

f. Scroll down so you can see the break between pages 1 and 2. Notice how the second list is split between the two pages. If possible, it is a good idea to keep all items of a list on a single page so the reader can see it all at once.

1. Select the text from **Here is a partial list…** through the end of the list.

2. Right-click and select **Paragraph**.

3. Click **Line and Page Breaks**.

4. Check the boxes as shown.
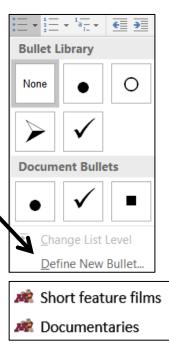
    A **widow** is the last line of a paragraph that appears by itself at the top of a page.

    It is considered good form to force a second line to accompany a widow.

    An **orphan** is the first line of a paragraph that appears at the bottom of a page by itself. It is considered good form to send an orphan to the next page to rejoin its paragraph.

    Keep with next forces the current paragraph to appear on the same page as the next paragraph. This is good for lists and for rows of tables (so the table will not split across a page break) and subheads (so the subhead will stay with its following text).

    Keep lines together forces a paragraph to have all of its text on the same page, rather than split between the bottom of one page and the top of the next. This is good to do for short paragraphs but it is not practical for long paragraphs.

    Page break before. This puts the text on the next page no matter what.

5. Click **OK**. The selected items now are together on page 2.

g. Change the bullet type on the first page:

1. Select the first bulleted list and, on the **Home** tab, in the **Paragraph** group, click the **Bullet** icon down arrow, and select **Define new Bullet**.

2. Click **Picture**.

3. Click **Browse** next to **From File**.

4. Navigate to the **Word Files** folder, select **HW07-2 Goldy Original**, click **Insert** and then **OK**. If the image of Goldy cannot be added to the gallery, drag the file **HW07-2 Goldy Original** to the desktop and try again. If that fails, use any image in the gallery.

h. Tap **Ctrl + p** and compare the preview with the key. Make needed corrections, print *page 1 only*, save the document and close it.

HW07-3 Agenda

Problem: How can you create a draft agenda for a club meeting?

a. Open the document **HW07-3 Agenda Original**, which is one of the files you downloaded at the start of the term.

b. Save the document in the **Word Files** folder using the name **HW07-3 HWID Agenda Done**.

c. Insert a footer that contains the name of the file.

d. Do the following to insert in the footer the date the document was saved.

    1. Double-click the footer area to open it.

    2. Click to the right of the file name and tap Enter.

    3. On the **Insert** tab, in the **Text** group, click **Quick Parts** and then select **Field**.

    4. Click **SaveDate** and the format that displays the date and time.

    5. Click OK and then close the footer.

e. Change all four margins to 1.25 inches.

f. Put a border on the page. The border should have a purple thick and thin 3 pt line (**Design**, **Page Background**, **Page Borders**).

g. Insert a Watermark that says **Draft** slanted across the page (**Design**, **Page Background**, **Watermark**)

h. Make the font of the first two lines of the Agenda Arial Black, 18 pt, and red.

i. Set up the agenda as an outline.

   1. Select the lines starting with **New Business** and continuing all the way through **Continue discussion of fundraising projects**.

   2. On the **Home** tab, in the **Paragraph** group, click the **Multilevel List** button, and then click this format:

   The list will appear with numbers going from **1** to **12**.

j. Do the following to change the outline level of the lines from **Treasurer's report** through **Other new business** so that they are subordinate to **New Business**.

   1. Select those lines.

   2. On the **Home** tab, in the **Paragraph** group, click the **Increase Indent** button, 	. Notice how the numbers of the selected lines are automatically changed to letters.

   ```
   1.  New Business

             a.  Treasurer's report
             b.  Big brother and big sister project
             c.  Election of officers
             d.  President
             e.  Vice President
             f.  Treasurer
             g.  Secretary
             h.  Other new business

   2.  Old Business

   3.  Reading of minutes
   4.  Continue discussion of fundraising projects
   ```

k. Change the outline level of the list of officers.

   1. Select the lines from **President** through **Secretary**.

   2. Click the **Increase indent** button. The list of officers will be indented and listed with Roman Numerals.

l. Follow a similar procedure to change the outline level of the last two lines (**Reading of minutes** and **Continue discussion of fundraising projects**) so that they are subordinate to **Old Business**.

m. To see how Word will automatically adjust the lettering of the items, add the following two lines just under **Big brother and big sister project**:

   Food Shelf donations
   Tax program
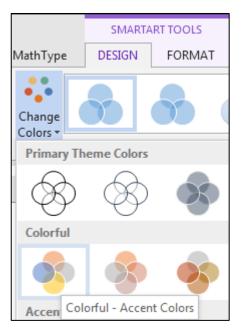
   Notice how the items are automatically given letters and the letters of following items are changed.

   ```
   a.  Treasurer's report
   b.  Big brother and big sister project
   c.  Food Shelf donations
   d.  Tax program
   e.  Election of officers
   ```

n. Delete the line with **Vice President**. Again, notice how the numbers for **Treasurer** and **Secretary** are automatically updated.

o. Insert a **SmartArt** object.

    1. Tap **Ctrl + Home** to move to the top of the document.

    2. On the **Insert** tab, in the **Illustrations** group, click the **SmartArt** button.

    3. From the **Relationship** category, choose the **Basic Venn** shape.
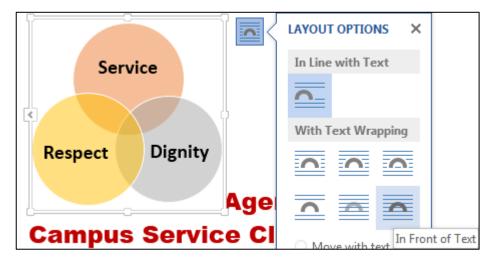
    4. In the top circle, type **Service**; in the left circle, type **Respect**; in the right circle, type **Dignity**.

    5. Apply a **Colorful** theme.

    6. Make the font purple 12 pt Comic Sans MS.

    7. Make the height and width of the object 2 inches.

8. Set the **Wrap Text** to **In Front of Text**.

9. Move the object to the upper right corner just inside the page border.

p. Tap **Ctrl + p** and compare the preview with the key. Make needed corrections, print the document, save it, and close it.

HW07-4 Brochures

Problem: How can you create a memo outlining features of a brochure that will be published?

a. Open the document **HW07-4 Brochures Original**, which is one of the files you downloaded at the start of the term.

b. Save the document in the **Word Files** folder using the name **HW07-4 HWID Brochures Done**

c. Insert a footer that contains the name of the file.

d. Set up the company logo and memo header by doing the following:

1. Insert the JPG file, **HW07-4 Brochures Logo Original**.

2. With the image selected, change the **Wrap Text** to **In Front of Text** and move the logo so it is in the upper left corner of the page.

3. Insert a text box (**Insert**, **Text**, **Text Box**, **Draw Text Box**) and enter this text:

   PO Box 75732
   Colorado Springs, CO 80970
   719-638-9511
   719-638-9515 fax
   JohnWells@ad-excellence.net

4. Change the font to 10 pt Comic Sans MS.

5. Move the text box to the upper right corner of the page. It should have no border or fill.

6. Select the word **MEMO** and, on the **Insert** tab, in the **Text** group, click the **Word Art** down arrow, and select the pink A.

Fill - Red, Accent 2, Matte Bevel

7. Move the **Word Art** to the top center of the document.

AD-EXCELLENCE   MEMO

PO Box 75732
Colorado Springs, CO 80970
719-638-9511
719-638-9515 fax
JohnWells@ad-excellence.net
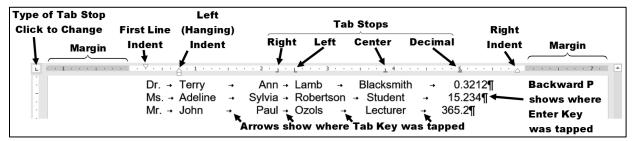
e. Change the tab settings on the first 7 lines of the memo. Keep this in mind:

Page Margins are the amounts of blank white space at each side of the page (left and right, top and bottom).
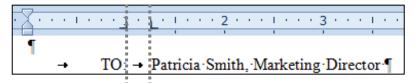
Paragraph Indents are the little triangles that show where the first line, the left edge, and the right edge of a paragraph are located.

Tab Stops are locations where you want text to line up. When you tap the **Tab** key the text moves to line up with a tab stop.

Type of Tab Stop
Click to Change   First Line   Left (Hanging)   Tab Stops   Right
Margin   Indent   Indent   Right   Left   Center   Decimal   Indent   Margin

Dr. → Terry   →   Ann → Lamb   →   Blacksmith   →   0.3212¶   Backward P
Ms. → Adeline   →   Sylvia → Robertson → Student   →   15.234¶   shows where
Mr. → John   →   Paul → Ozols   →   Lecturer   →   365.2¶   Enter Key
Arrows show where Tab Key was tapped   was tapped

In the above, notice how the

- middle names (Ann, Sylvia, Paul) are lined up on the **right**;
- last names (Lamb, Robertson, Ozols) are lined up on the **left**;
- occupations (Blacksmith, Student, Lecturer) are lined up in their **middles**;
- numbers are lined up on their **decimal** points.

1. Select the 7 lines starting with the line that contains **TO** and ending with the line that contains **DATE**. Set a right tab stop at 1 inch and a left tab stop at 1.25 inches.

2. Click just to the left of **P** in **Patricia** and then tap **Tab**. It looks like nothing happened! Now, click just to the left of the **T** in **TO:** and tap **Tab**. Notice how the colon in **TO:** lines up with the right tab stop and the **P** in **Patricia** lines up with the left tab stop.

¶
→   TO: → Patricia·Smith,·Marketing·Director·¶

Remember, the **Tab stops** are the little markers on the ruler ⊡ and ⊡ showing where the text will be aligned while the **Tabs** are the little arrows → that show where the **Tab** key was tapped to move the text in the body of the document.

3. Repeat this procedure for the **FROM**, **SUBJECT**, and **DATE** lines.

4. Click to the right of the tab arrow in the **DATE** line.

5. Insert the **PrintDate** field, which will display the date the memo was printed (**Insert**, **Text**, **Quick Parts**, **Field**). Set the date format to show the day, month, date, and year.

6. Click **OK**. The field may display **XXX, XXX 0, 0000** because you have not yet printed the document. When you print it the proper date will appear.
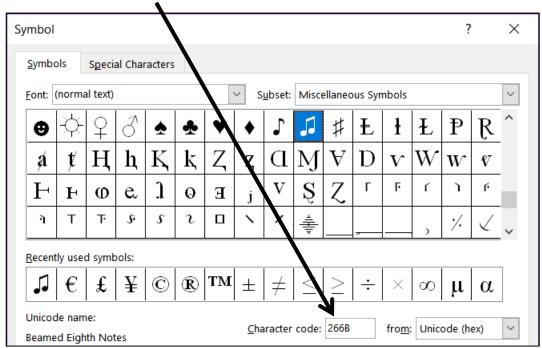
7. Tap **Alt + F9** to see the field code.

8. Tap **Alt + F9** again to see the result.

f. Click in the paragraph that begins with **The concept for the new...** and set the first line indentation to 0.25 inch. You can do this by right-clicking the paragraph and then selecting **Paragraph** from the shortcut menu or by sliding the upside down triangle ▽ on the left side of the ruler to 0.25.

g. Click in the paragraph that begins **I need to schedule...**. Tap **Ctrl + y**. This is the shortcut for the **Repeat** command. It repeats your last action or text entry. The first line indent is set to 0.25 inch.

h. Move the insertion point to the left of the first word of the paragraph that begins **Be prepared to discuss**. You are to insert a bullet here without using the automatic bulleted list feature. Like many of Word's automated features, the automatic bulleted list feature can save time but it also can be annoying and do things behind your back that you do not want.

1. On the **Insert** tab, in the **Symbols** group, click **Symbol** and then click **More Symbols**.

2. In the dialog box, if necessary click the **Symbols** tab.

3. From the **Font** box drop-down menu, select **(normal text)**

4. From the **Subset** box drop-down menu, select **Miscellaneous Symbols**.

5. Click the beamed eighth notes, . If you have trouble finding it, type **266B** in the **Character code** box near the bottom of the window.

The lower left corner of the dialog box says you have selected **Beamed Eighth Notes** and it gives you the option of creating a **Shortcut Key** for this symbol. Let's do that so that if you want to insert this symbol again all you have to do is tap the shortcut.

6. Click **Shortcut key**.

7. Click inside the box under **Press new shortcut key** and then tap **Alt + n** (**n** for note).

    Notice that **Alt + n** currently is **[unassigned]**. That means it is not used by Word for any other shortcut. Always be sure to check this so you don't accidently reassign a shortcut to a different action (unless you want to).

8. Click **Assign**.

9. Click **Close**.

10. Click **Insert** and then click **Close**. The **Beamed Eighth Notes** are inserted.

11. Tap **Tab** to move the text **Be prepared to discuss…** to the next tab stop.

12. Follow the same procedure, or use the new shortcut key, **Alt + n**, to insert the **Beamed Eighth Notes** just to the left of **Have ready in...**.

13. Select the two paragraphs you just worked on and use your **mouse** to slide the indent markers on the ruler as follows:

First line indent ▽ to 0.25 inch

Left indent (handing indent) △ to 0.5 inch.

Right indent △ to 5.5 inches.

♪ Be prepared to discuss in detail your ideas concerning the layout of the brochure. It is a nice piece that we can be proud of. IMPORTANT!

14. For the two paragraphs you just worked on, set a right tab stop with a dot leader at 5.5 inches by doing the following:

Select the two paragraphs,

Right-click and select **Paragraph**,

Click the **Tabs…** button,

Type **5.5** in the **Tab stop position** box,

Click **Right** in the **Alignment** group,

Click **2….** in the **Leader** group,

Click the **Set** button.

15. Click **OK**.

16. In the first of the two paragraphs, click to the right of the words **proud of.** tap the **Tab** key, and then type **IMPORTANT!**

> ♪ Be prepared to discuss in detail your ideas concerning the layout of the brochure. It is a nice piece that we can be proud of. .... IMPORTANT!

Dot leader

Depending on how your computer is set up, you might have noticed that the word **Be** in the first bulleted paragraph has a blue squiggly underline. Word does this to alert you that the grammar might not be correct. It is like Word asking you "Are you sure this is the word you want?" In this case, it is correct as is.

i. Use tabs to align the items in the list at the bottom of the document.

    1. The items are separated by a comma and a space. Replace the comma and space by a **TAB**. You can do that in one of two ways:

       • Use your mouse and the **TAB** key and make the changes one by one. This is easy but soooo unsophisticated and takes time.

       • OR, you can select the four lines, tap **Ctrl + h**, type a comma and a space in the **Find what** box, type the **TAB** code, **^t**, in the **Replace with** box, and click **Replace All**. Twelve replacemets will be made. When asked if you want to continue from the top of the document, click **No**.

Little arrow shows TAB key was tapped.

> Style → Colors→Price → Thickness¶
> Regular → one·color → 4 → .000008¶
> Folded·two·color → 5.25 → 11.6¶
> Multi-stapled→four·color → 13.3 → 8.1¶
> ¶

    2. On the ruler, insert the following tab stops:

       Right tab stop at 2 inches ⌐

       Left tab stop at 2.5 inches ∟

       Decimal tab stops at 4 and 5 inches. ⊥

       Bar tab stop at 5.5 inches. |

    3. Click at the left of each line and tap the **TAB** key to right align the first word of each line.

> → Style → Colors → Price → Thickness¶
> → Regular → one·color → 4 → .000008¶
> → Folded → two·color → 5.25 → 11.6¶
> → Multi-stapled → four·color → 13.3 → 8.1¶
> ¶

j. Changing the locations of the tab stops is easy. To see how this works, do the following for the above list:

   1. Select the four lines you just worked on.

   2. Move the right tab stop to 1 inch (click it and drag to the left).

   3. Move the left tab stop to 2 inches and set a dot leader for this tab (double-click any tab stop to open the **Tabs** dialog box).

   4. Change the decimal tab stop at 4 inches to a left tab. To do that, click the tab stop and drag it down off the ruler. Then, set the tab type to **Left** and click at 4 inches. Notice that when you do this the numbers in the column no longer line up on their decimal points.

   5. Move the bar tab to 3 inches.

   6. Select only the line with the titles and change the decimal tab at 5 inches to a left tab at 4.75 inches.

l. Put in some text boxes to highlight parts of the memo.

   1. Insert a text box (**Insert**, **Text**, **Text Box**, **Draw Text Box**).

   2. Type the text **Decimals lined up** and make it Arial Black 14 point red.

   3. Make the text box border red 3 pt and **Format** the **Shape Fill** to **No Fill**.

   4. Adjust the position and size of the text box so its box surrounds the last column of numbers.

   5. Insert an oval and place it around the second column of numbers.

   6. Set the oval to have no fill.

   7. Make the border 3 pt and blue.

   8. Adjust the position and size so the oval surrounds the second column of numbers

   9. Insert a **Cloud Callout** (**Insert**, **Illustrations**, **Shapes**, **Callouts**).

  10. Type **Decimals NOT lined up** and make the font Arial Black 14 pt white.
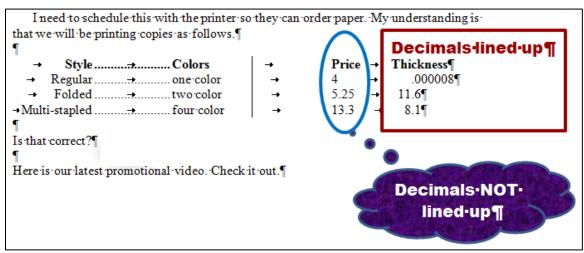
  11. Set the **Fill** to **Texture**, **Purple mesh**.

12. Position the callout as shown below. To move the pointer part of the callout, click the little yellow box and drag it.

I need to schedule this with the printer so they can order paper. My understanding is that we will be printing copies as follows.¶

¶

	Style	Colors		Price	Thickness¶
→	Regular	one color	→	4	.000008¶
→	Folded	two color	→	5.25	11.6¶
→Multi-stapled		four color	→	13.3	8.1¶

Decimals lined up¶

Decimals NOT lined up¶

¶
Is that correct?¶
¶
Here is our latest promotional video. Check it out.¶

m. When you fill out a form or write a paper for publication you typically are given a limit on the number of words or characters you may use. Word has a feature to help you determine this.

    1. Be sure nothing is selected and, on the **Review** tab, in the **Proofing** group, click **Word Count**. You should see that this document has **about** 159 words (plus or minus a few).

    2. Use the **Snipping Tool** to take a screen shot of the **Word Count** window.

    3. Paste the screen shot into the document and move it to the bottom right of the page.

n. Insert a video on designing a brochure by doing the following:

    1. Move to the end of the document and tap **Enter**.

    2. On the **Insert** tab, in the **Media** group, click **Online Video**.

    3. Type **designing a brochure** in the search box next to **You Tube**.

    4. Tap **Enter**.

    5. Click one of the videos.

YouTube
278841 search results for designing a brochure

designing a brochure

    6. Click **Insert**.

    7. Make the height of the video 3 inches and position it so it is just below the last sentence of the document. Click the video to see how it works.

o. Insert a motivational shape by doing the following:

1. Just to the right of **Is that correct?**, on the **Insert** tab, in the **Shapes** group, under **Basic Shapes**, select **Smiley Face**.

2. Drag the cross to open the smiley face.

3. Make the height and width **0.5** inch.

4. Apply the **Preset 10 Shape Effect**.

5. Make the fill color **red**.

6. Change the **Wrap Text** to **In Front of Text** and move the shape so it is centered on the line.

o. Tap **Ctrl + p** and compare the preview with the key. Make needed corrections, print the document, save it, and close it.

Step 4 Submit You now are ready to submit your homework for grading.

1. Put your 4 homework papers in the following order:

    HW07-1 1A Flyer With Field Codes Showing
    HW07-2 1B Programs (page 1 only)
    HW07-3 Agenda
    HW07-4 Brochures

2. Cut out Submission Form 7 and put it on the top of the papers.

3. Staple the papers in the upper left corner.

4. Turn in the packet by the due date.

Step 5 Backup Now would be a good time to backup your files.

Project 8
Word Chapter 2: Creating Letters and Tables

Step 1 Read Read the introductory material on page 169 of the textbook.

Step 2 Activities Turn on the computer and do the following:

Project 2A: Start at the top of page 171.

Instead of Activity 2.01 step 1 do the following:

1. Navigate to your **Word Files** folder and open **w02A_Experience**, which is one of the files you downloaded at the start of the term.

2. Save the file in your **Word Files** folder using the name **Lastname_Firstname_2A_Resume**

3. To save time, instead of typing the text shown in several places in the textbook you may copy the text from the file **HW08-1 Resume Extra Text Original** and paste it in the locations described in the textbook:

   Page 173, **Activity 2.02**, Step 2
   Page 173, **Activity 2.02**, Step 3
   Page 176, **Activity 2.03**, Step 11
   Page 179, **Activity 2.06**, Step 4

4. The **Resume Assistant** is mentioned in Step 4 on page 174. That is NOT installed on the classroom computers so skip to Step 9.

5. Complete the rest of the Activities for this Project EXCEPT do **NOT** do steps 17 and 18 in **Activity 2.10** on page 186.

6. Do **NOT** do **Activity 2.11** on pages 186-187.

7. **Return here** when you have completed Project 2A on page 185.

> ***Do NOT do GO! With Google Docs***

Project 2B: When you have completed Project 2A, start at the top of page 191.

Instead of Activity 2.12 step 1 do the following:

1. Open a blank Word document and save it to your **Word Files** folder using the name **Lastname_Firstname_2B_Cover_Letter**

2. Complete the rest of the Activities for this Project EXCEPT do **NOT** do steps 8 and 9 in **Activity 2.20** on page 206.

3. Do **NOT** do **Activities 2.21 through 2.24** on pages 206-211.

4. **Return here** when you have completed Project 2B on page 206.
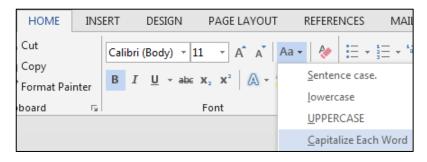
> ***Do NOT do GO! With Google Docs or GO! To Work***

Step 3 Homework After you have completed Projects A and B return here, do the following additional activities, and turn them in for grading.

HW08-1 Resume (Based on Project 2A)

Problem: How can you create a professional looking resume?

a. Open the document **Lastname_Firstname_2A_Resume**, which you created while following the directions in the textbook and saved on page 185.

b. Save the document to your **Word Files** folder using the name **HW08-1 HWID 2A_Resume_Done**

c. Make the following modifications.

   1. On the **Table Tools Layout** tab, in the **Table** group, if necessary, click **View Gridlines** so you can see the non-printing cell gridlines.

   2. In the first column, select from **OBJECTIVE** through **HONORS AND ACTIVITIES**.

   3. On the **Home** tab, in the **Font** group, click the **Change Case** button [Aa ▾] and select **Capitalize Each Word**.

   The letters are converted from all UPPERCASE so that each individual word is capitalized. This is really useful if you mistakenly tap the **CAPS LOCK** key and type a bunch of stuff that you did not want to be UPPERCASE.

d. Tap **Ctrl + p** and compare the preview with the key. Make needed corrections, print the document, save it, and close it.

HW08-2 Cover Letter (Based on Project 2B)

Problem: How can you create a cover letter that will catch the attention of the reader?

a. Open the document **Lastname_Firstname_2B_Cover_Letter**, which you created while following the directions in the textbook and saved on page 206.

b. Save the document to your **Word Files** folder using the name **HW08-2 HWID 2B_Cover_Letter_Done**

c. Modify the table in this document by doing the following:

   1. Select the first row of the table.

   2. Right-click and select **Insert**, **Insert Rows Above**.

Insert	▶	⊞ Insert Columns to the Left
Delete Rows		⊞ Insert Columns to the Right
⊞ Merge Cells		⊞ Insert Rows Above

   3. In the new top row, type **Program** in the left cell and **Duty** in the right.

   4. Select the entire table. On the **Home** tab, in the **Paragraph** group, click the down arrow next to the border icon [⊞ ▼] and select [Borders and Shading...]

   5. Click [Custom] so you can change individual cell borders without affecting others.

   6. Under **Color**, select **red**. Under **Width**, select **3 pt**. In the **Preview** section, **click** on the four borders of the table.

   7. Under **Style**, select **dashed**. Under **Color**, select **blue**. Under **Width**, select **1 pt.** In the **Preview** section, **click** on the inside horizontal and vertical lines.

8. Click **OK**.

9. Select row 1. On the **Home** tab, in the **Paragraph** group, click the down arrow next to the border icon and select **Borders and Shading**.

10. Click the **Shading** tab and select gray for the **Fill**.

11. Select column 1 and shade the background a light gray.

d. Tap **Ctrl + p** and compare the preview with the key. Make needed corrections, print the document, save it, and close it.

Setting up a resume is a necessary first step in finding a job while you are in school, and a must as graduation approaches. This project gave you some experience creating a resume that should help you get started using your own information. The next step is to make connections with employers and others who are working at jobs that might be of interest to you. "Networking" often is important in landing a job and in being effective once you are hired. One way to do that is through social networking sites like **Twitter**, **Instagram**, **Facebook**, and **LinkedIn**. Here are two links with some good information:

http://jobsearch.about.com/od/networking/a/socialmedia.htm

http://www.cehd.umn.edu/career/networking/social/default.html

HW08-3 Bill of Rights[27]

Problem: How can you reformat text from an email to make it easier to read?

During the debates on the adoption of the U.S. Constitution, its opponents repeatedly charged that the Constitution as drafted would open the way to tyranny (cruelty and injustice in exercising authority) by the central government. Fresh in their minds was the memory of the British violation of civil rights before and during the American Revolution. They demanded a ***bill of rights*** that would spell out the immunities of individual citizens. Several state conventions in their formal ratification of the Constitution asked for such amendments; others ratified the Constitution with the understanding that the amendments would be offered.

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[27] Adapted from http://www.archives.gov/exhibits/charters/charters.html

On September 25, 1789, the First Congress of the United States therefore proposed to the state legislatures 12 amendments to the Constitution that met arguments most frequently advanced against it. The first two proposed amendments, which concerned the number of constituents for each Representative and the compensation of Congressmen, were not ratified. However, Articles 3 to 12 were ratified by three-fourths of the state legislatures and they constitute the first 10 amendments of the Constitution. These amendments are collectively known as the **Bill of Rights**.

The amendments are necessarily brief and were designed to be applicable for centuries to come. It is the duty of the U.S. Supreme Court to interpret those rights in light of our current society. This is not easy. For example, the second amendment says "A well-regulated Militia, being necessary to the security of a free State, the right of the people to keep and bear Arms, shall not be infringed." In 1789 "Arms" were knives, swords, and front loading single shot muskets. Today "Arms" include assault weapons, bazookas, and rocket-propelled grenades. Should every citizen be allowed to own those, or only front loading muskets, or something in between?

a. Open the file **HW08-3 Bill of Rights Original**, which is one of the files you downloaded at the start of the term.

b. Save the document in the **Word Files** folder using the name **HW08-3 HWID Bill of Rights Done**

c. Insert a footer that contains the name of the file.

This copy of the **Bill of Rights** was received as a forwarded email. Instead of employing word wrap, the email program inserted paragraph marks at the end of each line. Your task is to reformat the document by removing the paragraph marks, restoring word wrap, and formatting the document to make it easier to read and more interesting to look at. This project will provide instruction and practice on using the powerful Find and Replace features of Word.

d. Center the first three lines of the document and change the font to Arial Black.

e. Make the first line 18 point.

f. If necessary, make the paragraph marks ¶ visible. Notice that most of the lines in the body of the text are separated by double paragraph marks. Replace the double paragraph marks with a space by doing the following:

1. Open the **Find and Replace** dialog box by tapping **Ctrl + h** (or, on the **Home** tab, in the **Editing** group, click **Replace**).

2. If the **More** button `More >>` is showing, click it to display the advanced options of the **Replace** feature. If the **Less** button `<< Less` is showing the advanced options are already displayed.

3. In the **Find What** box, type two paragraph codes: **^p^p** To type a circumflex, **^**, tap **Shift + 6**. The paragraph codes may also be selected from the **Special** menu `Special ▾`

4. In the **Replace With** box, type a space (tap the **Spacebar**).

5. Be sure that none of the boxes are checked and, unless it is dimmed, click the **No Formatting** button to be sure character formatting will be ignored.

Find and Replace

| Find | Replace | Go To |

Find what: ^p^p

Replace with: ⬅ **There is a blank space here but you cannot see it.**

6. Click **Replace All**. There should be 56 replacements.

7. Close **Find and Replace**.

g. Format the paragraphs by doing the following.

1. Right-click anywhere in the paragraph that begins **Amendment I** and choose **Paragraph**.

2. Type **12** in the **Spacing before** box. This will put some blank space before (above) each paragraph and help to visually separate the paragraphs.

3. Select **First line** from the drop-down menu under the word **Special**. Confirm that **0.5"** shows in the **By** box (if not, type it in). This will indent the first line of each selected paragraph.

Paragraph

Indents and Spacing | Line and Page Breaks

General

Alignment: Left

Outline level: Body Text ☐ Collapsed by default

Indentation

Left: 0"   Special: By:
Right: 0"   First line   0.5"

☐ Mirror indents

Spacing

Before: 12 pt   Line spacing: At:
After: 0 pt   Single

4. Click **OK**.

h. The document will be easier to read if you make each occurrence of the word **Amendment** into a heading. To do this, you can use one of Word's built in heading styles.

1. Tap **Ctrl + Home** to move the insertion point to the top of the document and then tap **Ctrl + h**.

2. In the **Find What** box, type **Amendment**

With the insertion point still in the **Find What** box, click the **Match case** box to ensure that words like **amendment** (lowercase **a**) will not match the criteria.

Also click the **Find whole words only** box to ensure that words like **Amendments** (it has an **s** on the end) will not match the criteria.
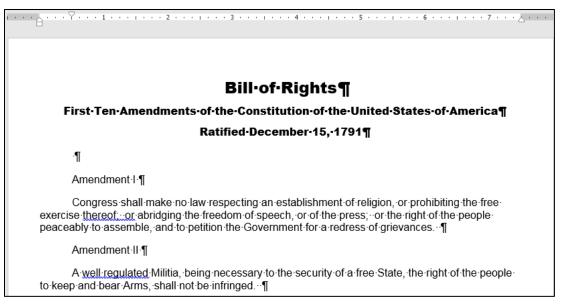
3. In the **Replace With** box, type **^pAmendment**. The **^p** is equivalent to tapping the **Enter** key before each occurrence of **Amendment** so they will appear on their own lines.

4. Click **Replace All**. There should be 10 replacements. Click **OK**.

5. In the **Find What** box, type six spaces (tap the **Spacebar** 6 times). If necessary, uncheck the **Match case** and **Find whole words only** boxes.

6. In the **Replace With** box, type a single paragraph code: **^p**

7. Click **Replace All**. There should be 10 replacements. Click **OK**.
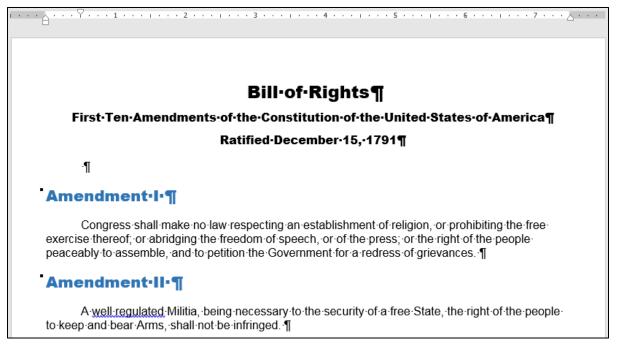
i. Use **Replace** to change all occurrences of two spaces to one space. To do that, put two spaces in the **Find What** box, one space in the **Replace With** box, and click **Replace all**. There should be 16 replacements. Click **OK**.

j. Apply a heading style to each line that contains the word **Amendment** by doing the following:

1. In the **Find What** box, type **Amendment**

2. With the insertion point still in the **Find What** box, make sure the **Match case** and **Find whole words only** boxes are checked.

3. In the **Replace With** box, clear any text or spaces so that the box is blank. Be sure the insertion point is in that box.

4. At the bottom of the **Find and Replace** window, click the **Format** button and then select **Style**. This will display a list of the styles available to this document.

5. Scroll down and click **Heading 1**.

6. Click **OK**.

7. Click **Replace All**. There should be 10 replacements. Click **OK**.
   All the amendment headings are changed to the **Heading 1** style.

k. To see how replace works within paragraphs, tell Word to find only words that exactly match **The** by doing the following:

1. Tap **Ctrl + Home** to move to the top of the document.

2. In the **Find What** box, type **The** Confirm that the **Find whole words only** and the **Match case** boxes are checked. This will ignore words like **the**, which is not capitalized, and **these** and **thereof** ,which have **the** embedded within them.

3. Click inside the **Replace With** box and delete any text. Click **No Formatting** to remove the reference to the **Heading 1** style.

4. In the lower left corner of the **Find and Replace** window, click **Format** and select **Font**.

5. Change the font to red Arial Black. Click **OK**.

Find and Replace

Find	Replace	Go To

Find what: The

Options: Match Case, Whole Words
Format:

Replace with:

Format: Font: Arial Black, Font color: Red

6. Click **Replace All**. There should be 3 changes. Click **OK** and then close **Find and Replace**.

7. Save the document but do not close it.

l. Excel sometimes can be used to help edit text for Word documents. To see how this works, do the following:

1. Navigate to your **Word Files** folder. Right-click the file name **HW08-3 List of 1789 Senators Original** and select **Open with Adobe Acrobat**.

HW08-3 List of 1789 Senators Original   **Open with Adobe Acrobat DC**

Do **NOT** double-click the file icon. If you do, it may open in a web browser and will not be useful to us.

This is a **pdf** file that contains the names of the US Senators in March 1789 when the Bill of Rights was proposed. I downloaded these names from

http://www.senate.gov/artandhistory/history/common/briefing/senators_chronological.htm

This file is in **pdf** format so it can be easily read on any computer. You want to insert these names at the end of the Bill of Rights document and in the form **FirstName LastName**.

As will be explained on page 258 in **Activity 3.14** of the textbook, you can open a pdf file directly from within Word and have Word convert it to a Word document so you can edit it, but that conversion usually is not perfect. For this project we need only a small part of the file so we will use copy and paste.

2. Scroll to page 2 and select the lines with the names of the senators as of March 4, 1789 (**Bassett** through **Wingate**).

FIRST CONGRESS
MARCH 4, 1789, TO MARCH 3, 1791

Start of Initial Senate Service	Name/Party	End of Service	Rank
* * * 1789 * * *			
March 4	Bassett, Richard (Anti-Admin/Pro-Admin-DE)	March 3, 1793	1
	Butler, Pierce (Pro-Admin/Anti-Admin/R-SC)	October 25, 1796	2
	(Served again 1802)		
	Carroll, Charles (Pro-Admin-MD)	November 30, 1792	3
	Dalton, Tristram (Pro-Admin-MA)	March 3, 1791	4
	Ellsworth, Oliver (Pro-Admin/F-CT)	March 8, 1796	5
	Elmer, Jonathan (Pro-Admin-NJ)	March 3, 1791	6
	Few, William (Anti-Admin-GA)	March 3, 1793	7
	Grayson, William (Anti-Admin-VA)	March 12, 1790	8
	Gunn, James (Anti-Admin/F-GA)	March 3, 1801	9
	Henry, John (Pro-Admin/F-MD)	November 28, 1797	10
	Izard, Ralph (Pro-Admin-SC)	March 3, 1795	11
	Johnson, William S. (Pro-Admin-CT)	March 4, 1791	12
	Langdon, John (Pro-Admin/Anti-Admin/R-NH)	March 3, 1801	13
	Lee, Richard Henry (Anti-Admin-VA)	October 8, 1792	14
	Maclay, William (Anti-Admin-PA)	March 3, 1791	15
	Morris, Robert (Pro-Admin-PA)	March 3, 1795	16
	Paterson, William (Pro-Admin-NJ)	November 13, 1790	17
	Read, George (Pro-Admin-DE)	September 18, 1793	18
	Schuyler, Philip John (Pro-Admin-NY)	March 3, 1791	19
	(Served again 1797)		
	Strong, Caleb (Pro-Admin/F-MA)	June 1, 1796	20
	Wingate, Paine (Anti-Admin-NH)	March 3, 1793	21

---

3. Tap **Ctrl + c**.

4. Open a new blank *Excel* file. Be sure cell **A1** is active. On the **Home** tab, in the **Clipboard** group, click the **Paste** down arrow, and select **Keep Text Only**.

5. Autofit column **A**. As you can see, all the data are in **A1:A23**.

   Note: If this paste did not work correctly, close the file and then open **HW08-3 List of Senators if pdf does not work** and use that one.

6. Delete the following so all rows have the same structure:

   • In row 1, delete **March 4 <space>**

   • Delete the entire row 3, which contains **(Served again 1802)**. Now, **Carroll, Charles** is in row 3.

   • Delete the entire row 20, which contains **(Served again 1797)**.

   Now, all 21 remaining rows have this same pattern:

   LastName, FirstName (stuff in parentheses) Date Number

7. In **B1** type **Richard** and tap **Enter**.

8. On the **Home** tab, in the **Editing** group, click the **Fill** down arrow and select **Flash Fill**. This will enter the first names in column **B**.

9. In **C1** type **Bassett** and tap **Enter**.

10. On the **Home** tab, in the **Editing** group, click the **Fill** down arrow and select **Flash Fill**. This will enter the last names in column **C**.

	A	B	C
1	Bassett, Richard (Anti-Admin/Pro-Admin-DE) March 3, 1793 1	Richard	Bassett
2	Butler, Pierce (Pro-Admin/Anti-Admin/R-SC) October 25, 1796 2	Pierce	Butler
3	Carroll, Charles (Pro-Admin-MD) November 30, 1792 3	Charles	Carroll

11. In **D1** enter a formula to concatenate **FirstName space LastName**.[28]

12. Fill the formula down to row **21**.

13. Copy **D1:D21**.

14. Switch back to **HW08-3 HWID Bill of Rights Done**

15. Tap **Ctrl + End** to go to the end of the document.

16. Tap **Enter**.

17. Type **Names of Senators in March, 1789** and, on the **Home** tab, in the **Styles** group, click the **Heading 1** style.

18. Tap **Enter**.

19. Use **Paste Special** to paste the names as text only.

20. Select the names and remove the space before each paragraph.

21. Save the document **HW08-3 HWID Bill of Rights Done** but do not close it.

22. Close **Excel** without saving, and close **Adobe Acrobat**.

m. If your document will be read online it may be useful to include hyperlinks to web sites so that the user can go directly there with a single mouse click. The process in Word is similar to the one you used in Excel.

1. In the blank line under **Ratified December 15, 1791**, type the following all on one line:

   The Constitution may be viewed at http://www.archives.gov/exhibits/charters/constitution.html

2. Remove the first line indent, if necessary.

---

[28] The formula is **=B1&" "&C1**

3. Select the web address and tap **Ctrl + k**. This is the shortcut for **Insert Hyperlink**. You can also click **Hyperlink** on the **Insert** tab.

The top box shows the text that will be displayed. Leave that as is so if someone is reading a printed copy he will be able to see what to type to get to the web page. The bottom box has the actual web address. That is where you want to send the user when she clicks the link in the online document.

4. Click **OK**. The hyperlink is created and the style for the web address is automatically set to **Hyperlink** (underlined blue text). Point to the hyperlink and a screen tip will appear.

5. Hold down the **Ctrl** key and click the hyperlink. Your web browser will open and take you to the web site.

6. Right-click the image of the Bill of Rights and select **Copy Image**.

7. Close the web browser.

8. Paste the image in the second page of the Bill of Rights document. Change the height to 4 inches and set the **Wrap Text** to **In Front of Text**. Move the image so that it is in the lower right corner of the page.

n. Put some text in the background of the document.

1. On the **Design** tab, in the **Page Background** group, click the **Watermark** down arrow and select **Custom Watermark**.

2. Click the button to the left of **Text** watermark.

3. In the **Text** box type **We the People**

4. In the **Font** box, select the **Script MT Bold** font (if that is not available, pick another font).

5. In the **Color** box, select dark red and leave **Semitransparent** checked.

Printed Watermark	?	X
○ No watermark		
○ Picture watermark		
Select Picture...		
Scale: Auto ☑ Washout		
● Text watermark		
Language: English (United States)		
Text: We the People		
Font: Script MT Bold		
Size: Auto		
Color: ☑ Semitransparent		
Layout: ● Diagonal ○ Horizontal		
Apply OK Cancel		

6. Click **OK**.

o. Tap **Ctrl + p** and compare the preview with the key. Make needed corrections, print *page 2 only*, save the document and close it.

HW08-4 Park

Problem: How can you create an eye-catching memo that includes tables?

a. Open the document **HW08-4 Park Original**, which is one of the files you downloaded at the start of the term.

b. Save the document in the **Word Files** folder using the name **HW08-4 HWID Park Done**.

c. Insert a footer that contains the name of the file.

d. To the right of **DATE** in line 3, enter the **Date** field code. Use the format **Day, Month Date, Year**.

e. Select the five lines starting with **Days, Open, Closes** through **Sunday…**

   1. Set the left and first line indents to 0.5"

   2. Change the commas to tabs. A quick way to do this is to select the lines and then use the **Replace** feature with a comma in the **Find what** box and the tab code, **^t**, in the **Replace with** box.

   3. Set a right tab stop at 3" and a left tab stop at 3.75". Make the tab stops have dot leaders.

f. Select the 5 lines of text starting with the line that has **Ave**, **One Day**, **Season Pass**. Convert the text to a table (**Insert**, **Table**, **Convert Text to Table**). If necessary, change the font to 12 pt Arial

g. Format the table so that it looks like the following.

   The top row and first column are shaded.

   There is no top and left border in the top left cell.

   The text is centered within the cells.

   The width of each column is 1.2 inches and the table is **centered** between the margins (select the whole table and click the **Center** icon in the **Paragraph** group of the **Home** tab).

	Ave	One Day	Season Pass
Toddler	3 & under	Free	Free
Junior	4 to 11	$19	$89
Adult	12 to 59	$39	$129
Senior	60+	$29	$99

h. Tap **Ctrl + p** and compare the preview with the key. Make needed corrections, print the document, save it, and close it.

HW08-5 Sales

Problem: How can you insert a large amount of data into a table, sort the data, and format the table?

a. Open the document **HW08-5 Sales Original**, which is one of the files you downloaded at the start of the term.

b. Save the document in the **Word Files** folder using the name **HW08-5 HWID Sales Done**.

c. Insert a footer that contains the name of the file.

d. Select the lines starting at **Date** and all the way down to the last line of data. Convert the data to a table.

e. With the table selected, on the **Table Tools Layout** tab, in the **Cell Size** group, select the **AutoFit** down arrow, and select **AutoFit Contents**.

f. Format the table so numbers and dates are aligned on the right and headings are centered.

g. With the table still selected, on the **Home** tab, in the **Paragraph** group, click the **Sort** button. Be sure **Header row** is selected in the **My list has** area. Sort the data by **Date** in **Ascending** order.

h. Click **OK**. The table should be sorted by the dates in the first column.

i. Sort the table again, but this time by **Sales Rep** and, within **Sales Rep**, by **Amount** by doing the following:

   1. Select the entire table and, on the **Home** tab, in the **Paragraph** group, click the **Sort** button.

   2. Be sure **Header row** is selected in the **My list has** area. In the **Sort by** box, select **Sales Rep**. Notice that the **Type** is automatically changed to **Text**.

   3. In the first **Then by** box, select **Amount**. If the **Type** is not automatically changed to **Number**, make this change.

   4. Choose **Descending** order for the **Amount** column.

5. Click **OK**. The data are sorted by **Sales Rep**, in alphabetical order and, for each **Sales Rep**, the data are listed by amount from largest to smallest.

Date	Product	Amount	Sales Rep	Points
29 Jan	Savings	6,300	Betsey	44
12 Jan	Savings	6,000	Betsey	42
16 Jan	Certificate	5,000	Betsey	400
26 Jan	Certificate	150	Betsey	120
13 Jan	Certificate	5,000	Carolyn	200
22 Jan	Credit	2,000	Carolyn	16
30 Jan	Savings	1,450	Carolyn	10

j. Calculate the sum of the **Amounts** and the average of the **Points** by doing the following:

1. Click the lower right cell and tap the **Tab** key. This inserts a new row.

2. In the cell at the bottom of the **Amount** column, type **Sum =** and a space.

3. On the **Table Tools Layout** tab, in the **Data** group, click the **Formula** button. Notice the formula **=SUM(ABOVE)** shows. This means that the sum of the numbers above the cell will be calculated.

Within these Word formulas, you can use positional arguments to indicate which numbers you would like summed. These include **LEFT**, **RIGHT**, **ABOVE**, and **BELOW**.

4. Click **OK**. The sum should be **115,950**.

5. In the cell at the bottom of the **Points** column, type **Ave =** and a space.

6. On the **Table Tools Layout** tab, in the **Data** group, click the **Formula** button. Delete the formula that is there and type **=average(above)**.

7. Click **OK**. The average should be **281.88**.

If the numbers change, you will have to update the formulas manually. It is not automatic like in Excel.

8. In the last cell of the **Amounts** column, change **700** to **750**. Select the cell with the **Sum** in it and tap the **F9** key. This updates the selected fields. The cell should now show **Sum = 116,000**.

6 Jan	Auto Loan		750	Sharon		177
		Sum = 116,000			Ave = 281.88	

k. Format the table borders by doing the following:

1. Center the table on the page.

2. Bold the column titles.

3. Put a heavy (3 pt width) red border around the outside of the entire table and a light (1 pt width) red dashed border on each cell on the inside.

4. Put a red 3 pt width double line border between the column headings and the data.

Sales Record for January for First National Bank

Date	Product	Amount	Sales Rep	Points
29 Jan	Savings	6,300	Betsey	44
12 Jan	Savings	6,000	Betsey	42

5. Remove part of the border on the two cells in the last row, as shown below. You will have to select the cells whose borders you want modified and then open **Borders and Shading** and change the borders individually.

5 Jan	Savings	1,000	Sharon	70
6 Jan	Auto Loan	750	Sharon	177
		Sum = 116,000		Ave = 281.88

l. Tap **Ctrl + p** and compare the preview with the key. Make needed corrections, print the document, save it, and close it.

HW08-6 Infections Memo

Problem: How can you create a memo that includes a table of data and a graph of those data?

Excel tables and charts can be inserted into Word documents. Follow these directions to copy a data table and chart from an Excel workbook.

a. Open the document **HW08-6 Infections Memo Original**, which is one of the files you downloaded at the start of the term.

b. Save the document in the **Word Files** folder as **HW08-6 Infections Memo Done**

c. Insert a footer that contains the name of the file.

d. Replace **<name>** with the field code for **UserName** (**Insert**, **Text**, **Quick Parts**, **Field**, **UserName**). This will insert the name of the owner of the computer you are using (this may not be you if you are using a friend's computer or a computer in a lab).

e. Replace **<creation date>** with the field code for the present date. Use the format that shows the day, month, date, and year. If you want to see the field codes, tap **Alt + F9**.

To:	Infectious Diseases Foundation
From:	{ USERNAME * MERGEFORMAT }{ USERADDRESS * MERGEFORMAT }
Date:	{ CREATEDATE \@ "dddd, MMMM d, yyyy" * MERGEFORMAT }
Re:	Data you requested

To hide the field codes tap **Alt + F9** again.

f. Copy information from an Excel workbook and paste it into the memo by doing the following:

   1. Open the Excel file **HW08-6 Infections Data Original**, which is one of the files you downloaded at the start of the term and is in the **Word Files** folder. You cannot open the file while you are in Word. Either start Excel and then open the file, or open your **Word Files** folder in Windows Explorer and double-click the file name.

   2. Click the **Infections Data** tab and select **A1:C22**.

   3. Tap **Ctrl + c** to copy the data table.

   4. Switch to Word and tap **Ctrl + End** to move the insertion point to the bottom of the document.

   5. Tap **Ctrl + v** to paste the data as a table into the memo.

   6. Switch to Excel and click the **Infections Chart** tab.

   7. Select the **Chart Area** (**Chart Tools Format**, **Current Selection**, **Chart Area**).

   8. Tap **Ctrl + c** to copy the chart.

   9. Switch to Word and, on the **Home** tab, in the **Clipboard** group, click the **Paste** down arrow, select **Paste Special**, and select **Picture (JPEG)**.

      This inserts the chart as a picture that cannot be altered. If you had wanted the user to be able to edit the chart, you would have chosen **Microsoft Excel Chart Object**. That is NOT what we want.

g. Adjust the chart as follows:

   1. Click once on the edge of the chart to select it.

   2. Click the **Layout Options** button and select **In Front of Text**.

   3. Change the **Width** to 5 inches. The height should automatically change to 3.62 inches.

   4. Click the edge of the chart and drag it so that it is just to the right of the table.

   5. Close Excel.

h. Insert a video by doing the following:

    1. Tap **Ctrl + End** to move to the bottom of the document

    2. On the **Insert** tab, in the **Media** group, click **Online Video**.

    3. In the box next to You Tube, type **What You Need To Know About Infectious Disease**

    4. Tap **Enter**.

    5. Select one of the videos and tap **Enter**. I chose this one:

    6. Make the width of the video 4 inches and move it under the chart.

i. Tap **Ctrl + p** and compare the preview with the key. Make needed corrections, print the document, save it, and close it.

Step 4 Submit You now are ready to submit your homework for grading.

    1. Put your 6 homework papers in the following order:

        HW08-1 2A Resume
        HW08-2 2B Cover Letter
        HW08-3 Bill of Rights (page 2 only)
        HW08-4 Park
        HW08-5 Sales
        HW08-6 Infections Memo

    2. Cut out Submission Form 8 and put it on the top of the papers.

    3. Staple the papers in the upper left corner.

    4. Turn in the packet by the due date.

Step 5 Backup Now would be a good time to backup your files.

Project 9
Word Chapter 3: Research Papers, Newsletters, and Mail Merge

Step 1 Read Read the introductory material on page 235 of the textbook.

Step 2 Activities Turn on the computer and do the following:

Project 3A: Start at the top of page 237.

Instead of Activity 3.01 steps 1 through 6 do the following:

1. Navigate to your **Word Files** folder and open **w03A_Quantative_Technology**, which is one of the files you downloaded at the start of the term.

2. Save the file in your **Word Files** folder using the name **Lastname_Firstname_3A_Quantative_Technology**

3. Start on at **Activity 3.02** on page 238 and do the rest of the Activities for this Project EXCEPT do **NOT** do **Activity 3.12** or **3.13** or **3.14** on pages 251-258. Save your file after completing step 8 of **Activity 3.11**.

4. **Return here** when you have completed Project 3A on page 251.

> ### *Do NOT do GO! With Google Docs*

Project 3B: When you have completed Project 3A, start at the top of page 262.

Instead of Activity 3.15 step 1 do the following:

1. Navigate to your **Word Files** folder and open **w03B_Environment_Newsletter**, which is one of the files you downloaded at the start of the term.

2. Save the file in your **Word Files** folder using the name **Lastname_Firstname_3B_Environment_Newsletter**

3. Complete the rest of the Activities for this Project EXCEPT do **NOT** do steps 13 and 14 in **Activity 3.26** on page 279.

4. Do **NOT** do **Activities 3.27** or **3.28** or **3.29** on pages 280-284.

5. **Return here** when you have completed Project 3B on page 279.

> ### *Do NOT do GO! With Google Docs or GO! To Work*

Step 3 Homework After you have completed Projects A and B return here, do the following additional activities, and turn them in for grading.

HW09-1 Research Paper (Based on Project 3A)

Problem: How can you create a short research paper?

a. Open the document **Lastname_Firstname_3A_Quantitative_Technology**, which you created while following the directions in the textbook and saved on page 251.

b. Save the document to your **Word Files** folder using the name **HW09-1 HWID 3A_Quantitative_Technology_Done**

c. Tap **Ctrl + p** and compare the preview with the key. Make needed corrections, print ***page 4 only***, save the document and close it.

HW09-2 Newsletter (Based on Project 3B)

Problem: How can you create a newsletter?

a. Open the document **Lastname_Firstname_3B_Environment_Newsletter**, which you created while following the directions in the textbook and saved on page 279.

b. Save the document to your **Word Files** folder using the name **HW09-2 HWID 3B_Environment_Newsletter_Done**

c. Tap **Ctrl + p** and compare the preview with the key. Make needed corrections, print the document, save it, and close it.

HW09-3 Home Address Labels

Problem: How can you create address labels?

In this project you will create labels that have your campus address. You can put these on your books, USB drive, etc. to identify them as yours. These are not mail **merge** labels because there is no data file involved.

a. Start Word and open a blank document.

   1. On the **Mailings** tab, in the **Create** group, click **Labels**.

   2. Click the **Labels** tab and then **Options**. Under **Label vendors**, select **Avery US Letter**.

3. Under **Product number**, select **5160 Address Labels**.

Notice under **Printer information**, **Page printers** is checked and **Bypass Tray** is shown. That assumes you will insert blank label sheets one at a time in the Bypass Tray. If you want to print several sheets you can select **Continuous-feed printers**. You will fix this later for use in the classroom printer.

4. Click **OK**. In the **Address** box, type the following using your **HWID**:

Joe College HWID
Room 203 Bailey Hall, St. Paul Campus
Campus mail code: 6017
651-555-1234
coll001@umn.edu

5. Click **New Document**. A new document with the mailing labels is produced.

b. Save the **New Document** in the **Word Files** folder using the name **HW09-3 HWID Home Address Labels Done**

c. Print the document on regular paper by doing the following:

1. On the **Layout** tab, in the **Page Setup** group, click the launch dialog button.

2. Click the **Paper** tab.

3. Under **Paper source** change the setting to **Auto Tray Select** so the printer will not wait until you put a blank sheet of labels in its bypass tray. You will print on regular paper from the normal source.

4. Click **OK**. If you get a caution message about the margins being outside the printing area, click **Ignore**.

You are going to print on regular paper rather than actual labels. When you want to print actual labels you should print on regular paper first and then check to see if the printed labels line up properly with the labels on the sheet. Often, you will have to make minor adjustments due to differences in printer characteristics. Printing on paper first will save you the cost of label sheets you might have to throw away.

d. Tap **Ctrl + p** and compare the preview with the key. Make needed corrections, print the document, save it, and close it. Don't worry if the right vertical gridline does not show.
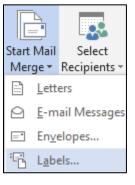
HW09-4 Name Tag Labels

Problem: How can you create individual name tags?

In this project you will create labels to be used as name tags at a college orientation session.

a. Create the blank labels.

1. Start Word.

2. On the **Mailings** tab, in the **Start Mail Merge** group, click **Start Mail Merge** and select **Labels**.

    Notice you are not selecting **Labels** from the **Create** group, which makes all the labels the same. For this project, you want each label to have different information.

3. Be sure the Label vendor is **Avery US Letter**. Select the **5095 Adhesive Name Badges**. These are described in detail on the Avery.com web site.

4. In the **Printer information** area, in the **Tray** box, select **Auto Tray Select** so the printer will not wait until you put a piece of paper in its bypass tray.

5. Click **OK**.

b. Save the document to your **Word Files** folder using the name
    HW09-4 HWID Name Tag MAIN Done

    It is good practice to use the word **MAIN** in the name of a mail merge file to indicate that this is the main document into which the data from the **DATA** document will be inserted.

c. Select the data file by doing the following:

1. On the **Mailings** tab, in the **Start Mail Merge** group, click **Select Recipients**, and then **Use Existing List**.

2. Navigate to your **Word Files** folder and select **HW09-4 Name Tag Labels DATA Original** It is good practice to use the word **DATA** in the name of a mail merge data file to indicate that it contains the data for a main file. This data file is an Excel file where the first row contains the names of the merge fields. You could copy the data and paste it into a new Word document but that is not necessary.

	A	B	C	D	E	F	G
1	**First**	**Last**	**Major**	**Interest1**	**Interest2**	**Interest3**	**Dorm**
2	Jill	Barnum	English	Flute	Walking	Gardening	Bailey
3	Sue	Vanage	Biology	Band	Jogging		Territorial
4	Bill	Gates	Computer Science	Money	Money	Money	
5	Barak	Obama	Political Science	Community Service	Sports		
6	Albert	Einstein	Physics	Special Relativity	General Relativity	Photons	Territorial
7	Will	Shakespare	English	Poetry	Plays		Bailey

3. Click **Open**.

Select Table				? ✕
Name	Description	Modified	Created	Type
▦ Data$		7/18/2019 11:08:17 AM	7/18/2019 11:08:17 AM	TABLE

☑ First row of data contains column headers   [OK]   [Cancel]

4. Click **OK**.

5. On the **File** tab, click **Options**, click **Advanced**, scroll down to the **Show document content** group and verify that the **Field shading** box is set to **Always**. This allows you to easily distinguish between normal text and text that is displayed by a field.

6. Click **OK**.

d. Insert the field codes.

1. Click the upper left corner of the first cell in the table.

2. Type **Hello, my name is** and then tap the **Spacebar**

3. On the **Mailings** tab, in the **Write & Insert Fields** group, click **Insert Merge Field** and select **First**.

The code for the person's first name is inserted.

Hello, my name is «First»   «Next Record»

4. Click **Preview Results** to see what the merge will look like.

Hello, my name is Jill

5. Tap **Alt + F9** to see the actual field codes.

Hello, my name is { MERGEFIELD First }   { NEXT }

6. Type the text and insert the fields as shown below. Remember that to insert a tab within a table cell you tap **Ctrl + Tab** rather than **Tab** because tapping **Tab** will send you to the next cell or add a row to the bottom of a table.

Hello,·my·name·is·{·MERGEFIELD·First·}¶   {·NEXT·}¶

My·major·is·{·MERGEFIELD·Major·}¶

My·interests·are¶

→   {·MERGEFIELD·Interest1·}¶

→   {·MERGEFIELD·Interest2·}¶

→   {·MERGEFIELD·Interest3·}¶

e. In the data file some of the **Dorm** information is missing and the campus of the dorm not included in the data. Word can use an **IF/THEN/ELSE** structure similar to the one in Excel to help with a situation like that.

1. Click in the blank line at the bottom of the first cell. On the **Mailings** tab, in the **Write & Insert Fields** group, click **Rules** and select **If…Then…Else**.

3. Set the dialog as follows. Leave the **Otherwise insert this text** box blank.

Insert Word Field: IF

IF

Field name:	Comparison:	Compare to:
Dorm	Equal to	Bailey

Insert this text:

I live in Bailey Hall on the St. Paul Campus

This says that if the **Dorm** field is **Bailey** then **I live in Bailey Hall on the St. Paul Campus** will be displayed. Otherwise, nothing will be displayed.

4. Click **OK**.

Notice that the code for the **IF/THEN/ELSE** rule has a form that is similar to an Excel **IF** function. Where Excel uses a comma to separate the three parts Word uses a space.

Excel: **=IF(A1="Bailey","I live in Bailey Hall on the St. Paul Campus","")**

Word: **{ IF { MERGEFIELD Dorm } = "Bailey" "I live in Bailey Hall on the St. Paul Campus" "" }**

5. Enter a similar rule for Territorial Hall. You could go through a similar process as you did for Bailey Hall or you could simply copy the rule for Bailey Hall, paste it, and then change **Bailey** to **Territorial** and **St. Paul** to **Minneapolis**.

f. Add an image to the labels.

1. Click to the left of **H** in **Hello**.

2. On the **Insert** tab, in the **Illustrations** group, click **Pictures**.

3. Navigate to the **Word Files** folder and select the picture of **Goldy** (**HW07-2 Goldy Original**). Or, choose any other picture you wish.

4. Click **Insert**.

5. Double-click the image and change its height to **0.5** inch.

6. Click the **Wrap text** button and select **In Front of Text**.

7. Move the image to the upper right corner of the first cell.

8. On the **Mailings** tab, in the **Write & Insert Fields** group, click **Update Labels** to copy this cell to all the other cells.

9. Tap **Alt + F9** to preview the results (click **Preview Results** if necessary).

h. Print the labels by doing the following:

1. On the **Mailings** tab, in the **Finish** group, click **Finish & Merge**, and select **Edit Individual Documents**. This will send the output to a new Word file that you can edit if you need to. Click **OK**.

2. On the **Table Tools Design** tab, in the **Table Styles** group, click **Table Grid** so you can see the gridlines. If you were actually printing labels you would not want to show the gridlines.

3. Tap **Ctrl + p** to print the new merges file. Compare the preview with the key. Make needed corrections, print the document, save it, and close it.
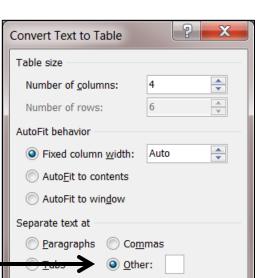
Next time you open **HW09-4 HWID Name Tag MAIN Done**, Word will ask if you want to insert the data from the file that contains the data. Click **Yes**.

HW09-5 Thank Merge

Problem: How can you create individualized thank you notes that can be automatically emailed to people?

Each October, the University sponsors a Community Fund Drive to encourage employees to donate to charitable organizations such as the United Way. As the person in charge of the CEHD effort, I download contact information from the University Data Warehouse and use mail merge to send individual solicitations to each of CEHD's 850 employees (I do the same to send progress reports to my 120 students every few weeks). In this exercise you will use mail merge to send individual letters to people thanking them for contributing and telling them how to enter a prize drawing. Addressing letters or emails individually increases the reader's interest and the likelihood of his or her reading it.

a. Open the file **HW09-5 Thank DATA Original**, which is one of the files you downloaded at the start of the term. This contains the names and email addresses of the people to whom you wish to send the letter.

b. Save the document to your **Word Files** folder using the name **HW09-5 HWID Thank DATA Done**.

c. Convert the paragraphs into a table:

   1. Select all 6 paragraphs and then, on the **Insert** tab, in the **Table** group, click **Convert Text to Table**.

   2. Click [⦿ Other:] and then put a space in the box. This tells Word to make separate columns when it sees a space.

   3. Click **OK**.

d. Modify the table as follows:

   1. Apply a colorful style of your choice to the table (**Table Tools Design**, **Table Styles**).

   3. Adjust the table so the rows are exactly 0.3 inches high (**Table Tools Layout**, **Cell Size**, **Height**).

   4. **Autofit** the columns.

   5. Center the text vertically and horizontally within the rows (**Table Tools Layout**, **Alignment**, **Align Center**).

   6. Center the table on the page.

   7. Sort the data by **Priority** in descending order and then, within **Priority**, by **Last** in ascending order.

8. Center the data inside the individual cells.

First	Last	Email	Priority
Joyce	Banch		3
Doug	Robertson	droberts@umn.edu	3
Sue	Sherro	sher001@umn.edu	2
Kathy	Osterberg	oste001@umn.edu	1
Alan	Samek	same001@umn.edu	1

e. Insert a footer that contains the name of the file.

f. Tap **Ctrl + p** and compare the preview with the key. Make needed corrections, print the document, save it, and close it.

g. Open the document **HW09-5 Thank MAIN Original**, which is one of the files you downloaded at the start of the term. This contains the letter you want to send to the individuals listed in the data file.

h. Save the document to your **Word Files** folder using the name **HW09-5 HWID Thank MAIN Done**

i. Insert a footer that contains the name of the file.

j. In the big paragraph, select **Community Fund Drive** and create a hyperlink to its web site. The Web address is http://www1.umn.edu/cfd Include a screen tip that says **CFD Web site home page**.

k. On the **Mailings** tab, in the **Start Mail Merge** group, click the **Start Mail Merge** button and select **Letters**. This tells Word you want to create a set of letters or emails that will go to the people whose names are in the data file.

l. On the **Mailings** tab, in the **Start Mail Merge** group, click the **Select Recipients** button and select **Use Existing List**.

Navigate to the file **HW09-5 HWID Thank DATA Done**, which you just created, and double-click its name.

m. Insert the mail merge codes.

   1. Select the red text **ReplaceWithFirstnameField** This shows you where you are going to insert the first mail merge field code.

   2. On the **Mailings** tab, in the **Write & Insert Fields** group, click the **Insert Merge Field** down arrow, and select **First**.

      This will insert the field code **«First»**. When the data are merged into the document, the first names in the data file will be inserted at this location for each individual letter created.

   3. Go to the bottom of the document and repeat the process for the following text:

      ReplaceWithFirstnameField

      ReplaceWithLastnameField

      Be sure to insert a space between the first name and last name field codes.

   4. Tap **Alt + F9** to see the field codes:

I Gave to the Community Fund Drive

{ MERGEFIELD First }:

When you send in your contribution to the { HYPERLINK "http://www1.umn.edu/cfd" \o "CFD Web site home page" }, please drop this card in the fish bowl in the mail room. This will help us keep track of the number of contributions that have come in and it will tell us if you want to be in the raffle for prizes. If you do not want to be included in the drawing for prizes, check here:

If you do not want to be included in the All University drawing for prizes, check here:

{ MERGEFIELD First } { MERGEFIELD Last }
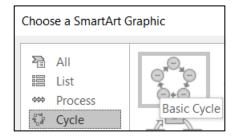
      Notice the three **MERGEFIELD** codes and the **HYPERLINK** code.

   5. Tap **Alt + F9** again hide the field codes.

n. Save and close the file **HW09-5 HWID Thank MAIN Done**.

o. Open the file you just closed, **HW09-5 HWID Thank MAIN Done**. You will get a caution message asking if you want to place the data from **HW09-5 HWID Thank DATA Done** into your file.

⚠ Opening this document will run the following SQL command:

SELECT * FROM C:\Users\droberts\Desktop\Stuff\26-2019 Fall\b-1871 F19\Before Se

Data from your database will be placed in the document. Do you want to continue?

Click **Yes** to attach the data to the main file.

p. Insert a **SmartArt** graphic by doing the following:

1. Tap **Ctrl + End** to move to the bottom of the document.

2. On the **Insert** tab, in the **Illustrations** group, click the **SmartArt** button.

3. Click the **Cycle** button and click the upper left selection, **Basic Cycle**

Choose a SmartArt Graphic

All
List
Process
Cycle
Basic Cycle

4. Click **OK**.

5. In the first four bullets, type the following: **I help him**, **He helps her**, **She helps them**, **They help me**. Delete any other bullets so you have only four.

6. On the **SmartArt Tools Design** tab, in the **SmartArt Styles** group, click **Change Colors** and choose a colorful design (your choice).

7. Change all fonts in the **SmartArt** object to 16 pt Arial Black.

8. Click outside the **SmartArt** box to deselect it.

q. To tell Word to skip data records that are missing the email address, do the following:

1. Tap **Ctrl + Home** to move to the top of the document.

2. On the **Mailings** tab, in the **Write & Insert Fields** group, click **Rules**.

3. Select **Skip Record If**.

4. In the **Field name** box, select **Email**. Leave the other two boxes as they are.

Insert Word Field: Skip Record If

Field name:

Email

Comparison:

Equal to

Compare to:

r. Tap **Ctrl + p** and compare the preview with the key. Make needed corrections, print the document and save it but *do NOT close* it.

s. On the **Mailings** tab, in the **Finish** group, click the **Finish & Merge** button and select **Edit Individual Documents**. A dialog box appears allowing you to merge the data and the main file.

Be sure the **All** button is checked, and then click **OK**. This will produce a new document that contains a letter for each of the people listed in the data document. The new document will have the name **Letters1**.

Scroll through the new document and you should see 4 letters, one each to **Doug**, **Sue**, **Kathy**, and **Alan**. Notice that a letter to Joyce is not there because her email is missing and you used SKIPIF. To save paper, *do NOT print* the document. Close the document *without* saving it.

t. You can also merge the letters to individual emails that can be sent electronically to the recipients.

To do an email merge (*DO NOT ACTUALLY DO THIS*), on the **Finish & Merge** drop-down menu you would select **Send E-mail Messages** (instead of **Edit Individual Documents**). This would display the **Merge to E-mail** dialog box. To send the emails to the outbox of your mail program you would type in a subject and then click **OK** (do **NOT** do that).

Cancel this operation by clicking [Cancel] *and close the document without* saving it.

u. Close **HW09-5 HWID Thank MAIN Done**.

HW09-6 IF Merge

Problem: How can you create customized letters or emails that will send different information to different people depending on given conditions?

In this exercise you will set up an email that offers a deal on magazine subscriptions to **Sports Illustrated** for men and **Ms. Magazine** for women. Also, you will display a different shipping and handling charge depending on the zip code of the person.

a. As is always the case, the data file might have errors or missing data or unexpected data. You have to know the sex of the person in order to offer the correct magazine. The title **Mr.** clearly indicates a man while **Ms.**, **Miss**, or **Mrs.** clearly indicates a woman. But what if the title is missing, or if it is listed as **Dr.** or **Professor**? In those cases you would want to skip the record entirely. Unfortunately, Word mail merge does not have an **OR** function like Excel so you cannot easily skip records based on multiple criteria. To get around this problem you will paste the data into Excel and then create a function to determine the person's sex, where possible. Do the following:

1. Open the document **HW09-6 IF Merge DATA Original**, which is one of the files you downloaded at the start of the term.

2. Save the document to the Word Files folder using the name **HW09-6 HWID IF Merge DATA Done**.

3. Copy the data, start Excel, and paste the data as text starting in **A1**.

4. In **H1** type **Sex**.

5. In **H2** enter an Excel formula that will display:

    Male if the title in **A2** is **Mr.**

    Female if the title in **A2** is **Ms.**, **Miss**, or **Mrs.**

    Unknown if neither of the above is true (that is, the sex is not obvious).

=IF(A2="Mr.","Male",IF(OR(A2="Ms.",A2="Miss",A2="Mrs."),"Female","Unknown"))

6. Fill the formula in **H2** down to **H39**.

H2	▼	:	✕	✓	*fx*	=IF(A2="Mr.","Male",IF(OR(A2="Ms.",A2="Miss",A2="Mrs."),"Female","Unknown"))			
	A	B	C	D	E	F	G	H	I	J
1	Title	LastName	FirstName	Address	City	State	Zip	Sex		
2	Mr.	Anderson	Eric	619 4th St.	Robbinsda	AZ	85375	Male		
3	Ms.	Arias	Jennifer	1522 Colle	Syosset	NY	11791	Female		
4	Miss	Aure	Sue	601 West 1	Renton	WA	98059	Female		

If it is important, you could eyeball the data and manually enter the sex of the **Unknown** people, if possible. For example, Dr. Alexander Ayu most likely is a man so you could type **Male** in **H5**. However, Terry Bagha could be either male or female so you are out of luck there. With 50 names cleaning the data would take 2 minutes; with 50,000 names it might not be worth the time and money. That is why it sometimes is difficult to have data about yourself corrected (say your social security number or date of birth) — it is difficult and costs too much if the database is large.

7. Copy **A1:H39**, switch to Word, tap **Ctrl + A** to select everything, tap **Delete**, and finally tap **Ctrl + v** to paste the new data. It will paste as a table but that is fine.

8. Select the table and, on the **Table Tools Layout** tab, in the **Cell Size** group, click **AutoFit** and select **AutoFit Contents**.

9. Save and close **HW09-6 HWID IF Merge DATA Done**

10. Save the Excel file using the name **HW09-6 HWID IF Sex Added Done** and then close it.

b. Set up the mail merge main file by doing the following:

1. Open the document **HW09-6 IF Merge MAIN Original**, which is one of the files you downloaded at the start of the term.

2. Save the document to the **Word Files** folder using the name **HW09-6 HWID IF Merge MAIN Done**

3. Insert a footer that contains the name of the file.

4. On the **Mailings** tab, in the **Start Mail Merge** group, click **Start Mail Merge** and select **Letters**.

5. On the **Mailings** tab, in the **Start Mail Merge** group, click **Select Recipients** and select **Use an Existing List**. Navigate to your **Word Files** folder and double-click **HW09-6 HWID IF Merge DATA Done**.

6. Replace the red text **Title**, **Firstname**, **Lastname**, **Address**, **City**, **State**, **ZIP** with their merge field codes (**Mailings**, **Write & Insert Fields**, **Insert Merge Field**).

c. Create the mail merge by doing the following:

1. You want to skip records where the **Sex** is **Unknown**. Be sure the insertion point is at the top of the document and then, on the **Mailings** tab, in the **Write & Insert Fields** group, click **Rules** and select **Skip Record IF…**

2. Select **Sex** for the **Field name**, select **Equal to** for the **Comparison**, and type **Unknown** for the **Compare to** boxes.

3. Click **OK**.

4. Select the red text **MagazineChoice**.

5. On the **Mailings** tab, in the **Write & Insert Fields** group, click **Rules** and select **If…then…Else**.

6. Choose **Sex** from the **Field name** menu and **Equal to** from the **Comparison** menu. Type **Male** in the **Compare to** box. Type **Sports Illustrated** in the **Insert this text** box. Leave the **Otherwise…** box empty and click **OK**.

7. Repeat the process but type **Female** in the **Compare to** box. Type **Ms. Magazine** in the **Insert this text** box. Leave the **Otherwise** box empty and click **OK**.

8. Tap **Alt + F9** to view the codes.

Take a moment to look at the field codes. For example:

{ IF { MERGEFIELD Sex } = "Male" "Sports Illustrated" "" }

You can edit the field parameters as if they were text. For example, if you wanted to change **Sports Illustrated** to **Newsweek**, you would delete **Sports Illustrated** and type **Newsweek** in its place.

9. Tap **Alt + F9** again to hide the codes.

10. The prices of the two magazines are different. Sports Illustrated costs $15.99 while Ms. Magazine costs $13.99. Follow the same procedure as above to replace the red word **Price** with the following:

Field name:	Comparison:	Compare to:
Sex	Equal to	Male

Insert this text:

$15.99

Otherwise insert this text:

$13.99

11. In the same way, replace the red word **Shipping** with the following:

Field name:	Comparison:	Compare to:
Zip	Greater than	50000

Insert this text:

$6.95

Otherwise insert this text:

$4.95

d. On the **Mailings** tab, in the **Preview Results** group, click the **Preview Results** button. This will show the results for the first person in the data file, **Eric Anderson**. If you click the **Next Record** arrow you will see the results for **Jennifer Arias**.

e. On the **Mailings** tab, in the **Finish** group, click **Finish & Merge** and select **Edit Individual Documents**. When the **Merge to New Document** dialog box appears, click **OK**. This will produce a new document that contains the individual letters, one per page.

   Scroll down a bit and notice that **Ayu**, **Bagha**, **Baker**, **Baltz**, and others were skipped because their sex is unknown.

f. Close the newly merged document **without** printing or saving it.

g. Do the following to print the main document with the field codes displayed:

   1. Click the **File** tab, select **Options**, click **Advanced**, scroll down to the **Print** group and click the box next to **Print field codes instead of their values**.

   2. Click **OK**.

   3. Tap **Ctrl + p** and compare the preview with the key. Notice that the field codes will be printed rather than their values. This is what you want. Make needed corrections and print the document but *do not* close it.

4. **Now, turn off the field codes printing by doing this:** Click the **File** tab, select **Options**, click **Advanced**, scroll down to the **Print** group and clear the check in the box next to **Print field codes instead of their values**. Click **OK**.

6. If the field codes are still displayed, tap **Alt + F9** so the results are displayed rather than the codes.

h. Save the document and exit Word.

Step 4 Submit You now are ready to submit your homework for grading.

1. Put your 7 homework papers in the following order:

   HW09-1 3A Quantitative Technology (Works Cited page 4)
   HW09-2 3B Environment Newsletter
   HW09-3 Home Address Labels
   HW09-4 Name Tag Labels
   HW09-5 Thank Merge DATA
   HW09-5 Thank Merge MAIN
   HW09-6 IF Merge MAIN With Merge Codes Showing

2. Cut out Submission Form 9 and put it on the top of the papers.

3. Staple the papers in the upper left corner.

4. Turn in the packet by the due date.

Step 5 Backup Now would be a good time to backup your files.

Project 10
Word: Styles, Cross-References, TOC, Indexes

Step 1 Read For this project, there are no pages to read in your textbook.

Step 2 Activities For this project, there are no textbook activities.

Step 3 Homework Do the problems listed below, and turn them in for grading.

In Word, a **style** is defined as a collection of text and paragraph formats. These formats are saved as a collection, given a name, and applied to text just like any other format. As you will see below, styles are extremely useful.

Word has five style types:

Character styles contain formatting characteristics that can be applied to text, such as font name, size, color, bold, italic, underline, borders, and shading. In a list of styles, character styles are indicated using this icon a

Paragraph styles include everything that a character style contains, but it also controls all aspects of a paragraph's appearance, such as text alignment, tab stops, line spacing, and borders. In a list of styles, paragraph styles are indicated using this icon ¶

Linked styles behave as either character styles or paragraph styles, depending on what you select. If you click in a paragraph or select a paragraph and then apply a linked style, the style is applied as a paragraph style. However, if you select a word or phrase in the paragraph and then apply a linked style, the style is applied as a character style, with no effect on the paragraph as a whole. In a list of styles, linked styles are indicated using this icon ¶a

List styles determine the look of lists, including characteristics such as bullet style or number scheme, indentation, and any label text.

Table styles determine the look of tables, including characteristics such as the text formatting of the header row, gridlines, and accent colors for rows and columns.

HW10-1 Character Styles and the Declaration of Independence
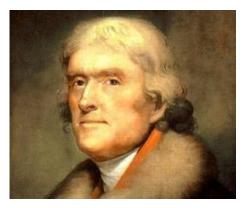
Problem: How can you create character formats that can be changed throughout a document by changing one occurrence?

There may be times when you want a particular word or phrase to have special font characteristics throughout a document. For example, in this Study Guide, the default paragraph font is black 12 point Arial, without bold or italic or other enhancements. However, all computer file names appear in 12 point Arial, dark blue, bold. This makes them stand out from the rest of the text and helps the reader quickly identify them as file names.

Individually applying 12 point Arial dark blue bold to each of the 226 occurrences of file names that appear in this Study Guide would be very time consuming. To get around problems like this, Word allows you to create **character styles** (also called **font styles**). These are sets of characteristics, like font, size, enhancement, and color, that can be defined and given a name. When you want a particular word or phrase to have those characteristics, you simply select the text and tell Word to apply the character style you have defined.

If you want to change any characteristic (color, size, etc.) of a character style, that is easily done. When the definition is changed all text with that character style changes immediately everywhere in the document.

To see how this works, you will carry out some character style modifications on an excerpt from the Declaration of Independence.[29] The Declaration was drafted by Thomas Jefferson (who later became the third president of the United States) between June 11 and June 28, 1776. In it Jefferson expressed the convictions in the minds and hearts of the American people. The political philosophy of the Declaration was not new; its ideals of individual liberty had already been expressed by people such as John Locke (not the stoic guy in *Lost* but the seventeenth century English philosopher and physician). What Jefferson did was to summarize this philosophy in **self-evident truths** (ideas so obvious that they need no proof)*,* such as "all men are created equal"[30]. The Declaration is considered to be a powerful and important statement on human rights. It also set forth a detailed list of grievances against King George III of England in order to justify before the world the breaking of ties between the American colonies and Great Britain. Benjamin Franklin and John Adams (who later became our second president) had a hand in editing Jefferson's draft.

The original Declaration, hand printed on parchment most likely by a clerk named Timothy Matlack, currently is on display in the National Archives in Washington, DC. The Continental Congress voted to declare independence from Great Britain on July 2, 1776 and approved the wording of the Declaration on July 4, which we celebrate as Independence Day. Many copies were printed on paper and read aloud from town squares throughout the colonies so that those who could not read would receive the news about the intended separation from England.

In **declaring** their independence, the thirteen British colonies referred to themselves as **States** and that they are **uniting** to form a new and independent country in **America**; hence, the United States of America.

---
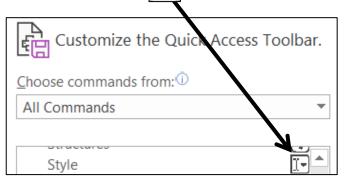
[29] Text is adapted from http://www.archives.gov/national-archives-experience/charters/declaration.html

[30] While he espoused equality, Jefferson himself owned slaves, as did 11 other presidents at one time. He was always deeply in debt and slave labor made his lifestyle and many accomplishments possible. In an 1820 letter he wrote about slavery, "We have the wolf by the ears; and we can neither hold him, nor safely let him go. Justice is in one scale, and self-preservation in the other." To his shame, he chose "self-preservation." Although he was born into one of the wealthiest families in North America, Jefferson was deeply in debt when he died.
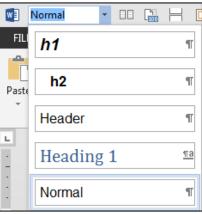
a. Start the process of formatting the document by doing the following:

1. Open the document **HW10-1 Character Styles and Declaration Original**, which is one of the files you downloaded at the start of the term.

2. Save the document in the **Word Files** folder using the name **HW10-1 HWID Character Styles Done**

3. Insert a footer that contains the name of the file. Note that the background graphic of the flag takes up the entire header/footer area so you cannot exit the footer by simply double-clicking in the body of the document. To exit, on the **Header & Footer Tools Design** tab, in the **Close** group, click **Close Header and Footer**.

b. On page **SG153**, in **HW07-1 Flyer**, you learned how to modify the **Quick Access Toolbar** by placing the **AutoText** icon on it. In this project you will be working a lot with styles so it will be helpful to add the **Styles** icon. Do the following:

1. Click the **File** tab, click **Options**, and then click **Quick Access Toolbar**.

2. In the list under **Choose commands from**, click **All Commands**.

3. Scroll through the list of commands until you see **Style**. A quick way to get to **Style** is to click any command, and then tap the **t** key. This will take you to the start of the **t**'s in the list. Then scroll up a little until you see **Style**. There are a bunch of **Style** commands but Word does not tell you what each one does. I found out the one I wanted by trial and error. It has this icon on its right

4. Click **Add** and then **OK**. The **Style** menu now appears in the **Quick Access Toolbar**. It shows you the style of the paragraph that contains the insertion point. If you click the down arrow, you will get a list of the styles in your document and you can select what you want from the list. Or, you can simply type the style name in the box. Here is what it looks like on my computer:

c. Word allows you to assign keyboard shortcuts to most commands. Using the keyboard often is quicker than selecting with the mouse. Do the following:

1. Click the **File** tab, click **Options**, click **Customize Ribbon**, and finally click **Customize** just to the right of **Keyboard shortcuts**. Here, you can select a command and then assign a shortcut key. Let's assign the **F7** key to open the paragraph dialog box.

2. Under **Categories**, scroll down and click **Home** tab. This will display the commands that appear on the **Home** tab.

3. Under **Commands**, scroll down and click **FormatParagraph**.

The box under **Current keys** is blank, which means currently there are no shortcut keys to open the **Paragraph** dialog box.

4. Click inside the box under **Press new shortcut key** and tap the **F7** key.

Word indicates the **F7** key currently is assigned to **ToolsProofing**.

5. Click the **Assign** button to reassign the **F7** key.

6. Click **Close**.

7. Click **OK**.

8. To test the new assignment, tap **F7**. The **Paragraph** dialog box will open.

9. Click **Cancel**.

10. Follow the same procedure to assign **Ctrl + 9** to the **Go Back** command (**All Commands**, **GoBack**). The **Go Back** command tells Word to move the insertion point to its previous location. If you execute the command again, Word moves the insertion point back to the next previous location. If you execute the command a third time, Word moves the insertion point back to where it started (in other words, you can only "Go Back" to two previous locations).

FYI, here are the keyboard assignments that I have made on my computer:

F1 **Help** – This one cannot be changed.

F2 **Cut** (**Home Tab, EditCut**)

F3 **Copy** (**Home Tab, EditCopy**)

F4 **Paste** (**Home Tab, EditPaste**)

F5 **Keep with next** – ensures that the current paragraph is on the same page as the next paragraph (**All Commands, ParaKeepWithNext**)

F6 **Paste Special** – makes it easy to paste things from the clipboard in different formats. I use this to paste text without any formatting (**Home Tab**, **EditPasteSpecial**)

F7 **Paragraph dialog** – Opens the paragraph dialog box (**Home Tab, FormatParagraph**)

F8 **Bold** (**Home Tab**, **Bold**)

F9 **Update Field** – This is the default value.

F10 **Repeat last Find** – I use this so I do not have to keep going back to the **Find** and **Replace** dialog when I want to move to the next item in a search (**All Commands**, **RepeatFind**)

F11 **Revert to style** – Removes any "extra" formatting from the style of the current paragraph (**All Commands, ResetPara**)

F12 **Save As** – This is the default value.

Ctrl + Num 0 **Go back to the previous location** (**All Commands**, **GoBack**)

Alt + a **Repeat the last action** – **Ctrl + y** does this but it is too difficult to do with one hand (**All Commands**, **EditRedoOrRepeat**)

Alt + d Insert date (**Insert**, **InsertDateTime**)

Alt + F1 Moves to next window (**All Commands**, **NextWindow**)

End Moves to end of document (**All Commands**, **EndOfDocument**)

Home Moves to top of document (**All Commands**, **StartOfDocument**)

d. Now, you will change all occurrences of the word **Government** to blue 18 point bold Arial Black by creating a character style called **gov** and then applying it to every occurrence of the word **Government** in the file. Do the following:

1. At the top of the document, click just to the left of the first letter in the sentence that begins **The unanimous Declaration**.

2. On the **Home** tab, in the lower right corner of the **Styles** group, click the **Styles** dialog box launcher [icon]. This will open the **Styles and Formatting** pane.

3. Click the **New Style** button at the bottom left of the pane. [icon]

    This will open the **Create New Style from Formatting** dialog box.

    In the **Name** box, replace **Style1** with **gov**. This defines the name of the style for future reference.

    In the **Style type** box, select **Character** from the drop-down menu. This defines the style as a character style and so only selected characters will be affected by this style, rather than entire paragraphs.

    Change the font to Arial Black, 18 pt, bold, blue.

4. Click **OK**. The new style, **gov**, will appear in the list of styles.

    The little letter, **a**, to the right of **gov** indicates that this is a character style. The other styles, like **Normal**, have a little paragraph mark ¶ showing that these are paragraph styles (discussed later).
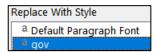
e. Apply the new character style to all occurrences of the word **Government** throughout the document. You could do this manually by looking for and then selecting each occurrence of **Government** and making the changes individually, but that would be time consuming. Here is a faster way:

1. Tap **Ctrl + Home** to move the insertion point to the top of the document.

2. Tap **Ctrl + h** to open the **Find and Replace** dialog box.

3. If the **More** button �[More >>] is showing, click it to display the advanced options of the **Replace** feature. If the **Less** button [<< Less] is showing the advanced options are already displayed.

4. Click inside the **Find what** box and type the word **Government**.

   With the insertion point still in the **Find What** box, click the **Match case** box. This will ensure that words like **government** (it starts with a lowercase **g** rather than an uppercase **G**) will not match the criteria.

5. Click the **Find whole words only** box. This will ensure that words like **Governments** (it has an **s** on the end) will not match the criteria.

6. Click inside the **Replace With** box and clear any text so that the box is blank.

7. At the bottom of the **Find and Replace** dialog box, choose **Format**, **Style**.

   This will display a list of all the styles available to this document. Scroll down and click **gov** (if you type the letter **g** Word will automatically scroll to the first word that begins with the letter **g**; that saves scrolling time).

8. Click **OK**.

Find and Replace

Find	Replace	Go To

Find what: Government

Options: Match Case, Whole Words

Format:

Replace with: [   ]

Format: Style: Footer Char

[<< Less]

Search Options

Search: [All   ▼]

☑ Match case

☑ Find whole words only

9. Click **Replace All**. There should be 5 replacements.

10. Click **OK**.

11. Close the **Find and Replace** dialog box. Notice the effect on all occurrences of the word **Government**.

f.   Suppose you want to make the word **Government** red instead of blue and you want the font to be underline italic. There is no need to do this manually. All you have to do is redefine the **gov** style. Do the following:

1. On the **Home** tab, in the **Styles** group, right-click the **gov** style and select **Modify**.

2. Click the **Italic** button and the **Underline** button and change the font color to red.

AaBbCc **AaBl**

¶ Normal   *gov*

Update gov

Styles

🖌 Modify...

3. Click **OK**. Notice that all occurrences of the word **Government** now are red, italic, and underlined (and still bold from before).

g.   Tap **Ctrl + p** and compare the preview with the key. Make needed corrections, *print page 1 only*, save the document, and close it.

HW10-2 Paragraph Styles

Problem: How can you create paragraph formats that can be changed
throughout a document by changing one occurrence?

Paragraph styles are like character styles but they affect an entire paragraph
rather than only a word or phrase.

a. Do the following to get some practice in creating paragraph styles.

1. Open the document **HW10-2 Paragraph Styles Original**, which is one of
    the files you downloaded at the start of the term.

2. Save the document in the **Word Files** folder using the name
    HW10-2 HWID Paragraph Styles Done.

3. Open the **Styles and Formatting** pane.

4. On the Home tab, in the Styles group, click the launch dialog button to
    show the **Styles and Formatting** pane. Move the mouse pointer so the
    tip of the white arrow is over **Normal**, click the down arrow, and select
    Modify from the drop-down menu.

5. Set the font to 12 point Times New Roman and click **OK**. This changes all
    the text because every paragraph is in **Normal** style.

6. Select the paragraph with the title, center align it, and change the font to
    Arial Black 16 point italic.

7. Click anywhere in the paragraph which begins **In 1988 the mathematics**.

8. On the **Home** tab, in the **Paragraph** group, click the dialog box launcher.
    Set the **Left Indentation** to 0.5 inch, the **Right Indentation** to 0.5 inch,
    the **First line Indentation** to 0.5 inch, the **Spacing before** to 12 pt, and
    the **Line spacing** to single.

9. Click **OK**.

10. Click the **New Style** button at the bottom left of the **Styles** pane to open the **Create New Style from Formatting** dialog box.

    In the **Name** box type **Para1**. This new style is automatically set to match the formatting of the paragraph you just modified.

    Be sure the **Style type** is set to **Paragraph**.

11. Click **OK**. A new paragraph style called **Para1** appears in the **Styles** pane and in the **Quick Styles Gallery**.

12. Select the text from just after the first paragraph (starting with the line that contains the single word **Courses**) to the end of the document and apply the **Para1** style.

b. Set up a style for the **sideheads** (the subtitles that separate parts of the text). These should stand out from the regular text.

    1. Select the paragraph that contains the single word **Courses** and change the style of that paragraph to **Normal**.

    2. Change the font to 14 point Arial bold italic.

    The way text breaks across pages can affect the readability of a document. For example, it is best that a sidehead does not appear at the bottom of a page when the following text appears at the top of the next page. Word has several ways of addressing line and page breaks.
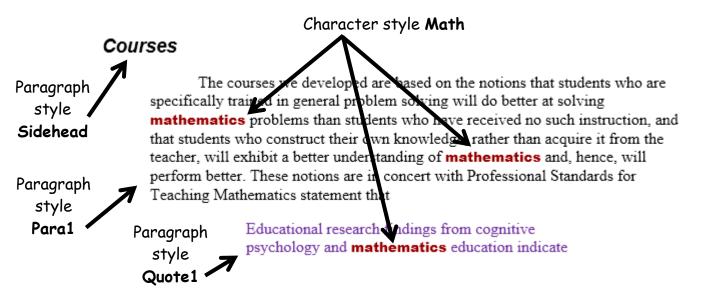
    3. Right-click the single word **Courses** and choose **Paragraph**.

    4. Change the **Spacing Before** to 12 points.

    5. Click the **Line and Page Breaks** tab.

    6. Put a check in the box next to **Keep with next**. This forces the current paragraph to appear on the same page as the next paragraph. This is good for rows of tables (so the table will not split across a page break) and sideheads (so the sidehead will stay with its following text).

    7. Put a check in the box next to **Keep lines together**. This forces a paragraph to have all of its text on the same page, rather than split between the bottom of one page and the top of the next. This is good for short paragraphs but it is not practical for long paragraphs.

        Do *NOT* click **Page break before**. This would cause each sidehead to appear at the top of a new page.

    8. Click **OK**.

    9. With the insertion point still in the word **Courses**, open the **Styles** dialog box. Create a new style called **Sidehead** that has the characteristics you just set for this paragraph.

    10. Scroll down and apply the **Sidehead** style to the line with the single word **Implementation** and to the line with the two words **Typical Class**.

11. Scroll up to the second paragraph under the sidehead **Courses** (the paragraph begins **Educational research findings...**) and click anywhere in that paragraph. This is a quotation and so it needs to be formatted differently from other paragraphs.

12. Apply the **normal** style. Right-click anywhere in the paragraph and select **Paragraph**. If necessary, click the **Indents and Spacing** tab. Set the left indent to 1.5 inches, the right indent to 1.5 inches, the first line indentation to none, the space before to 0, and the line spacing to single.

13. Click **OK**.

14. With the insertion point still in the paragraph, open the **Styles** dialog box. Create a new style called **Quote1** that has the characteristics you just set for this paragraph.

c. Add text at the bottom of this file by inserting the text from another file.

1. Tap **Ctrl + End** to move the insertion point to the end of the document.

2. On the **Insert** tab, in the **Text** group, click the down arrow to the right of the **Object** button and select **Text from File**. Navigate to the document **HW10-2 Paragraph Styles Add Text Original**, which is one of the files you downloaded at the start of the term. Then, click the **Insert** button.

3. Click anywhere in the paragraph under **Typical Class** sidehead and select all the text below it. Apply the **Para1** style to this text.

4. Apply the **Sidehead** style to the blue headings **Discussion**, **Problem Types**, **New Courses**, **Effects**, and **Conclusion**.

5. Apply the **Quote1** style to the two new paragraphs in red (**The idea is to help students...** and **I think the three mathematics professors...**).

6. Modify the **Quote1** style so that the paragraphs have 12 pt spacing before and so the text is purple.

7. Modify the **Normal** style so that is has **Widow/orphan** control.

8. Close the **Styles** pane.

   d. Be sure you understand the difference between **character** styles, which only affect individual words or phrases, and **paragraph** styles, which affect entire paragraphs.

      1. Create a **character** style called **Math** that makes the font **Arial Black**, **10 point**, **red**.

      2. Use the Replace feature to change all occurrences of the word **mathematics** to style **Math**. Do NOT change the word **Mathematics** to that style. There should be 9 replacements.

Character style **Math**

Courses

Paragraph style **Sidehead**

    The courses we developed are based on the notions that students who are specifically trained in general problem solving will do better at solving **mathematics** problems than students who have received no such instruction, and that students who construct their own knowledge rather than acquire it from the teacher, will exhibit a better understanding of **mathematics** and, hence, will perform better. These notions are in concert with Professional Standards for Teaching Mathematics statement that

Paragraph style **Para1**

Paragraph style **Quote1**

Educational research findings from cognitive psychology and **mathematics** education indicate

   e. Insert a footer that contains the name of the file.

   f. Tap **Ctrl + p** and compare the preview with the key. Make needed corrections, and then *Print page 1 only*, save the document ,and then close it.

HW10-3 Census

Problem: How can you break up a document into different sections that can be formatted independently?

   a. Open the document **HW10-3 Census Original**, which is one of the files you downloaded at the start of the term.

   b. Save the document in the **Word Files** folder using the name **HW10-3 HWID Census Done**.

   c. Insert a **HEADER** that contains the following:

     • On the left, insert a field with the name of the file.

     • On the **Home** tab, in the **Styles** group, click the dialog box launcher to open the **Styles** pane. Modify the **Header** style so that it is bold and the paragraph is underlined with a 3 pt width border. Remove the center tab stop located at 3.25 inches.

- On the right, type the word **Sec** and a space, insert the automatic section number (**Insert**, **Quick Parts**, **Field**, **Section**). Then type a space the word **Page**, a space, and insert the automatic page number.

HW10-3 HWID Census Done   Sec 1 Page 1
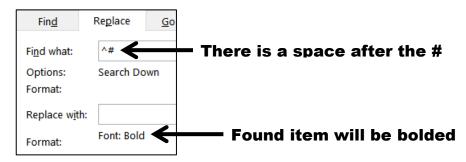
d. In the numbered list at the bottom of the first page, convert the spaces after the numbers into periods followed by tabs. You could do this by hand for each of the ten paragraphs but using the Replace feature is more illustrative.

You cannot simply replace the space with a tab (using the **^t** code) because some lines have more than one space and you only want to change the space next to the number. So, you will apply bold to the space to the right of each number and then change the bold spaces into **^t** codes. Do the following:
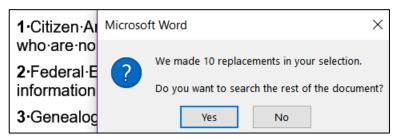
1. Select the numbered paragraphs.

2. Tap **Ctrl + h** to open the **Replace** dialog box.

3. In the **Find what** box, type **^#** and tap the **Spacebar**. The **^#** represents any single digit so Word will "find" a digit followed by a space. You can see a list of special symbols by clicking **Special** at the bottom of the dialog box.

    | | Any Character |
    | | Any Digit |
    | Special ▾ | Any Letter |

    Click inside the **Replace with** box and tap **Ctrl + b**.

Find	Replace	Go
Find what:	^#	← There is a space after the #
Options:	Search Down	
Format:		
Replace with:		
Format:	Font: Bold	← Found item will be bolded

4. Click **Replace All**. There will be 10 replacements. Click **No** when asked if you want to search the rest of the document.

    1·Citizen·A   Microsoft Word   ✕
    who·are·no
                   ?   We made 10 replacements in your selection.
    2·Federal·E
    information   Do you want to search the rest of the document?
    3·Genealog   Yes   No

5. Now, change the bold spaces to **^t** by doing the following:

With the ten numbered paragraphs still selected, in the **Find what** box, enter a single space and tap **Ctrl + b**.

In the **Replace with** box, enter **.^t**. Be sure to type the period to the left of **^t**.

6. Click **Replace All**. There will be 10 replacements. Click **No** when asked if you want to search the rest of the document. Notice the spaces have been replaced with the tab arrows.

7. Remove the bold from all the numbered paragraphs.

8. Apply the style **Outdent 1** to all the lines and add **Outdent 1** to the **Quick Style Gallery**.

e. The last two paragraphs of the document have been set to have indentations and red bold italic text. Remove all the formatting and create a new style by doing the following:

1. Select the last two paragraphs.

2. If necessary, on the **Home** tab, in the **Styles** group, click the dialog box launcher to open the **Styles** pane.

3. Scroll to the top and click **Clear All**. This will return the formatting of the selected paragraphs to normal style. The keyboard shortcut for this is **Ctrl + Spacebar**.

4. Click anywhere in the second to last paragraph (the one that begins **Rental The National Archives rents microfilm …**). Point to the upside down triangle on the left side of the ruler and drag it to the 0.5 inch mark. This is the first line indent.

5. Point to the up pointing triangle on the left side of the ruler and drag it to the 1 inch mark. This is the left or hanging indent. Be sure the first line indent triangle stays at 0.5.

6. Point to the triangle on the right side of the ruler and drag it to the 5.5 inch mark. This sets the right indent 5.5 inches from the **left** margin.

7. Right-click anywhere in the second to last paragraph and select **Paragraph** to open its dialog box. In the **Spacing** section type 12 in the **Before** box. This puts 12 points of space before (above) the paragraph. Type 12 in the **After** box. This puts 12 points of space after (below) the paragraph. Also, select 1.5 lines from the **Line spacing** box.

Note that in the **Paragraph Dialog** the **Right Indentation** is measured from the **right** margin whereas on the ruler is it measured from the **left** margin!

Paragraph   ?   ✕

| Indents and Spacing | Line and Page Breaks |

General

Alignment: Left

Outline level: Body Text

Indentation

Left: 0.5"   Special: Hanging   By: 0.5"

Right: 1"

☐ Mirror indents

Spacing

Before: 12 pt   Line spacing: 1.5 lines   At:

After: 12 pt

8. Click **OK**.

9. In the **Styles** pane, click the **New Style** button (lower left corner).

10. In the **Create New Style from Formatting** dialog box, type **Hang** in the **Name** box. This will create the new style based on the formatting of the selected paragraph.

11. Click **OK**. The **Hang** paragraph style name appears in the **Styles** pane and in the **Styles** group on the **Home** tab.

Styles   ▾ ✕

Clear All

Default Paragraph Font   a

Footer   ¶a

Hang   ¶

AaBbCc   AaBbCc   AaBbCc

¶ Hang   ¶ Normal   o1

Styles

12. Apply the style **Hang** to the last paragraph by clicking anywhere in the last paragraph and then, on the **Home** tab, in the **Styles** group, click **Hang** (or, click **Hang** in the **Styles** pane).

f. Create a new style for the titles of the last two paragraphs.

    1. Make this a character style called **Emphasize1** with the font 11 pt, Arial Black, italic, and blue.

    2. Apply the style to the word **Sales** by selecting **Sales** and clicking the **Emphasize1** name in the **Quick Styles Gallery**. Because this is a character style only the selected word is modified.

    3. Apply **Emphasize1** to the word **Rental** in the second to last paragraph.

g. Word has a large number of predefined styles that you can apply to words or paragraphs. For example, do the following to apply the predefined paragraph style **Heading 3** to the title and four headings:

    1. Tap **Ctrl + Home** to move to the top of the document.

    2. If necessary, click the **Styles** dialog box launcher to open the **Styles** pane. At the bottom of the **Styles** pane, click the **Options** button.

    3. In the **Style Pane Options** dialog box, in the top drop-down menu, select **All styles**. This will display all the styles available to this document.

    4. Click **OK**.

    5. Add **Heading 3** to the **Style Gallery** so you can apply it to a paragraph quickly.

    6. Close the **Styles** pane.

    7. Apply the **Heading 3** style to the following 5 headings:

        U.S. Department of Commerce Economics…
        Introduction
        The Document
        Census Schedules Available to the Public
        Microfilm Rental and Sales

h. Modify the style **Heading 3** so that it has the following characteristics:

    • The font is 12 pt Arial Black, italic, and red.
    • There is a 3 pt wide red border around the paragraph.

i. Tap **Ctrl + Home** to move to the top of the document. Create a new paragraph style called **T1** that has these characteristics:

    • The font is 16 pt Arial Black, italic, and green.
    • Center the paragraph
    • No space before

Name:	T1
Style type:	Paragraph
Style based on:	¶ Normal
Style for following paragraph:	¶ T1

Formatting

Arial Black   16   **B** *I* <u>U</u>

j. In the first line of the document, insert a line break just before the word **Economics** and another line break just before the word **BUREAU**. To do this, place the cursor just before each word and tap **Shift + Num Enter** (that is, hold down the **Shift** key and, with the **Shift** key held down, tap the **Enter** key on the numeric keypad). The little arrows ↵ indicate where the line breaks are.

U.S.·Department·of·Commerce·Economics·↵
and·Statistics·Administration·↵
BUREAU·OF·THE·CENSUS¶ **Line breaks**

Introduction¶

k. Click the left side of the heading **Census Schedules Available...** and tap **Ctrl + Enter**. This will insert a page break so that the heading **Census Schedules Available...** will begin at the top of page 2. You can also insert a page break by choosing **Insert**, **Pages**, **Page Break**.

There are times when it is appropriate to break up a document into several **sections** that have different characteristics, such as page layout (portrait or landscape), margins, headers and footers, and numbers of columns.

For example, I wanted a different header for each project in this Study Guide so the reader could quickly see which project was being discussed. I did this by separating the projects into different **sections** and then putting the name of the project in the header of each **section**.

For this document, you will display some of the text in a 3 column format and also insert a graphic that is better viewed in landscape orientation. Do the following:

l. The Status Bar is located at the bottom of the document window.

PAGE: 2   Section: 1   Page 2 of 3   714 words   ☐✕   Track Changes: Off

This one shows the location of the insertion point (PAGE 2), the section number (1), that we are on page 2 of a total of 3, that the document has 714 words, a button for page proofing, and that Track Changes are off. Your Status Bar will be different.

Right-click the Status Bar to see its options:

Customize Status Bar	
✓ Formatted Page Number	2
✓ Section	1
✓ Page Number	Page 2 of 3
Vertical Page Position	2.4"

A check means the item is shown on the Status Bar. You can set your Status Bar as you wish but for this project be sure the first three items are checked.

The difference between **Formatted Page Number** and **Page Number** will be explained in **HW10-5**.

m. Move the insertion point to the left of the heading **Microfilm Rental and Sales**. On the **Layout** tab, in the **Page Setup** group, click Breaks and in the **Section Breaks** section select **Next Page**.

A **Next Page** section break is like a page break but it also creates a new section to which you can apply different characteristics.

Notice that the **Status Bar** now shows the insertion point is on **PAGE 3** and in **Section 2**. The header also shows this information.

HW10-3·HWID·Census·Done →   Sec·1·Page·2

PAGE: 1   Section: 1   Page 1 of 3   714 words   Track Changes: Off

n. Insert a new header for this section by doing the following:

1. Double-click in the header area.

Footer -Section 1-

¶

HW10-3·HWID·Census·Done   →   Sec·2·Page·3¶

Header -Section 2-   Same as Previous

Microfilm·Rental·and·Sales¶

Notice that the header for the current page is labeled **Header-Section 2** while the footer of the previous page is labeled **Footer-Section 1**.

You can tell Word wants to use the same header for section 2 as for

section 1 because in the **Navigation** group **Link to Previous** [Link to Previous]

is highlighted and [Same as Previous] appears in the header section.

2. To be able to insert a different header for this section, click the **Link to Previous** button to turn it **off**. **Same as Previous** disappears.

3. To the left of the file name, type **Microfilm** and a blank space.

Microfilm·HW10-3·HWID·Census·Done   →   →   Sec·2·Page·3¶

Header -Section 2-

Microfilm·Rental·and·Sales¶

4. Close the **Header**.

o. Move the insertion point to the bottom of the document and insert another next page section break. The Status Bar and Header both show the insertion point is in section 3 and on page 4.

p. Change the header of the new section.

1. Double-click in the **Header** area on page 4 to open it.

2. Turn off the **Link to Previous** button.

3. Replace the word **Microfilm** with the word **Census**.

Census·HW10-3·HWID·Census·Done   →   Sec·3·Page·4¶

Header -Section 3-

4. Close the **Header**.

q. Since you are about to insert a picture that should be displayed sideways you must set this new section to landscape orientation. Be sure the insertion point is in the new section (this is section 3).

1. On the **Layout** tab, in the **Page Setup** group, click **Orientation** and select **Landscape**.

    Scroll up a few lines to see that the previous section remains in portrait (vertical) while the new section is changed to landscape (sideways).

2. Open the Header and move the right tab stop to the right indent marker so **Sec 3 Page 4** is all the way over on the right.

3. Close the Header.

4. On the **Insert** tab in the **Illustrations** group, click the **Picture** button. Navigate to your **Word Files** folder and insert the file **HW10-3 Census Picture Original.jpg**, which is one of the files you downloaded at the start of the term. This is a photo of a census record from 1910.

5. If necessary, change to **Normal** the style of the paragraph that contains the graphic.

r. Place a border around section 3 only by doing the following:

1. On the **Design** tab, in the **Page Background** group, click **Page Borders**.

2. Select **This section** from the drop-down menu under **Apply to**. This will ensure that the border is placed around the pages in this section only and not every page in the document. There is only one page in this section.

3. Click the down arrow next to **Art** and choose a border you like. I chose stars.

4. Change the number in the **Width** box to 10.

5. Confirm that under **Setting**, the Box icon is selected.

6. Click **OK**.

s. Different sections of a document can have different page number sequences. You will see how this is useful when you work on a large document in HW10-5. To see how this works now, change the automatic page number in the last section to 100 by doing the following:

1. On the **Insert** tab, in the **Header & Footer** group, click **Page Number** and select **Format Page Numbers**.

This allows you to have the page numbers displayed in different formats, such as letters or Roman Numerals. It also allows you to change where the page numbering begins for this section.

2. To the right of **Start at** type 100.

3. Click **OK**. The page numbering is set to start at 100 for section 3.

t. Change every occurrence of the word **National** to the **Emphasize1** style by doing the following:

1. Tap **Ctrl + h** to open the Find and Replace dialog box.

In the **Find what** box, type **National**

Put a check mark next to **Match case** so **national** will not be changed.

Put a check mark next to **Find whole words only** so **Nationalized** will not be changed.

In the **Replace with** box, clear any text, click the **Format** down arrow, select **Style**, and select **Emphasize1**.

Find	Replace	Go To	
Find what:	National		
Options:	Match Case, Whole Words		
Format:			
Replace with:			
Format:	Style: Emphasize1		
<< Less			

Search Options

Search: All

☑ Match case
☑ Find whole words only

2. Click **Replace All**. There should be 5 replacements (**NOT** 7).

u. Sometimes displaying text in multiple columns makes a document easier to read because the reader's eyes do not have to track so far from the end of a line to the start of the next line. Do the following to make part of this document display in 3 columns:

1. On page 2, click just to the left of the first word in the second paragraph (**Microfilm copies of the original…**).

2. On the **Layout** tab, in the **Page Setup** group, click **Breaks** and select **Continuous** under **Section Breaks**.
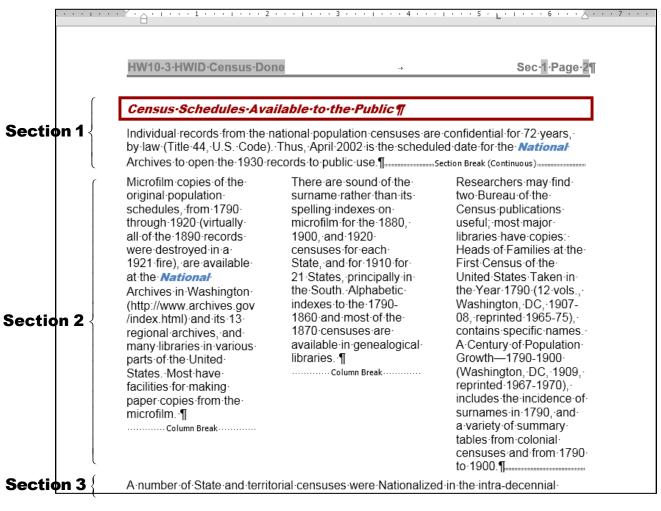
Continuous
Insert a section break and start the new section on the same page.

3. Insert another continuous section break at the start of the paragraph that begins **A number of State and territorial**…

4. Click anywhere between the two continuous section breaks. The status bar should show PAGE: 2   Section: 2 .

5. On the **Layout** tab, in the **Page Setup** group, click **Columns** and select **3**.

6. Click to the left of the first word in the paragraph that begins **There are sound…**.

7. On the **Layout** tab, in the **Page Setup** group, click **Breaks** and select **Column**. This will ensure the second column starts at that point.

> **Column**
> Indicate that the text following the column break will begin in the next column.

8. Click to the left of the first word in the paragraph that begins **Researchers may find…** and insert another column break.

HW10-3-HWID-Census-Done   Sec-1-Page-2¶

Section 1

Census-Schedules-Available-to-the-Public¶

Individual-records-from-the-national-population-censuses-are-confidential-for-72-years,-by-law-(Title-44,-U.S.-Code).-Thus,-April-2002-is-the-scheduled-date-for-the-*National-*Archives-to-open-the-1930-records-to-public-use.¶⸻Section Break (Continuous)⸻

Section 2

Microfilm-copies-of-the-original-population-schedules,-from-1790-through-1920-(virtually-all-of-the-1890-records-were-destroyed-in-a-1921-fire),-are-available-at-the-*National-*Archives-in-Washington-(http://www.archives.gov/index.html)-and-its-13-regional-archives,-and-many-libraries-in-various-parts-of-the-United-States.-Most-have-facilities-for-making-paper-copies-from-the-microfilm.-¶
⸻Column Break⸻

There-are-sound-of-the-surname-rather-than-its-spelling-indexes-on-microfilm-for-the-1880,-1900,-and-1920-censuses-for-each-State,-and-for-1910-for-21-States,-principally-in-the-South.-Alphabetic-indexes-to-the-1790-1860-and-most-of-the-1870-censuses-are-available-in-genealogical-libraries.-¶
⸻Column Break⸻

Researchers-may-find-two-Bureau-of-the-Census-publications-useful;-most-major-libraries-have-copies:-Heads-of-Families-at-the-First-Census-of-the-United-States-Taken-in-the-Year-1790-(12-vols.,-Washington,-DC,-1907-08,-reprinted-1965-75),-contains-specific-names.-A-Century-of-Population-Growth—1790-1900-(Washington,-DC,-1909,-reprinted-1967-1970),-includes-the-incidence-of-surnames-in-1790,-and-a-variety-of-summary-tables-from-colonial-censuses-and-from-1790-to-1900.¶⸻

Section 3

A-number-of-State-and-territorial-censuses-were-Nationalized-in-the-intra-decennial-

v. Tap **Ctrl + p** and compare the preview with the key. Make needed corrections, *print pages 1, 2, and 100 only*, save the document, and then close it.

HW10-4 Track Changes

Problem: How can several people collaborate on and edit a document and allow everyone to see the changes made by each individual?

If you are working on a group project you may need to make changes to documents that were written by other group members. The person who writes the original draft is referred to as the **author**. The others who read the document and suggest changes are referred to as the **reviewers**.

You can use Word's **Comment** feature to insert comments into a document, perhaps expanding on something or clarifying something, or suggesting some change that needs to be made. To see how this works, you will edit a paper concerning mathematical modeling and global poverty[31]

a. Set up the document by doing the following:

1. Open the document **HW10-4 Track Changes Original**.

2. Save the document to your **Word Files** folder using the name **HW10-4 HWID Track Changes Done-part a**

3. On the **Review** tab, in the **Tracking** group, click the launch dialog button. Make the settings match the following:

Click **Change User Name** Set the **User name** and **Initials** to your HWID. Check **Always use these values…**

4. Click **OK**.

---

b. Set the options and insert some comments by doing the following:

1. In the **Track Changes Options** dialog box, click **Advanced Options**.

Here is where you can set the way changes are indicated and the colors that will be used. If necessary, make the settings as follows:
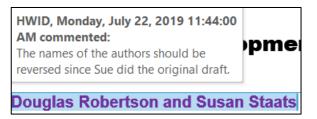
Advanced Track Changes Options		? ✕
Markup		
Insertions:	Underline ⌄	Color: ▮ Red ⌄
Deletions:	Strikethrough ⌄	Color: ▮ By author ⌄
Changed lines:	Outside border ⌄	
Comments:	▮ By author ⌄	
Moves		
☑ Track moves		
Moved from:	Double strikethrough ⌄	Color: ▮ Green ⌄
Moved to:	Double underline ⌄	Color: ▮ Green ⌄
Table cell highlighting		
Inserted cells:	☐ Light Blue ⌄	Merged cells: ☐ Light Yellow ⌄
Deleted cells:	☐ Pink ⌄	Split cells: ☐ Light Orange ⌄
Formatting		
☑ Track formatting		
Formatting:	(none) ⌄	Color: ▮ By author ⌄
Balloons		
Preferred width:	2" ⇕	Measure in: Inches ⌄
Margin:	Right ⌄	
☑ Show lines connecting to text		
Paper orientation in printing:		Preserve ⌄
	OK	Cancel

2. Click **OK** and click **OK** again.

3. On the **Review** tab, in the **Tracking** group, be sure **All Markup** ▤ All Markup ▾ is showing. If not, select it from the drop-down menu.

4. Select the author's names (**Douglas Robertson and Susan Staats**)

5. On the **Review** tab, in the **Comments** group, click **New Comment**. The screen is redrawn with the selected text highlighted and a balloon on the right.

6. Type the following in the balloon: **The names of the authors should be reversed since Sue did the original draft.**

7. Point to the selected text and a screen tip appears showing the date and time the comment was made and the name of the person who made it.
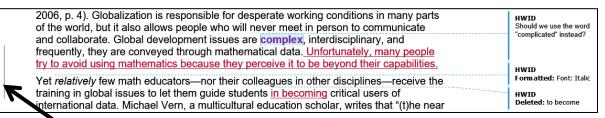
8. In the first paragraph, click just to the right of **Sub-Saharan Africa** (it is bold lavender) and insert a comment with the text **Should we list countries here?**

9. Near the end of the first paragraph, click just to the right of the word **complex** and insert the comment **Should we use the word "complicated" instead?**

10. Look at the **Review** tab in the **Comments** group. The four buttons now are available.

You can insert a **New Comment**, **Delete** a selected comment, move to the **Previous** comment, or move to the **Next** comment.

11. Click anywhere in the second comment.

12. In the **Review** tab in the **Comments** group click **Delete**. You can also delete a comment by clicking in it, right-clicking, and selecting **Delete Comment** from the menu.

c. If you want to make changes to a document and have Word keep a record of those changes you can use the **Track Changes** feature. This is helpful to the author and other reviewers because it allows them to see specifically what you think should be added, deleted, or modified, and how. For example, a comment like **This paragraph is confusing** would be useful but it would be much more helpful if you made specific suggestions as to how the paragraph could be changed to make it better. Once you save the document and send it to others they can accept, reject, or modify the changes.

1. If **Track Changes: Off** shows in the Status Bar, click it to turn it on. Or, on the **Review** tab, in the **Tracking** group, click **Track Changes**.

2. Right after the last sentence in the first paragraph, type a space and then insert the following text: **Unfortunately, many people try to avoid using mathematics because they perceive it to be beyond their capabilities.** Because you set insertions to be red and underlined that is how the text appears.

3. At the start of the next paragraph, make the second word (relatively) italic. The change in formatting is noted on the right side.

4. In the same sentence, select the words **to become** and type **in becoming**. Notice how easy it is to see what was deleted and what was inserted.
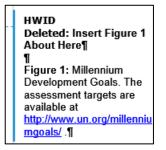
The lines that have changes (added text, deleted text, and formatting) are indicated on the left side by a vertical line.

5. On page 2, select the following text:

Cut the text. Track changes notes the deleted text on the right side.

6. Go back to page 1, click just to the left of the start of the third paragraph, **In this paper, we…**, and paste the deleted text.

d. You can choose to view your document in four different ways. Do the following:

1. On the **Review** tab, in the **Tracking** group, notice that **All Markup** is displayed. This tells you that the current view of the document details all the comments and proposed changes.

2. Click the down arrow and select **Simple Markup**. This shows a simplified version of the markup.

3. Click the arrow and select **No Markup**. This shows how the document will look if all the changes are accepted.

4. Click the arrow and select **Original**. This shows how the document looked before you started making changes.

5. Click the arrow and select **All Markup** again.

6. Tap **Ctrl + Home** to move to the top of the document.

e. Tap **Ctrl + p** and compare the preview with the key. Note that the comments in the right side look a bit different in the printed version than on the screen. You can ignore that. Otherwise, make needed corrections, print *page 1 only*, and save the document but do not close it.

f. Save a new copy of the document using the name **HW10-4 HWID Track Changes Done-part b**.

g. Now, let's process the suggested changes.

1. Tap **Ctrl + Home** to move to the top of the document, if necessary.

2. On the **Review** tab, in the **Changes** group, click the **Next** button. This will select the first comment.

3. Click the **Next** button again to select the second comment.

4. Click the **Reject** button. The comment is deleted and the next change is selected, which is the inserted text **Unfortunately, many people**...

5. Click the **Accept** button to retain this change and move to the next change, which is the format change of the word **relatively**.

    You can move through the document rejecting and accepting changes one at a time. You can accept all the remaining changes by clicking the arrow on the **Accept** button and selecting **Accept All Changes in Document**. Using a similar procedure you can reject all the rest of the changes.

6. Accept all the rest of the changes in the document.

7. Turn off **Track Changes**.

h. Save the document and close it without printing.

HW10-5 Large Document

Problem: How can a large document, such as this Study Guide, be organized and include graphs, equations, a table of contents, an index, and cross references?

The following book chapter on computer-mediated mathematics courses serves as the basis for this assignment:

Kinney, D. P., Kinney, L. S., Robertson, D. F. (2005). *Learning Mathematics Through Computer-mediated Instruction*. In J. L. Higbee, D. B. Lundell, & D. R. Arendale (Eds.), The General College vision: Integrating intellectual growth, multicultural perspectives, and student development (299-318). Minneapolis: University of Minnesota, General College, Center for Research on Developmental Education and Urban Literacy.

a. Open the document **HW10-5a Large Document Original**, which is one of the files you downloaded at the start of the term.

b. Save the document to the **Word Files** folder using the name **HW10-5 HWIDf Large Document Done**

> ***The page numbers in your document might not exactly match those described here due to different computer and printer setups.***

c. One way to move quickly through a document is to use the **Navigation Pane**, which displays a list of headings and subheadings in the document. When you click a heading in the **Navigation Pane** Word jumps to that heading in the document, displays it at the top of the window, and highlights the heading in the **Navigation Pane**. Do the following:

   1. On the **View** tab, in the **Show** group, click the checkbox to the left of **Navigation Pane**. This displays an outline of the document in a pane on the left side of the window.

The outline entries are automatically generated using built-in styles called **Heading 1**, **Heading 2**, **Heading 3**, etc. For example, I applied the following styles to various parts of this book chapter:

Heading 1: This heading normally would be used for the title but later on you will create a Table of Contents from the first three levels of headings and you do not want the title in the Table of Contents. So, **Heading 1** is not used. However, you do want the title to appear in the **Navigation Pane** so I applied **Heading 5** to it.

Heading 2: Section headings such as **Computer-mediated Instruction**, **Overview of Computer-mediated Software**, and **Structure of Computer-mediated Courses**.

Heading 3: Some sections have sub-parts. For example, **Structure of Computer-mediated Courses** has sub-parts such as **Daily Schedule of Class Activities**, **Homework Assignments**, and **Exams and Quizzes**.
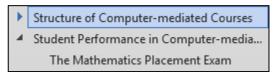
This illustrates how a good outline of a paper can be helpful later on as the paper grows and details are filled in.

2. If you think the width of the **Navigation Pane** is too narrow or too wide, you can change it. Point to the vertical bar that separates the **Navigation**

   Pane from the document screen and the pointer will change to a double pointed arrow. Drag left or right to change the width.

3. In the **Navigation Pane**, click **Structure of Computer-mediated Courses**. The insertion point will jump to that section of the document.

4. Click the **arrow** on the left of **Structure of Computer-mediated Courses**. The **down-pointing arrow** turns into a **right-pointing arrow**, and the subheadings of **Structure of Computer-mediated Courses** are hidden.

You can use the **arrows** to collapse or expand any section that you wish. In a large document, collapsing and expanding selected levels can make it easier to see the parts of the document you are working on.

5. Click the **arrow** on the left of **Structure of Computer-mediated Courses** to once again display its subheadings.

6. Point to any heading, right-click, and select **Expand all** so you can see all the headings and subheadings.

7. This document contains a lot of hidden codes that will be explained later. For now, hide these codes, if necessary, by clicking the **Show/Hide** button ⁋ on the **Home** tab.

d. Insert a photo of the room where the classes are taught by doing the following:

1. Use the **Navigation Pane** to move the insertion point to **Insert Photo Here** (third line from the top in the **Navigation Pane**).

2. Select the entire line.

3. On the **Insert** tab, in the **Illustrations** group, click the **Pictures** button.

4. Navigate to your **Word Files** folder and double-click the file **HW10-5b Photo Original.jpg**.

e. Insert two tables and a graph by doing the following:

1. Move the insertion point to **Insert Table 1 Here**.

2. Select the entire line.

3. On the **Insert** tab, in the **Text** group, click the down arrow on the right of **Object** and choose **Text from File**.

4. Navigate to your **Word Files** folder and then double-click the file **HW10-5c Table 1 Original**, which is one of the files you downloaded at the start of the term.

5. Change the style of the caption, **Table 1: Course Satisfaction**, to **Heading 5** (**Home**, **Styles**, scroll down and click **Heading 5**).

6. Move the insertion point to **Insert Table 2 Here**. Follow the same procedure as you did for **Table 1** to insert the file **HW10-5d Table 2 Original**, which is one of the files you downloaded at the start of the term. Change the style of the caption to **Heading 5**.

7. Move the insertion point to **Insert Figure 1 Here**. Follow the same procedure as you did for **Table 1** to insert the file **HW10-5e Graph Word Original**, which is one of the files you downloaded at the start of the term. Change the style of the caption to **Heading 5**. Center the figure on the page. If the caption is on the next page, set them to be on the same page (select the line with the figure, then do **Paragraph**, **Line and Page Breaks**, and **Keep with next**).

f. Word offers two ways to enter equations.

   • Use an equation editor such as **MathType**. This is an app you must purchase and install in Word. If you are a STEM major and will be typing a lot of equations this is a good investment because it is fast and efficient, once you learn it.

   • Use a pallet from which you can choose mathematical symbols and structures. This is slower but it is easier to use. You will use this way since most of you are not STEM majors and probably will not do this very often. Do the following:

   1. Use the **Find** feature to locate the red text **QuadraticFormulaHere**.

   2. Delete the red text **QuadraticFormulaHere**.

       You will insert this formula at this location: $x_{1,2} = \dfrac{-b \pm \sqrt{b^2 - 4ac}}{2a}$
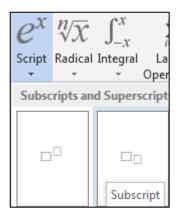
   3. On the **Insert** tab, in the **Symbols** group, click the big pi symbol. This opens up the **Equation Tools Design** tab.

   4. It will be easier if you change the magnification to 200% by repeatedly clicking the plus symbol on the **Status Bar** in the lower right corner of the window.

   5. Click the **Script** down arrow and select **Subscript**.

       This inserts a template where you can enter the values.

       In the larger box, type **x** and in the smaller box type **1,2** $x_{1,2}$

   6. Tap the **Right Arrow** key to move out of the subscript box and type **=**

   7. Click the **Fraction** down arrow and select **Stacked Fraction**

8. Click the numerator and type **–b**.

9. In the **Symbols** group, click the plus or minus symbol $\pm$

10. Click the **Radical** down arrow and select **Square Root.**

11. Click inside the square root symbol, click the **Script** down arrow and select **Superscript**. Type **b** in the base box and **2** in the superscript box.

$$x_{1,2} = \frac{-b \pm \sqrt{b^2}}{\square}$$

12. Tap the **Right Arrow** key to move out of the superscript box and type **–4ac**

13. In the denominator type **2a**

$$x_{1,2} = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

14. Click outside the editor box to return to normal Word editing mode.

15. Follow the same procedure to replace **EquationHere** with the equation $5x^2 - 3x + 1 = 0$. The line should look like the following:

> "Use the Quadratic Formula, $x_{1,2} = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ to solve $5x^2 - 3x + 1 = 0$."

16. Change the magnification back to 100% by repeatedly clicking the minus symbol on the **Status Bar** in the lower right corner of the window.

17. After the quotation mark, insert a footnote that says **Here, quad refers to the number of sides of a square, which has 2 dimensions.**

g. Create cross references to specific pages in the document so the reader can be directed to other places for more information. Here is an example of a cross-reference in this Study Guide:

You cannot simply type the page numbers because as parts of the document are added or deleted the page numbers will change. Word has a way of creating page references that will automatically update each time the document is saved or printed.

Do the following:

1. Locate the caption **Figure 1: Gender and Type of Class Chosen**. Select the text **Figure 1**.

2. On the **Insert** tab, in the **Links** group, click **Bookmark**. This will display the bookmark dialog box.

3. Type **Figure1** in the **Bookmark name:** box. A bookmark name must begin with a letter and may contain numbers or the underscore but no spaces. So, **Figure1** and **Figure_1** are fine but **Figure 1** is not.

4. Click **Add**. The dialog box closes automatically. This creates a hidden bookmark at this location. If you want to see where bookmarks are, click the **File** tab, click **Options**, click **Advanced**, scroll down to **Show document content**, and put a check next to **Show bookmarks**.

   If they enclose text, bookmarks will show as gray brackets: $\lceil Figure\ 1 \rceil$

   If no text was selected when you created the bookmark, a gray I beam $\rceil$ will show.

   To go to a specific bookmark, open the **Bookmark** dialog box, click the bookmark you want, and click **Go To**.

   To delete a bookmark, open the **Bookmark** dialog box, click the bookmark you want, and click **Delete**.

5. Set up a bookmark for **Table 1: Course Satisfaction**.

6. Be sure the **Show/Hide** feature is off. Use the **Find** feature to locate the blue text **page xx** near the top of the document (about page 3). You want to replace **xx** with the page number where the reference can be found.

7. Delete **xx**. Then, on the **Insert** tab, in the **Links** group, click **Cross-reference**.

8. Set the choices in the **Cross-reference** dialog box as follows:

   Reference type: **Bookmark**
   Insert reference to: **Page number**
   Insert as **hyperlink**
   For which bookmark: **Figure1**

9. Click **Insert** and close the dialog box. The page number, **23**, is inserted.

difference in course choice (see the graph on page 23). Course satisfaction slightly favors

> If you add or delete text from the document this page number will automatically be updated when you save or print.
>
> Since you checked the box next to **Insert as hyperlink**, if you hold down the **Ctrl** key and click the page number cross-reference you just set up, the insertion point will jump to that part of the document.

Figure1
Ctrl+Click to follow link

page 23). Course satisfactio

10. Two lines down locate the blue text **page yy**. Replace **yy** with a cross-reference that contains the page number where **Table 1** can be found.

h. Breakup the document into different sections and insert headers for each section by doing the following:

1. Right-click the **Status Bar** to open the **Customize Status Bar** dialog box. If they are not already there, click to place check marks to the left of **Formatted Page Number** (explained later) and **Section**.

Customize Status Bar	
✓ Formatted Page Number	1
✓ Section	1
✓ Page Number	Page 1 of 33

2. Move the insertion point to the left of the heading **Abstract** near the top of the document. On the **Layout** tab, in the **Page Setup** group, click the **Breaks** button and select **Section Breaks, Next page**.

Now, the **Abstract** section starts at the top of page 2. The **Status Bar** will show **PAGE 2 SECTION 2**.

3. Move the insertion point to the left of the heading **Insert Table of Contents Here** and insert a next page section break. Now, the **Table of Contents** section starts at the top of page 3. The **Status Bar** will show **PAGE 3 SECTION 3**.

4. Move the insertion point to the left of the heading **Computer-mediated Instruction** and insert a next page section break. The **Status Bar** will show **PAGE 4 SECTION 4**.

5. Move the insertion point to the left of the heading **Works Cited** near the end of the document and insert a next page section break. The **Status Bar** will show **PAGE 32 SECTION 5**.

6. Move the insertion point to the left of the heading **Insert Index Here** and insert a next page section break. The **Status Bar** will show **PAGE 35 SECTION 6**.

i.   Adjust the page numbers of the body of the paper by doing the following:

1.   Move the insertion point to the left of the heading **Computer-mediated Instruction** near the top of the document.

Look at the **Status Bar** in the lower left corner of the window. The page number is 4, which is not what you want. This is because the title page, abstract, and Table of Contents are all counted as pages. The **Computer-Mediated Instruction** section should begin on page 1.

2.   On the **Insert** tab, in the **Header & Footer** group, click **Page Number**, and click **Format Page Numbers**. In the **Page Number Format** dialog box, click **Start at** and be sure a **1** is in the **Start at** box.

3.   Click **OK**. Look at the **Status Bar**: | PAGE: 1   Section: 4   Page 4 of 35

PAGE: 1 is called the **Formatted Page Number**. That is the page number that will appear in the document header or footer. This is the page number you just set to 1 in the **Page Number Format** dialog box.

SECTION: 4 means the insertion point is in the fourth section of the document.

PAGE: 4 of 35 means the insertion point is in the "real" 4th page of the document and the document has a total of 35 "real" pages. Your document may have 34 or 36 "real" pages due to differences in printer setups. That is no big deal.

> *You have done a lot of work on this document so far so now would be a good time to save it.*

j. Put in headers by doing the following:

1. Move the insertion point to just to the left of the **Computer-mediated Instruction** heading near the top of the document.

2. On the **Layout** tab, in the **Page Setup** group, click the dialog box launcher [icon] to open the **Page Setup** dialog box.

    Click the **Layout** tab, click the check boxes next to **Different odd and even** and **Different first page**. In the drop-down menu next to **Apply to**, be sure **This section** is selected.

Margins	Paper	Layout

    Section

    Section start: New page

    ☐ Suppress endnotes

    Headers and footers

    ☑ Different odd and even
    ☑ Different first page

    Header: 0.5"
    From edge:
    Footer: 0.5"

    Page

    Vertical alignment: Top

    Preview

    Apply to: This section

3. Click **OK**. The status bar says there now are 36 pages in the document and the insertion point is on the "real" page 5. Word has automatically inserted an invisible blank page after page 3 because you just told it to set up different headers for the first page of the section, the odd pages of this section, and the even pages of this section.

4. Double-click in the **Header** area. On the **Header & Footer Tools Design** tab, in the **Navigation** group, click **Link to Previous** to deselect it. This will enable you to change the header for this section without affecting the header in the previous section. The header area is now called **First Page Header -Section 4**. This is the first page of section 4 and you do not want a header on this page.

    First Page Header -Section 4-   *Computer-mediated Instruction*

5. Scroll down and click in the **Even Page Header -Section 4** in the header area, deselect the **Link to Previous** button and remove the center tab stop.

Insert field codes so that the automatic page number is displayed on the left and the file name is displayed on the right.

2	**HW10-5 HWIDf Large Document Done**
Even Page Header -Section 4- ational effects, (e) better structured instruction, (f) immediate feedback, and (g)	

6. Scroll down and click in the next header area. It has the label **Odd Page Header -Section 4**. Deselect the **Link to Previous** button and remove the center tab stop.
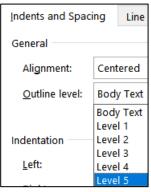
Type a header that contains your HWID on the left and the automatic page number on the right.

HWID	**3**
Odd Page Header -Section 4- Based on the pretest score, the software makes a recommendation for what the	

7. Close the Header and Footer area.

k. Add a **Table of Contents** by doing the following:

1. Move the insertion point to the left of the heading **Insert Table of Contents Here**.

2. Replace the text with the words **Table of Contents** and tap **Enter**.

3. Change the style of the line that contains **Table of Contents** to normal.

4. Format the line that contains **Table of Contents** as 18 point, bold, Arial, and center the line between the margins.

5. Right-click anywhere in the Table of Contents line and select **Paragraph**. Set the **Outline Level** to **Level 5**.

Click **OK**.

Indents and Spacing	Line
General	
Alignment:	Centered
Outline level:	Body Text
	Body Text
	Level 1
Indentation	Level 2
	Level 3
Left:	Level 4
	Level 5

This will make the **Table of Contents** heading at the same level as paragraphs that have style **Heading 5** and it will appear in the **Navigation Pane**. Do not use **Heading 1** or **Heading 2** or **Heading 3** style because you do not want the **Table of Contents** heading to be in the actual **Table of Contents**.

6. Click in the blank line just under **Table of Contents**.

7. On the **References** tab, in the **Table of Contents** group, click **Table of Contents** and select **Custom Table of Contents** near the bottom of the menu. The **Table of Contents** dialog box opens. Set it to look like the following (show the page numbers, right align the page numbers, apply a dotted tab leader to the page numbers, choose the format from a template, and show the top 3 levels only):

8. Click **OK**. The **Table of Contents** is inserted.

   You can use the **Table of Contents** to quickly go to any item listed. To do this, point to the item, hold down the **Ctrl** key, and click.

   Try it. Hold down the **Ctrl** key, point to **Homework Assignments** and click. The insertion point is moved to the **Homework Assignments** section.

I. An index is helpful in a large document because it can help the reader quickly find particular words and phrases of interest. Creating an index involves four steps:

    Step 1 Mark words and phrases that are to appear in the index. For this document, I have already marked quite a few index entries in order to save you time. You are going to mark a few more and then create the index.

    Step 2 Edit the index codes so the wording is appropriate and makes sense.

    Step 3 Have Word create the index from the index codes.

    Step 4 Check the index and edit the index codes as needed.

    Do the following:

    1. Move the insertion point to the left of the heading **Computer-mediated Instruction**.

       If the hidden codes are not showing, on the **Home** tab, in the **Paragraph** group, click the **Show/Hide** button ¶

This will display the paragraph marks, ¶, tabs →, spaces, ·, and other document marks such as index codes.

The first index code look like this: **{ XE "computer-mediated" }**

The prefix **XE** stands for inde**X E**ntry. The word or phrase that will appear in the index is shown inside quotation marks.
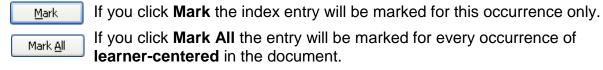
2. Select **learner-centered** in the first paragraph. It is in red to help you find it.

3. Tap **Alt + Shift + x** (or choose **References**, **Index**, **Mark Entry**).

The selected word appears in the **Main entry** box.

If you want to change it for some reason you can type in what you want.

If you click **Mark** the index entry will be marked for this occurrence only.

If you click **Mark All** the entry will be marked for every occurrence of **learner-centered** in the document.

4. Click **Mark**. The phrase **learner-centered** is marked as an index entry.

The **Mark Index Entry** dialog box stays open so you can mark more entries.
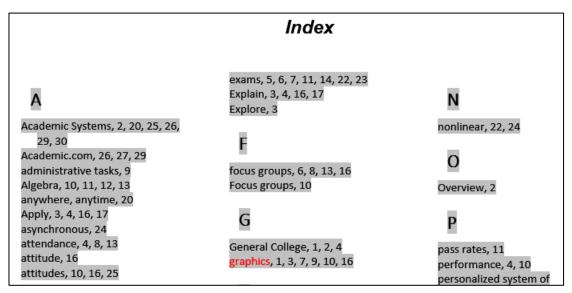
5. Move four lines down and select **graphics** (it is in red). Click anywhere in the **Mark Index Entry** dialog box and then click **Mark All**. This will mark every occurrence of **graphics** in the document. Note that this will NOT mark **graphic** or **graphical**. That is one of the drawbacks of the **Mark All** button—variations on the word or phrase will not be marked even though they may be important. Hence, you will have to carefully read the document and tweak the index to make it accurate. This takes time!

6. Close the **Mark Index Entry** dialog box.

m. Create the index by doing the following.

1. Move the insertion point to the heading **Insert Index Here** at the bottom of the document.

2. Replace the text **Insert Index Here** with the single word **Index** and apply the **Heading 2** style.

3. Click in the blank line below **Index**.

4. Turn off the **Show/Hide** feature by clicking the **Show/Hide** button ¶. If you do not turn off the **Show/Hide** feature the page numbers will be incorrect because the text of the marked index entries will add to the length of the document.

5. On the **References** tab, in the **Index** group, click **Insert Index**.

    In the **Columns** box, change the number of columns to 3.

    In the **Formats** box, click the arrow, scroll down, and select **Bulleted**.

Index	Table of Contents	Table of Figures	Table of Authorities

Print Preview

A

Aristotle, 2
Asteroid belt. *See* Jupiter
Atmosphere
  Earth

Type: ⦿ Indented
Columns: 3
Language: English (Uni

☐ Right align page numbers
Tab leader:
Formats: Bulleted

6. Click **OK** to create the index. Note that the page numbers in your index may be slightly different from those shown due to the setup for different printers.

n. It is often the case that after you create the index you will have to modify it. For example, the index you just created lists **attitude** and **attitudes** as separate entries even though they are the same topic. The same is true for **Evaluate** and **Evaluates**. So, after you create the index it is a good idea to print it, go through the entries, and make changes as appropriate. But, do NOT edit the index directly—only edit the marked entry codes in the body of the document. Once you make the entries consistent you can create a new index with a single keystroke.

Change the **Evaluates** index entries to **Evaluate** by doing the following:
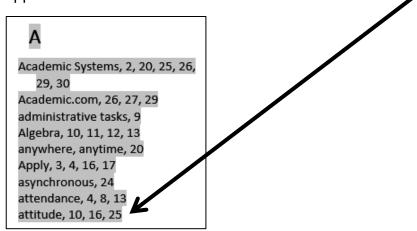
1. Tap **Ctrl + Home** to move to the top of the document.

2. Turn on the **Show/Hide** feature by clicking the **Show/Hide** button ¶.

3. Tap **Ctrl + h** to open the **Find and Replace** dialog box.

   In the **Find what** box type: **XE "Evaluates**

   In the **Replace with** box type: **XE "Evaluate**

4. Click **Replace All**. Word replaces all the index entries that contain **Evaluates** with **Evaluate** (there should be three replacements). Word does not change the text of the document, only the index entry codes.

5. Click **OK**.

6. Repeat the process changing the index entries for **attitudes** to **attitude** (there should be three replacements). Close the **Find and Replace** dialog box.

7. Turn off the **Show/Hide** feature by clicking the **Show/Hide** button ¶.

8. Now, you need to update the index. To do that, click anywhere in the index, right-click, and select **Update Field**. You could also choose **References**, **Index**, **Update Index**. or tap **F9**. Now, only **attitude** appears in the index.

There are several other similar situations (e.g., **focus groups** & **Focus groups**, and **math placement** & **mathematics placement**) but, to save time, you can leave those alone.

o. To save paper, *do NOT print the whole document*. Print selected pages by doing the following:

1. Tap **Ctrl + p** to open the **Print** dialog box.

2. In the **Settings** section, click the **Pages** option. The **Screen Tip** shows you how to print selected pages or sections.

3. Type **s3** in the **Pages** box. This will print section 3, which has the **Table of Contents**.

4. Click **OK** to print the one page in section 3.

5. Move the insertion point to the page that contains the **quadratic formula**. This probably is formatted page 7 (real page 11) but, depending on your printer, it could be page 6 or page 8.

6. Tap **Ctrl + p** to open the **Print** dialog box.

7. In the **Settings** section, click the down arrow and select **Print Current Page**. This will print the page that currently contains the insertion point.

8. Click **OK** to print the page.

9. Follow the same procedures to print the page that contains **Table 1** (probably page 14) and the **Index**.

p. Check your output with the key. Then, save the document and close it.

Step 4 Submit You now are ready to submit your homework for grading.

1. Put your 10 homework papers in the following order:

   HW10-1 Character Styles (page 1 only)
   HW10-2 Paragraph Styles (page 1 only)
   HW10-3 Census (page 1)
   HW10-3 Census (page 2)
   HW10-3 Census Sample Page (page 100)
   HW10-4 Track Changes (page 1 only)
   HW10-5 Large Document Table of Contents (section 3)
   HW10-5 Large Document Equations (page 7)
   HW10-5 Large Document Table 1 (page 14)
   HW10-5 Large Document Index (page 32)

2. Cut out Submission Form 10 and put it on the top of the papers.

3. Staple the papers in the upper left corner.

4. Turn in the packet by the due date.

Step 5 Backup Now would be a good time to backup your files.

Sample Exam Questions for Word

These sample questions will give you a place to start in your studying but they ***do not*** constitute a "practice" exam so you will also need to study the activities in your textbook as well as those in this Study Guide in order to be fully prepared for the real exam. I may ask you questions on material that was covered in the textbook, this Study Guide, and your projects that are NOT specifically covered here.

> ***This is not to be handed in for grading. The files generated are in your Word Exam folder and have the word KEY in their names.***
> ***The printed keys are on page SG376.***

After reviewing the textbook activities, do the following sample exam questions.

General Word Operations

    a. Open the **Word document Notes Sheet for CI 1871 Word Exam Original**, which is one of the files you downloaded at the start of the term.

    b. Replace **Lastname**, **Firstname HWID** with your information.

    c. Save the document to your **Word Exam** folder using the name **Notes Sheet for CI 1871 Word Exam Done**.

       You may want to print this file and then close it. Then, write on the printout as you go through the following sample questions. Or, keep it open while you do the sample questions, type your notes on it, and then print it. You will hand in this sheet when you finish the exam.
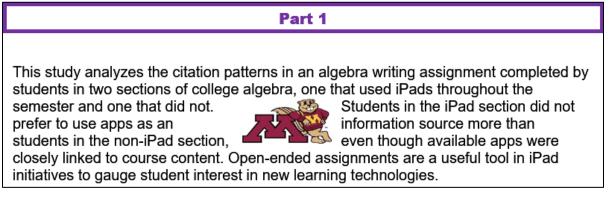
    d. Open the **Word document Sample-a Exam Questions Original**, which is one of the files you downloaded at the start of the term.

    e. Save the file to your **Word Exam** folder using the name **Sample-b Exam Questions Done**

    f. **Heading style**

       1. Apply the **h1** style to the 9 headings labeled **Part 1**, **Part 2**, **Part 3, Part 3a**, **Part 3b**, **Part 3c**, **Part 4**, **Part 5**, and **Part 6** and also, at the end of the document, to the paragraph containing the word **Index**.

> ***If you get stuck, look up the question in***
> ***"How to Solve the Sample Exam Questions for Word"***
> ***starting on page SG268 of this Study Guide.***

       2. Modify the **h1** style so that the font color is **purple**, the font size is 16, the paragraph is **center** aligned and there is a 3 pt purple **border** around the paragraph.

g. **Part 1**

　　1. For the two paragraphs under **Part 1**, set the spacing before to **24** pt and the spacing after to **12** pt.

　　2. Insert the picture of Goldy (**HW07-2 Goldy Original**) anywhere in the first paragraph. Change the height to **0.5** inch and the width to **1** inch. Position the picture as shown below:

h. **Part 2**

TABS and **INDENTS** are **VERY** important. See page **SG164** for more details.

　　1. For the heading, **Part 2**, insert a page break so **Part 2** appears at the top of the next page.

　　2. For the 3 lettered items under **Part 2**, **use the ruler** to do the following:

- Set the left indent to **1.5** inches.

- Set the first line indent to **1** inch.

- Set the right indent to **6** inches.

i. **Part 3**

　　1. Double space the paragraph that begins with **DOUBLE SPACE THIS PARAGRAPH**.

　　2. Set the **Part 3** heading and the four paragraphs below it so that they always appear on the same page.

　　3. Under **Part 3a**, click anywhere in the phrase **SIDE HEAD ONE**. Create a new **paragraph** style called **s1** that makes the font **Arial Black**, **14** point, **blue**, and the paragraph **centered**.

Apply this style to **SIDE HEAD ONE**.

　　4. Find the phrase **SIDE HEAD TWO** and apply the **s1** paragraph style.

　　5. Create a new **character** style called **e1** that makes font **Arial**, **12** pt, **bold**, *italic*, <u>underlined</u>, and **red**.

6. Apply style **e1** to all occurrences of the word **Disk**. Words like **disk** and **Diskette** should not have the style applied. There should be 3 replacements.

Part 2

a.   This is the first lettered item. It contains the word Diskette, which should NOT have the style e1 applied to it.

b.   This is the second lettered item. It contains the word disk, which should NOT have the style e1 applied to it.

c.   This is the third lettered item. It contains the word *Disk*, which should have the style e1 applied to it.

A few universities have introduced iPads, which do not have a *Disk*, within a wide range of undergraduate classes. Pepperdine University, for example, conducted a three term experimental *Disk* comparison of iPad- and non-iPad-using classes use across discipline including calculus, business, nutrition, and religion.

---

7. Under **Part 3c**, at the end of the phrase **Vertex form of the quadratic function:** construct this formula $f(x) = a(x - h_1)^2 + k_1$

   Note that the default font of the equation is Cambria Math and not Arial like the rest of the document. To change the font, Word Help says to select the text, right-click, choose font, and select the one you want. That does not work! Leave the font as it is. You can change the font if you use the app MathType. However, changing the font size and applying bold do work in the usual ways.

j. **Part 4**

   1. Select the phrase **Part 4** and insert a bookmark called **Part4**.

   2. Break up the paragraph which begins **BREAKUP THIS PARAGRAPH**. Make the breaks just before **(a)**, just before **(b)**, and just before **(c)**.

   3. Set the line and page breaks so that the side head **Part 4** and the four lines below it always appear on the same page.

   4. For each lettered paragraph **(a)**, **(b)**, and **(c)**, set a **left** tab stop at **1** inch, a **center** tab stop at **3** inches, and a **decimal** tab stop at **5** inches. Make the decimal tab have a leader that is a **dotted** line.
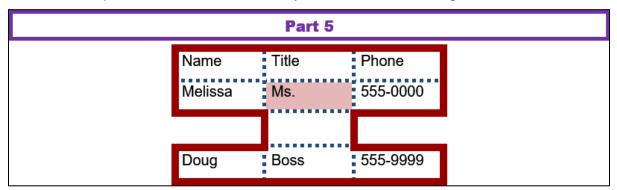
      Use the **Tab** key to make these paragraphs look as follows:

Part 4

BREAK UP THIS PARAGRAPH

(a)	SKINNY	0.0025
(b)	REALLY PORTLY	82.1
(c)	SOMEWHERE IN BETWEEN	177

---

   5. Insert a footnote mark to the right of the word **SKINNY**. The text of the footnote should be **By skinny, we mean really thin**.

k. **Part 5**

1. Convert the four paragraphs under **Part 5** to a table. Format the table as follows:

   - The outside border should be **solid red 6** pt.

   - The inside lines should be **dotted blue 3** pt.

2. Make the fill color **pink** of the cell that contains the word **Ms**.

3. Insert a new row between the rows for **Doug** and **Melissa**.

4. Delete the row for **Noah**.

5. Make the **height** of all the rows **0.3** inch and the **width** of all the columns **1** inch.

6. **Center** the table on the page.

7. Adjust the borders so that they look like the following:

Part 5		
Name	Title	Phone
Melissa	Ms.	555-0000
Doug	Boss	555-9999

l. **Part 6**
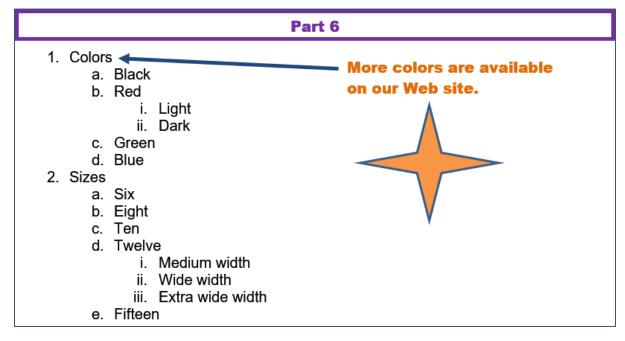
1. Use the **Multilevel List** feature on the 16 lines under **Part 6** to make them look like the following:

Part 6

1) Colors
   a) Black
   b) Red
      i) Light
      ii) Dark
   c) Green
   d) Blue
2) Sizes
   a) Six
   b) Eight
   c) Ten
   d) Twelve
      i) Medium width
      ii) Wide width
      iii) Extra wide width
   e) Fifteen

2. Insert a text box next to the heading **Part 6** and type the following in the text box: **More colors are available on our Web site**.

   Make the text **orange Arial Black**. **Remove** the outline and fill color from the text box.

3. Insert an **arrow** pointing from the text box to the word **Colors** in the outline. Make the weight of the arrow **3** pt and the color blue.

4. Insert an orange four-pointed star with a blue outline under the text box.

5. Arrange the items as shown below:

m. **Table of Contents**

   Set up and insert a **Table of Contents** by doing the following:

   1. Set the outline level of the paragraph **BREAKUP THIS PARAGRAPH** to 2 so it will appear in the **Table of Contents**.

   2. Go to the top of the document, click in the blank line below **Table of Contents**, and insert a **Table of Contents**. Construct the table using the **first two heading levels only** in the **Distinctive** format, show page **numbers**, **right** align the page numbers, and make them have a **dot leader**.

   3. Click just to the left of the heading **Part 1** and insert a next page section break so that the heading **Part 1** appears on the next page and in the new section 2.

n. **Cross Reference**

   Just after the second paragraph of the document, find the phrase **Part 4 is on page XX of this document**. Replace the **XX** with the automatic page number cross-reference to the **Part4** bookmark. Make the page number red **bold**.

o. **Headers**

Set up the **headers** for section 2 as follows (be sure to deselect **Link to Previous**):

1. Set the layout for section 2 so that it has a different **First Page Header**, and different **Even** and **Odd page headers**.

2. **First Page Header** contains the **filename** on the left, the word **Page**, a space, and the automatic page number in the middle, and the date the file was last **saved** on the right in the format **Day, Month Date, Year**.

3. **Even Page Header** contains the word **Page**, a space, and the automatic page number on the left and the word **Sec**, a space, and the automatic section number on the right.

4. **Odd Page Header** contains your **HWID** on the left and the word **Page**, a space, and the automatic page number on the right.

p. **Index**

Set up and insert an **Index** by doing the following:

1. Mark the following as index entries: **disk**, **quadratic function**, and **REALLY PORTLY**.

2. Move to the end of the document. Insert a **next page section break** so the word **Index** is on the next page.

3. Move to the end of the document and tap **Enter**. Be sure to turn off the **Show/Hide** codes so the page numbers will be correct.
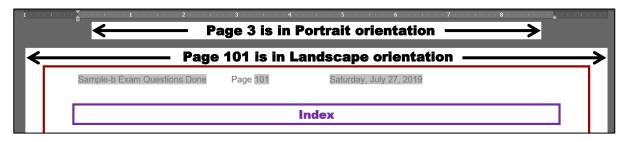
   Insert an **index**. Use the **Modern** format, **two** columns, **right** align page numbers, and a **dot** leader.

4. Change the automatic page number for the **Index** page to start at **101**.

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Index

D		R	
disk 1		REALLY PORTLY 2	
Q			
quadratic formula................................ 2			

5. For the page that contains the word **Index** and the index itself, make the orientation **Landscape**. All other pages should remain in **Portrait** mode.

6. Place a **3** pt **red** border around the page that contains the **Index**. No other pages should have that border.

Page 3 is in Portrait orientation

Page 101 is in Landscape orientation

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Index

q. Tap **Ctrl + p** and compare the preview with the key. Make needed corrections. Do not print it. Save the document and close it.

Graphics and Other Stuff

a. Start Word, open a new blank document, and save the file in your **Word Exam** folder as **Sample-c Graphics and Other Stuff Done**

b. Type **Practice Questions for Word Exam** and tap **Enter**. Then type **This file provides practice with graphics**, tap **Enter**, and type **and columns.** Then tap **Enter**.

c. Change the **Normal** style so the font is **12 pt Arial Bold**.

d. Sections and Columns:

   1. Insert the text from the file **w02B_Cover_Letter_Text**, which is one of the files you downloaded at the start of the term

   2. Correct the spelling and grammar.

   3. Put the text from **I can be accessible…** through **In addition, I have…** in three column format so it looks like the following:
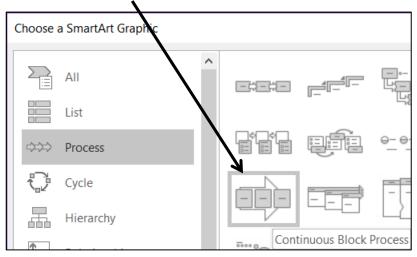
With a permanent position as my ultimate goal, I hope to use the Florida Port Community College Career Center to secure a temporary job.

I can be accessible for a flexible number of days or hours and am willing to work in a diversity of businesses or organizations.

As my resume illustrates I have exceptional computer skills. I am a honor student at FPCC and have outstanding references.

In addition, I have part-time work experience as a software tester, where I perform the following computer activities.

I am available for the purpose of an interview at your convenience. You can contact me by email at jgarcia@alcona.net or by telephone at (727) 555-0347.

e. **SmartArt**

1. Move to the top of the document and insert a **SmartArt** object **Process**, **Continuous Block Process**.

2. Enter the following phrases, one in each text box: **Sleep**, **Alert**, **Good Grades**, **Happy Student**, **Good Life**.

3. Make the object **4** inches wide and **2** inches high.

4. Change the colors to **Colorful**.

5. Change the font to **8 pt Arial Black** and make the color black.

6. Move the object to the upper right corner of the page so it just touches the top and right side.

f. **Picture**

1. Move to the top of the document and insert the picture **w01A_Bird**, which is one of the files you downloaded at the start of the term.

2. Change the height AND width to 2 inches so the picture is square.

3. Apply the **Soft Edge Oval** style.

4. Rotate the picture 45 degrees clockwise.

5. Move the picture to the lower right corner of the document.

g. Move to the end of the document, just after the phone number. Insert as a table the data in **B2:F10** from the **Data** tab of the Excel file **Sample-d Education and Earnings Original**.

h. Insert a screen shot of your **Word Exam** folder. Make both the height and width 1.5 inches. Place a black border around it and move it to the bottom center of the document.

i. Save the document and close it.

Sorting

a. Open the file **Sample-e Table Sort DATA Original**, which is one of the files you downloaded at the start of the term. You will use this file in this section on sorting and on the next two sections on **Mail Merge** and **Mailing Labels** (hence the word **DATA** in the file name).

b. Save the document to your **Word Exam** folder using the name **Sample-f Table Sort DATA Done**

c. Convert the text into a table.

d. Autofit the column widths.

e. Make the background of the document **White Marble**.

f. Make the table style **Grid Table 5 Dark – Accent 6**.
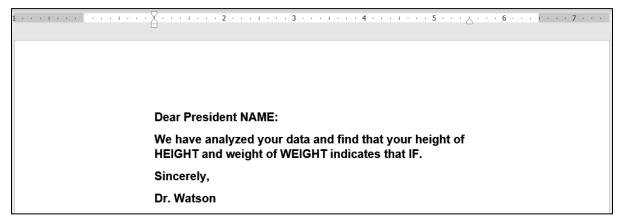
g. Sort the data in the table by **State** in **Descending** order (**Z to A**) and, within **State**, by **LastName** in **Ascending** order (**A to Z**).

h. Center the table horizontally on the page.

Num	BirthDate	LastName	FirstName	State	Weight	Height
21	Oct 5, 1829	Arthur	Chester	VT	231	66
30	Jul 4, 1872	Coolidge	Calvin	VT	211	71
9	Feb 9, 1773	Harrison	William	VA	191	

i. Save the file and close it.

Mail Merge

a. Create a Mail Merge **MAIN** document by doing the following:

1. Start Word, open a new blank document, and save the file in your **Word Exam** folder as **Sample-g Merge MAIN Done**

2. Change the **Normal** style of the document so that the font is **12** pt **Arial bold** and the left and right indents are set to **1** inch.

3. Type the following letter:

Dear President NAME:

We have analyzed your data and find that your height of HEIGHT and weight of WEIGHT indicates that IF.

Sincerely,

Dr. Watson

4. Convert the document to a mail merge **letters** document.

5. Select **Sample-f Table Sort DATA Done** as the data source.

6. Set the mail merge to skip data where the **height** field is empty.

7. In place of the word **NAME** insert the merge field code **LastName**.

8. In place of the word **HEIGHT** insert the merge field code **Height**.

9. In place of the word **WEIGHT** insert the merge field code **Weight**.

10. In place of the word **IF** insert a field so that if **Weight** is over **200** Word will display **you need to lose a few pounds**. Otherwise, Word should display **you are in good shape**.

11. Tap **Alt + F9** to see the merge codes:

{ SKIPIF { MERGEFIELD Height } = "" }Dear President { MERGEFIELD LastName }:

We have analyzed your data and find that your height of { MERGEFIELD Height } and weight of { MERGEFIELD Weight } indicates that { IF { MERGEFIELD Weight } > 200 "you need to lose a few pounds" "you are in good shape" }

Sincerely,

Dr. Watson

12. Tap **Alt + F9** again to hide the merge codes.

b. Merge the files to a new document. It will contain all the individual letters, except for **Harrison** and **Jefferson** because their **Heights** are missing.

If you show the paragraph marks (click ¶) and, on the **View** tab in the **Views** group, click the **Web Layout** button, you should see the following:

Dear·President·Arthur:¶

We·have·analyzed·your·data·and·find·that·your·height·of·66·and·weight·of·231·indicates·that·you·need·to·lose·a·few· pounds¶

Sincerely,¶

Dr.·Watson————————————————Section Break (Next Page)————————————————

Dear·President·Coolidge:¶

We·have·analyzed·your·data·and·find·that·your·height·of·71·and·weight·of·211·indicates·that·you·need·to·lose·a·few· pounds¶

Sincerely,¶

Dr.·Watson————————————————Section Break (Next Page)————————————————

Dear·President·Madison:¶

We·have·analyzed·your·data·and·find·that·your·height·of·64·and·weight·of·176·indicates·that·you·are·in·good·shape¶

Sincerely,¶

Dr.·Watson————————————————Section Break (Next Page)————————————————

---

c. Save the new document as **Sample-h Merge PRINTED Done**

d. Close and save all open documents.

Mailing Labels

a. Start Word, open a new blank document, and save the file in your **Word Exam** folder as **Sample-i Merge Labels Done**

b. Create mailing labels using the **Avery US Letter 5160 Address Labels** product number.

c. Use the file **Sample-f Table Sort DATA Done** as the data source.

d. Include on each label on separate lines **FirstName**, **LastName**, and **BirthDate** of each person.

e. Insert the picture **HW07-2 Goldy Original**, which is one of the files you downloaded at the start of the term.

f. Make the picture height and width 0.5 inch and move it to the lower right corner of each label.

g. Update all the labels. The document should look like the following:

h. Merge the files to a new document. Save the document as **Sample-j Merge Labels PRINTED Done**

i. Save and close all open documents and exit Word.

> **Do not submit this work for grading but do go through it several times as a part of your preparation for the Word exam and for the final exam. The printed keys for these files are on page SG376**

How to Solve the Sample Exam Questions for Word

I hope the following brief explanations are helpful as you study for the Word exam.

General Word Operations - Solutions

f. Heading style

f1. Question **f1** is on page **SG257**. Here is how to solve it:
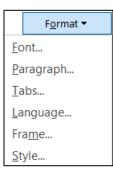
Click in the heading **Part 1**. On the **Home** tab, in the **Styles** group, click the launch dialog button ☐ (lower right corner of the group). Click the style labeled **h1**. Repeat for **Part 2** through **Part 6** headings and the **Index**.

Another way to do this is to tap **Ctrl + h** to open the **Find/Replace** box. In the **Find what** box type **Part**
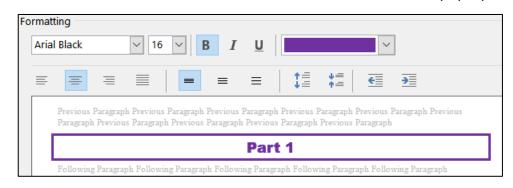
Click **More > >** and check **Match case** and **Find whole words only**.

Click inside the **Replace with** box, click the **Format** down arrow, and select **Style**. Scroll to the style labeled **h1** and click it.

Click the **Find Next** button to find **Part 1**. Click **Replace**. Repeat this for all the other headings and Index. There should be 10 replacements. This is very useful if you have a large document. You could also click **Replace All** if you are **SURE** there are no other instances of **Part** in the document (NOT true for this document!).

f2. On the **Home** tab, in the **Styles** group, click the launch dialog button. Right-click the style labeled **h1** and select **Modify**. Change the font color to purple, the font size to 16, and click the **Align Center** icon. Click **Format** down arrow, select **Border**, and make the border 3 pt purple.

g. Part 1

g1. Select the two paragraphs, right-click, and select **Paragraph**. Under **Spacing Before** (above), set the size to **24** pt. Under **Spacing After** (below), set the size to **12** pt.

g2. On the **Insert** tab, in the **Illustrations** group, click **Pictures**. Navigate to **HW07-2 Goldy Original** and click **Insert**.

Click the picture to select it. On the **Picture Tools Format** tab, in the **Size** group, click the launch dialog button
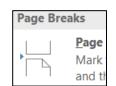
In the **Scale** group uncheck **Lock aspect ratio**. In the **Height** group enter 0.5". In the **Width** group enter 1".

On the **Picture Tools Format** tab, in the **Arrange** group, click **Wrap Text** and select **Tight**.

Use your mouse to position the picture as shown.

h. Part 2

h1. Click to the left of the **P** in **Part 2**. On the **Layout** tab, in the **Page Setup** group, click the **Breaks** down arrow. Under **Page Breaks** (NOT **Section Breaks**) click **Page**.

Or, tap **Ctrl + Enter** on the numeric keypad.

h2. Select the three paragraphs.

On the ruler, drag the **left** indent marker to 1.5 inches.

On the ruler, drag the **first line** indent marker to 1 inch.

On the ruler, drag the **right** paragraph indent marker to 6 inches.

i. Part 3

i1. Select the paragraph, right-click, and select **Paragraph**. In the **Line spacing** area, click the down arrow and select **Double**.

i2. Select the five lines starting at **Part 3**. Right-click, select **Paragraph**, click the **Line and Page Breaks** tab, and check **Keep with next** and **Keep lines together**.

i3. On the **Home** tab, in the **Styles** group, click the launch dialog button

At the bottom, click the **New Style** button.

Set the parameters as shown below:

Notice how this **Paragraph** style affects the entire paragraph and not just some of the characters. To change selected characters only, use a **Character** style.

i4. Click anywhere in the phrase **SIDE HEAD TWO** and then click the **s1** style.

i5. On the **Home** tab, in the **Styles** group, click the launch dialog button.

At the bottom, click the **New Style** button.

Set the parameters as shown below:

Create New Style from Formatting

Properties

Name:	e1
Style type:	Character
Style based on:	*a* Default Paragraph Font
Style for following paragraph:	

Formatting

Arial   12   **B** *I* <u>U</u>

i6. Click at the top of the document.
Tap **Ctrl + h** to open **Find/Replace**.

In the **Find what** box type **Disk**.

Check the **Match case** and **Find whole words only** boxes.

Click inside the **Replace with** box, click the **Format** down arrow, and select **Style**. Scroll down to **e1**, select it, and tap **OK**.

Click **Replace All**. There should be 3 replacements.

Find and Replace

| Find | Replace | Go To |

Find what: Disk
Options: Match Case, Whole Words
Format:

Replace with:
Format: Style: e1

<< Less

Search Options

Search: All
☑ Match case
☑ Find whole words only

i7. Click at the end of the phrase and, on the **Insert** tab, in the **Symbols** group, click the **Equation** down arrow, and select **Insert New Equation**).

This opens the **Equation Tools** tab and inserts a box where you can type the equation.

Vertex form of the quadratic function. Type equation here. ▾

Type **f(x) = a**

On the **Equation Tools** tab, in the **Structures** group, click the **Script** down arrow and select superscript to show $f(x) = a^{\square}_{\square}$

Click inside the large box. On the **Equation Tools** tab, in the **Structures** group, click the **Bracket** down arrow and select parentheses to show $f(x) = a(\square)^{\square}$

Click inside the large box and type **x -** to show $f(x) = a(x -)^{\square}$

On the **Equation Tools** tab, in the **Structures** group, click the **Script** down arrow and select subscript to show $f(x) = a(x - \square_{\square})^{\square}$

Click inside the large box and type **h**.

Click inside the small box and type **1** to show $f(x) = a(x - h_1)^{\square}$

Click inside the exponent box and type **2** to show $f(x) = a(x - h_1)^2$

Tap the right arrow key to move out of the exponent box and type **+** to show $f(x) = a(x - h_1)^2 +$

On the **Equation Tools** tab, in the **Structures** group, click the **Script** down arrow and select subscript to show $f(x) = a(x - h_1)^2 + \square_{\square}$

In the large box type **k** and in the small box type **1** to show $f(x) = a(x - h_1)^2 + k_1$

j. Part 4

j1. Select the phrase **Part 4** and, on the **Insert** tab, in the **Links** group, click **Bookmark**.

In the **Bookmark name** box type **Part4** and click **Add**.

Close the **Bookmark** dialog box. You cannot see the bookmark code unless you click the **File** tab, click **Options**, click **Advanced**, scroll down to **Show Document Content**, and check **Show** bookmarks. The brackets indicate the bookmark.

j2. Click to the left of the parenthesis in **(a)** and tap **Enter**. Do the same for **(b)**, and **(c)**.

j3. Select the four lines from **Part 4** through **(b)**, right-click, select **Paragraph**, click the **Line and Page Breaks** tab, and check **Keep lines together**. You do not need to click the line with **(c)** because that does not have to be on the same page at the line with **Part 5**.

j4. Select the three paragraphs.

On the left side of the ruler, point to the **Tab Type** box. A screen tip will tell you what kind of tab stop is active.

Be sure the tab type is **Left** and click the ruler at the **1** inch mark.

Click the **Tab Type** box once to make the type a **center** tab stop and then click the ruler at the **3** inch mark.

Click the **Tab Type** box twice to make the type a decimal tab stop and then click the ruler at the 5 inch mark.

Double-click the decimal tab stop to open the **Tab** dialog box.

Click the **5"** stop. Under **Leader**, click the bullet to the left of **2…**

Click **Set** and then **OK**.

Now, set the tab stops by doing the following:

Click to the left of **(a)** and tap the **Tab** key.
Click to the left of **SKINNY** and tap the **Tab** key.
Click to the left of **0.0025** and tap the Tab key.

Repeat this for **(b)** and **(c)**.

To see where the **Tab** key was tapped, click the **Show/Hide** button

▪ BREAK·UP·THIS·PARAGRAPH·¶

▪	→	(a)	→	SKINNY	→	0.0025¶
▪	→	(b)	→	REALLY·PORTLY	→	82.1¶
	→	(c)	→	SOMEWHERE·IN·BETWEEN	→	177¶

j5. Click to the right of the **Y** in **SKINNY** and, on the **References** tab, in the **Footnotes** group, click **Insert Footnote**. Then, type the text.

k. Part 5

k1. Select the four paragraphs. On the **Insert** tab, in the **Tables** group, click the **Table** down arrow, and select **Convert Text to Table**. Click **OK**.

Select the table and, on the **Home** tab, in the **Paragraph** group, click the **Borders** down arrow and select **Borders and Shading**.

Select **red** for the color.

Select **6** pt for the **Width**.

Click **Box**. That will apply the border to the outside of the table.

Click **Custom** so you can change each border individually.

Select dotted for the **Style**, blue for the **Color**, and **3** for the **Weight**.

Click the inside borders to make them blue and dotted.

Click **OK**.

k2. Select the cell that contains the word **Ms.**

Select the table and, on the **Home** tab, in the **Paragraph** group, click the **Borders** down arrow and select **Borders and Shading**.

Click the **Shading** tab. Be sure the **Apply to** box shows **Cell** so only the selected cell will be changed.

From the **Fill** menu, select **pink** and then click **OK**.

Or, you could select the cell, click the paint bucket, and select the color.

k3. Select the bottom row, right-click, click **Insert**, and select **Insert Rows Above**.

k4. Select the row that contains **Noah**, right-click, and click **Delete Rows**.

k5. Select the table, right-click, and select **Table Properties**.

Click the **Row** tab, click the check box next to **Specify height**, type **0.3"** in the box, and select **Exactly** from the **Row height is** drop-down menu.

Follow a similar procedure to set the **width** of all the columns to **1** inch.

k6. Select the table and, on the **Home** tab, in the **Paragraph** group, click the **Center Align** button.

k7. Adjusting the borders will take several steps.

Select the blank cell under Melissa and, on the **Home** tab, in the **Paragraph** group, click the **Borders** down arrow, and select **Borders and Shading**.

Be sure the **Apply to** box says **Cell**.

Make the **Style** a solid line, the color **red**, and the width **6** pt.

Click the **Custom** box so you can independently change each border and click the edges of the box so it looks as indicated.

Repeat the procedure for the blank box under **555-0000**.

I. Part 6

i1. Select the 16 lines and, on the **Home** tab, in the **Paragraph** group, click the **Multilevel** list down arrow, and select the list with Arabic numerals, letters, and Roman numerals.

This puts all the lines at the same level.

Select the lines **Black** through **Blue** and, on the **Home** tab, in the **Paragraph** group, click the **Increase Indent** button. This will make those line subordinate to the word **Colors**.

Select the lines that contain **Light** and **Dark** and click the **Increase Indent** button again. This will make those lines subordinate to the word **Red**.

Repeat the process for the **Sizes**.

i2. On the **Insert** tab, in the **Text** group, click the **Text Box** down arrow and select **Draw Text box**. Inside the box, type **More colors are available on our Web site**. Select the text and change the color and font type.

Click the edge of the text box and on the **Design Tools Format** tab, in the **Shape Styles** group, select **Shape Outline** and click **No Outline**.

Click the edge of the text box and on the **Design Tools Format** tab, in the **Shape Styles** group, select **Shape Fill** and click **No Fill**.

i3. On the **Insert** tab, in the **Illustrations** group, click the **Shapes** down arrow and select **Arrow**. Drag from the text box to the word **Colors**.

With the arrow still selected, on the **Design Tools Format** tab, in the **Shape Styles** group, select **Shape Outline** and click the **blue color** box and make the **Weight 3 pt**.

i4. On the **Insert** tab, in the **Illustrations** group, click the **Shapes** down arrow and, under **Stars and Banners**, click the four pointed star. Drag to form the star. With the star still selected, on the **Design Tools Format** tab, in the **Shape Styles** group, select **Shape Fill** and click **orange**.

i5. Use your mouse to position the text box and star.

m. Table of Contents

m1. Click anywhere in the phrase **BREAKUP THIS PARAGRAPH**, right-click, select **Paragraph** and, on the **Indents and Spacing** tab under **General**, select **Level 2** from the **Outline level** drop-down menu.

m2. On the **References** tab, in the **Table of Contents** group, click the **Table of Contents** down arrow, and select **Custom Table of Contents**. Set the parameters as follows:

Table of Contents

| Index | Table of Contents | Table of Figures | Tabl |

Print Preview

Heading 1 1

Heading 2 3

☑ Show page numbers
☑ Right align page numbers
Tab leader: ....

General

Formats: Distinctive

Show levels: 2

Click **OK**.

m3. Click just to the left of the heading **Part 1** and, on the **Layout** tab, in the **Page Setup** group, click the **Breaks** down arrow and, under **Section Breaks**, click **Next Page**.

n. Cross Reference

Select **XX** and, on the **Insert** tab, in the **Links** group, click **Cross-reference**.

Set the parameters as follows and then click **Insert**:

Cross-reference   ?   ✕

Reference type: Insert reference to:

Bookmark   Page number

☑ Insert as hyperlink   ☐ Include above/below

☐ Separate numbers with

For which bookmark:

Part4

o. Headers

o1. Be sure the insertion point is in section 2. On the **Layout** tab, in the **Page Setup** group, click the launch dialog button.

Click the **Layout** tab.

In the **Headers and footers** group, put checks next to **Different odd and even** and **Different first page**.

o2. On the **Insert** tab, in the **Header & Footer** group, click the **Header** down arrow and select **Blank**. Or, simply double-click in the **Header** area of the document.

On the **Insert** tab, in the **Text** group, click the **Quick Parts** down arrow and select **Field**.

Under **Field** names, select **FileName**, and click **OK**.

Tap the **Tab** key to move to the center tab stop and type **Page** and a space.

On the **Insert** tab, in the **Text** group, click the **Quick Parts** down arrow and select **Field**.

Under **Field** names, select **Page**, and click **OK**.

Tap the **Tab** key to move to the right tab stop.

On the **Insert** tab, in the **Text** group, click the **Quick Parts** down arrow and select **Field**.

Under **Field** names, select **SaveDate** and, under **Field properties**, select the format **dddd, MMMM d, yyyy**.

Click **OK**.

o3. Follow a similar procedure for the **Even Page Header**.

o4. Follow a similar procedure for the **Odd Page Header**.

p. Index

p1. Find and select the word **Disk**.

On the **References** tab, in the **Index** group, click **Mark Entry**.

At the bottom of the **Mark Index Entry** dialog box, click **Mark**. This will insert an index entry.

b. →   This·is·the·second·lettered·item.·It·contains·the·word·disk{·
        XE·"disk"·}·,·which·should·NOT·have·the·style·e1·applied·to·

Repeat the procedure for **Distance Formula**, and **REALLY PORTLY**

p2. Move to the end of the document and click to the left of the word Index.

On the **Layout** tab, in the **Page Setup** group, click the **Breaks** down arrow and select **next page section break**.

p3. Move to the end of the document. On the **References** tab, in the **Index** group, click **Insert index**. Make the dialog box look like the following:
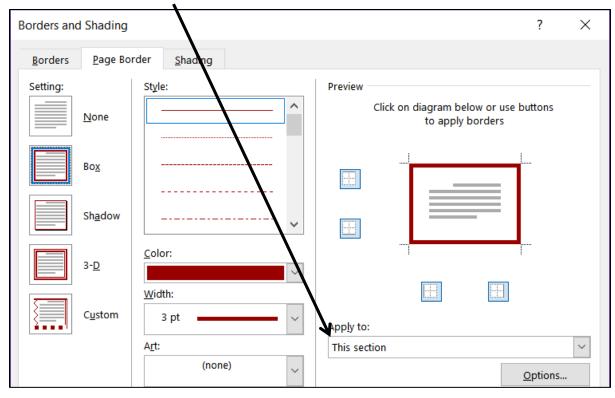
| Index | Table of Contents | Table of Figures | Table of Authorities |

Print Preview

```
_____

A

Aristotle ...............................2
Asteroid belt......................... See Jupiter
Atmosphere
```

Type: ● Indented
Columns: 2
Language: English (United S

☑ Right align page numbers
Tab leader: ....
Formats: Modern

p4. While still at the end of the document, on the **Insert** tab, in the **Header & Footer** group, click the **Page Number** down arrow and select **Format Page Numbers**.

At the bottom of the dialog box, click **Start at** and type **101**. Click **OK**.

p5. Select the line with the word **Index** and the index itself. On the **Layout** tab, in the **Page Setup** group, click the launch dialog button. On the **Margins** tab, in the **Orientation** group, click **Landscape**. Be sure the **Apply to** box shows **Selected sections** so only the Index page will be in landscape.

p6. With the paragraphs still selected, on the **Design** tab, in the **Page Background** group, click the **Page Borders** down arrow, and click the **Page Border** tab. Set it up to look like the following (be sure **Apply to** shows **This section**).

Click **OK**.

Graphics and Other Stuff – Solutions

c. Change Style
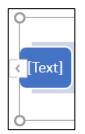
On the **Home** tab, in the **Styles** group, click the launch dialog button. Right-click **Normal** in the list and click **Modify**. Change the font to 12 pt Arial Bold.

d. Sections and Columns

d1. On the **Insert** tab, in the **Text** group, click the **Object** down arrow and select **Text from File**. Navigate to your **Word Exam** folder and double-click **w02B_Cover_Letter_Text**.

d2. Right-click those words that are underlined in red and select the correct spelling. Fix the grammar of phrases underlined in blue.

d3. Select the text. On the **Layout** tab, in the **Page Setup** group, click the **Columns** down arrow and select **Three**. This will put a continuous section break before and after the selected text and display the text in three columns. If the columns do not look as shown, place the insertion point where you want a new column to start and, on the **Layout** tab, in the **Page Setup** group, click the **Breaks** down arrow, and choose **Column**.

e. SmartArt

e1. On the **Insert** tab, in the **Illustrations** group, click **SmartArt**. Click **Process** and then **Continuous Block Process**. Click **OK**.

e2. Click the left pointing arrow.

Type the phrase in each box. To add a box, tap **Enter**.

e3. On the **SmartArt Tools Format** tab, in the **Size** group, enter 4 inches and 2 inches.

e4. On the **SmartArt Tools Design** tab, click the **Change Colors** down arrow and select a colorful icon.

e5. Click an edge of the object and, on the **Home** tab, change the font, color, and size.

e6. Click the **Layout Options** button and select **In Front of Text**.
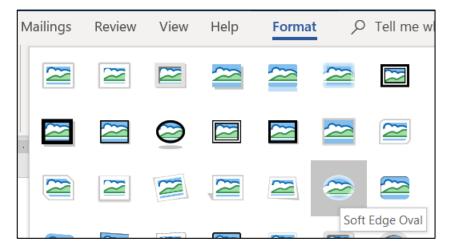
Then, drag the object into position.

f. Picture

f1. Move to the top and, on the **Insert** tab, in the **Illustrations** group, click **Pictures**. Navigate to your **Word Exam** folder and double-click the picture of the bird.

f2. With the picture selected, on the **Picture Tools Format** tab, in the **Size** group, click the launch dialog button. Remove the check next to **Lock Aspect Ratio** and type 2 in the height and weight boxes.

f3. With the picture selected, on the **Picture Tools Format** tab, in the **Picture Styles** group, click the **More** down arrow and select **Soft Edge Oval**.

f4. With the picture selected, on the **Picture Tools Format** tab, in the **Arrange** group, click the **Rotate** down arrow and select **More Rotation Options**. In the **Rotate** group, enter **90**.

f5. With the picture selected, click the **Layout Options** button and select In **Front of Text**. Then, drag the object into position.

g. Open the **Excel** file, select **B2:F10** on the **Data** tab, and copy. Switch back to your Word document, move to the line just after the phone number, and paste.

h. On the **Insert** tab, in the **Illustrations** group, click the **Screenshot** down arrow and click on the image of your **Word Exam** folder. With the screen shot selected, on the **Picture Tools Format** tab, in the **Picture Styles** group, click the **Picture Border** down arrow and select black. With the screenshot selected, click the **Layout Options** button and select In **Front of Text**. Then, drag the object into position.

Sorting – Solutions

c. Select the paragraphs and, on the **Insert** tab, in the **Tables** group, click the **Table** down arrow and select **Convert Text to Table**. Click **OK**.

d. Select the table and, on the **Table Tools Layout** tab, in the **Cell Size** group, click the **AutoFit** down arrow and select **AutoFit Contents**.

e. On the **Design** tab, in the **Page Background** group, click the **Page Color** down arrow and select **Fill Effects**. Click the **Texture** tab and click **White Marble**.

f. On the **Table Tools Design** tab, in the **Table Styles** group, click the **More** down arrow and select **Grid Table 5 Dark – Accent 6**.

g. Select the table and, on the **Home** tab, in the **Paragraph** group, click the sort button ![A Z↓] Set the parameters as follows:

Sort by

State	∨	Type:	Text	∨	○ Ascending
					⦿ Descending
		Using:	Paragraphs	∨	

Then by

LastName	∨	Type:	Text	∨	⦿ Ascending
					○ Descending
		Using:	Paragraphs	∨	

Click **OK**.

h. Select the table. On the **Home** tab, in the **Paragraph** group, click the **Center Align** button. Since the entire table is selected, **Center Align** centers the table rather than the text in the individual cells.

Mail Merge – Solutions

a2. On the **Home** tab, in the **Styles** group, right-click the **Normal** style icon and select **Modify**. Change the font to 12 pt Arial bold. Click the **Format** down arrow and select **Paragraph**. Set the left and right indents to 1 inch.

a4. On the **Mailings** tab, in the **Start Mail Merge** group, click the **Start Mail Merge** down arrow and select **Letters**.

a5. On the **Mailings** tab, in the **Start Mail Merge** group, click the **Select Recipients** down arrow and select **Use an Existing List**. Navigate to your **Word Exam** folder and double-click **Sample-f Table Sort DATA Done**.

a6. On the **Mailings** tab, in the **Write & Insert Fields** group, click the **Rules** down arrow and select **Skip Record If**. In the **Field name** box, select **Height**. In the **Comparison** box, select **Equal to**. Leave the **Compare to** box empty.

Insert Word Field: Skip Record If ? ✕

Field name:
Height ∨

Comparison:
Equal to ∨

Compare to:
[ ]

[OK] [Cancel]

a7. Select the word **NAME**. On the **Mailings** tab, in the **Write & Insert Fields** group, click the **Insert Merge Field** down arrow and select **LastName**.

a8. Repeat the process for **Height**.

a9. Repeat the process for **Weight**.

a10. Select the word **IF**. On the **Mailings** tab, in the **Write & Insert Fields** group, click the **Rules** down arrow and select **If…Then…Else**, and fill in the boxes:

Field name:	Comparison:	Compare to:
Weight	Greater than	200

Insert this text:

    you need to lose a few pounds

Otherwise insert this text:

    you are in good shape

b. On the **Mailings** tab, in the **Finish** group, click the **Finish & Merge** down arrow, and select **Edit Individual Documents**. Click **OK** to create the new merged document.

Mailing Labels – Solutions

b. On the **Mailings** tab, in the **Start Mail Merge** group, click the **Start Mail Merge** down arrow and select **Labels**. In the **Label vendors** box, select **Avery US Letter**. In the **Product number** box, select **5160 Address Labels**.

   Tap **OK**.

Label information

Label vendors: Avery US Letter

Find updates on Office.com

Product number:

5152 Flexible Name Badge Labels
5153 Flexible Mini Name Badge Labels
5154 Flexible Mini Name Badge Labels
5155 Easy Peel Return Address Labels
5159 Address Labels
5160 Address Labels

c. On the **Mailings** tab, in the **Start Mail Merge** group, click the **Select Recipients** down arrow and select **Sample-f Table Sort DATA Done**.

d. On the **Mailings** tab, in the **Write & Insert Fields** group, click the **Insert Merge Field** down arrow, select **FirstName**, and tap **Enter**. Do the same for **LastName**, and **BirthDate**.

e. On the **Insert** tab, in the **Illustrations** group, click **Pictures**. Navigate to your **Word Exam** folder and double-click the picture of **Goldy**.

f. With Goldy selected, on the **Picture Tools Format** tab, in the **Size** group, click the launch dialog button. Uncheck the box to the left of **Lock aspect ratio**. Type 0.5 in the **Height** and **Width** boxes. Click **OK**. Click the **Layout Options** button and select **In Front of Text**. Drag the picture to the lower right corner of the cell.

g. On the **Mailings** tab, in the **Write & Insert Fields** group, click **Update Labels**.

h. On the **Mailings** tab, in the **Finish** group, click the **Finish & Merge** down arrow and select **Edit Individual Documents**. Click **OK**.

Information on the Word Exam

The second exam will cover only Word. The exam will be similar to the Excel exam in length, scope, and level of difficulty. The ground rules for taking the Word exam are the same as those for taking the Excel exam (see page **SG149.**

Date: Check your syllabus for the exact date and time.

Length: 90 minutes

Location: 128 Appleby Hall, our regular classroom.

Materials: At the exam I will give you a handout with the questions on it and a USB drive that has the files you will need. You will save your modified files to this USB drive. You will not print anything.

Notes: All exams will be closed book and notes but you may use one 8.5 inch by 11 inch sheet of notes, both sides, typed, hand written, scanned, or whatever. Your notes sheet will be collected when you hand in the exam so be sure to put your name and HWID on it. The exam room printer will be disabled during the exam time so be sure you print your notes sheet **before** you enter the classroom.

Use the Word file **Notes Sheet for CI 1871 Word Exam Original**, which you saved on page **SG257**, as your notes sheet.

What to Bring to the exam: Your student photo ID, your notes sheet, and a pen or pencil. I will provide everything else.

Project 11
PowerPoint Chapter 1: Getting Started

Step 1 Read Read the introductory material on pages 743-745 of the textbook.

Step 2 Activities Turn on the computer and do the following:

Project 1A: Start at the top of page 747.

Instead of Activity 1.01 step 5 (page 749) do the following:

1. In the upper right corner of your screen, click the red **Close X** to close PowerPoint. Do **NOT** save your file.

> *We are not going to use sub folders (e.g., PowerPoint Chapter 1). You will put all your files in the PowerPoint Files folder so you can see them all at once.*

2. Navigate to your **PowerPoint Files** folder and open **p01A_KWT_Overview**, which is one of the files you downloaded at the start of the term.

3. Save the file in your **PowerPoint Files** folder using the name **LastName_FirstName_1A_KWT_Overview**

4. Do **NOT** do steps 8 and 9 in **Activity 1.14** on page 766.
Do **NOT** do **Activities 1.15 through 1.16** on pages 767-769.

5. **Return here** when you have completed Project 1A on page 766.

> **Do NOT do GO! With Google Slides**

Project 1B: When you have completed Project 1A, start at the top of page 773.

Instead of Activity 1.17 step 1 do the following:
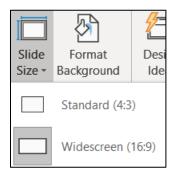
1. Navigate to your **PowerPoint Files** folder and open **p01B_Seattle**, which is one of the files you downloaded at the start of the term.

2. Save the file in your **PowerPoint Files** folder using the name **Lastname_Firstname_1B_Seattle**

3. Do **NOT** do steps 8 and 9 of **Activity 1.33** on page 790.

4. **Return here** when you have completed Project 1B on page 790.

> **Do NOT do GO! With Google Slides or GO! To Work**

HW11-1 Overview (Based on Project 1A)

Problem: How can you create an electronic presentation suitable for large audiences?
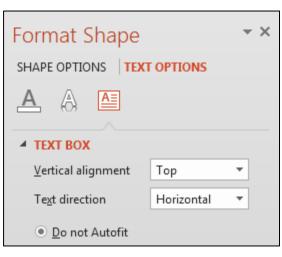
a. Open the presentation **Lastname_Firstname_1A_KWT_Overview**, which you created while following the directions in the textbook and saved on page 766.

b. Save the document to your **PowerPoint Files** folder using the name **HW11-1 HWID 1A_KWT_Overview_Done**

c. On the **Design** tab, in the **Customize** group, click **Slide Size**.

Notice that this slide is set to **Widescreen** format, that is, a **16 to 9** ratio of width to height. **Standard** dimensions have a **4 to 3** ratio of width to height. Most of the presentations are in **Widescreen** but feel free to change the ratio to **Standard** if you wish.

d. To make the text easier to read, in **Slide 5** change the paragraph to three columns by doing the following:

   1. On **Slide 5**, **About Our Company**, click anywhere in the bottom text box.

   2. On the **Home** tab, in the **Paragraph** group, click the **Align Text** down arrow and select **More Options**.

   3. In the **Format Shape** pane, click **TEXT OPTIONS** and then click **Do not Autofit**. This will allow the text to stay the same size when you insert the columns.

   4. Click **Columns** and set the **Number** to **3** and the **Spacing** to **0.5**.

   5. Click **OK**.

e. Print a handout by doing the following:

> *If you are using a black and white printer choose* color *for your output because that will give you better quality than the grayscale setting. If you are using a color printer you can use the grayscale setting to save ink, if you wish.*
>
> *You* NEVER *have to print in color.*

1. Tap **Ctrl + p**.

   In the box next to **Slides**, type 1,3,4,5 (we do not want slide 2 printed).

   From the drop-down menu, select **Landscape Orientation**.

   Click the down arrow next to **Full Page Slides** and select **4 Slides Horizontal**.

   From the drop-down menu, select **Color** (if you are using a black and white printer) or **Grayscale** (if you are using a color printer).

   Do NOT print Slide 2

2. Click **Edit Header & Footer** and then click the **Notes and Handouts** tab. Set up the handout as follows:

   - Include the **Date and time**, **updated automatically**. From the drop-down menu, choose the format that shows **Day, Month Date, Year**.

   - No header.

   - Include the page number.

   - Include the name of the file in the footer. Unlike Excel and Word, PowerPoint does not have an automatic way of inserting the file name so you must insert it manually. You can either type it or, before you tap **Ctrl + p** you could tap **F12**, **Ctrl + c**, **Esc**. That will put the file name on the clipboard. Then, when you open the **Header and Footer** dialog box you can paste the name in the **Footer** box.

3. Click **Apply to All** and compare the preview with the key.

   Depending on your printer, the bottom edge of the footer may be partially cut off, like this:

   If that happens, you can do the following to fix it:

   • Tap the **Esc** key to cancel printing.

   • On the **View** tab, in the **Master Views** group, click **Handout Master**.

   • Click on an edge of the text box that contains the file name, hold down the **Shift** key, and click on an edge of the text box that contains the page number. This selects them both.

   • Drag up a bit.

   • On the **Handout Master** tab, in the **Close** group, click **Close Master View**.

4. Tap **Ctrl + p** and compare the preview with the key. Make needed corrections, print the handout, save the presentation, and close it.

HW11-2 Seattle Itinerary (Based on Project 1B)

Problem: How can you edit and format a presentation and include custom transitions between slides?

a. Open the presentation **Lastname_Firstname_1B_Seattle**, which you created while following the directions in the textbook and saved on page 790.

b. Save the document to your **PowerPoint Files** folder using the name **HW11-2 HWID 1B_Seattle_Done**

c. Tap **Ctrl + p** and set up to print a handout as follows:

- Has slides 1, 3, 4, 5, 6, and 7 (do not print slide 2).
- Six slides horizontal per page.
- Portrait orientation.
- Color, if using a black and white printer or grayscale, if using a color printer.
- Date, updated automatically, in the format Day, Month Date, Year.
- Page number but no header.
- Name of the file in the footer.

Compare the preview with the key. Make needed corrections, print the handout, save the presentation, and close it.
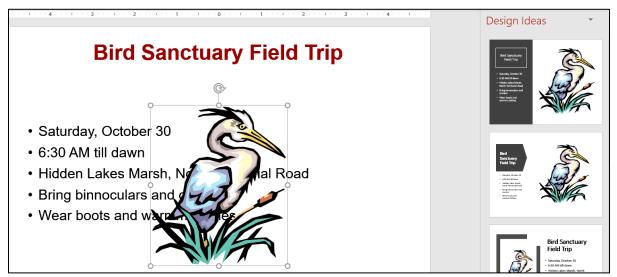
HW11-3 Bird

Problem: How can you add graphics to a PowerPoint presentation and then edit them?

a. Open the presentation **HW11-3 Bird Original**, which is one of the files you downloaded at the start of the term.

b. Save the presentation in the PowerPoint Files folder using the name **HW11-3 HWID Bird Done**

c. On the **Design** tab, in the **Customize** group, click **Slide Size** down arrow.

Notice that this slide is set to **Standard** dimensions, that is, a **4 to 3** ratio of width to height. The previous two presentations were in **Widescreen** format, that is, a **16 to 9** ratio of width to height. You can adjust this ratio to best fit the screen you will be using.

d. Start **Word** and open the file **HW11-3 Bird Graphic WORD Original**, which is one of the files you downloaded at the start of the term. **The file is in the PowerPoint folder NOT the Word folder, but it is a Word file so you cannot open it from within PowerPoint.**

e. Select the picture of the bird, copy it, and then close Word.

f. Switch to **PowerPoint** and paste the picture.
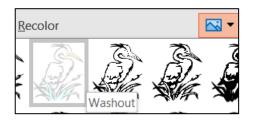
If the **Design Ideas** pane opens, close it.

g. Adjust this image so that it is a "washout" (a light grayscale picture, sometimes this is called a "watermark") and place it behind the text on the slide by doing the following:

1. Right-click the bird and select **Format Picture** to open its pane.

2. Click the **Picture** icon and then click the arrow next to **Picture Color**.

3. To the right of **Recolor**, click the down arrow and select **Washout**.

The picture now is much lighter, washed out like faded jeans.

4. Click the **Size and Properties** button

5. Put a check in the **Lock aspect ratio** box so that when you change one of the dimensions the other dimensions will change in the same ratio—if you don't do this the picture will be distorted when you change either the height or the width.

6. Change the height to 6".

7. Center the bird on the slide. You can do this by eye or, on the **Picture Tools Format** tab, in the **Arrange** group, click the **Align** down arrow and select **Align Center**. It is also sometimes useful to display gridlines. To do that, on the **View** tab, in the **Show** group, put checks in the **Ruler** and **Gridlines** boxes. The ruler and gridlines will not print or display during a slide show.
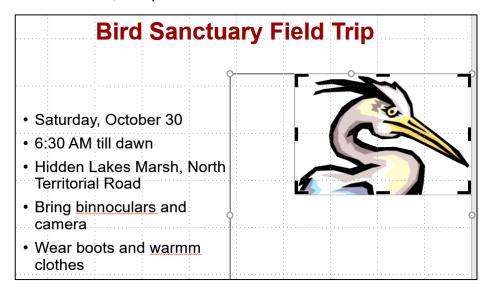
h. Notice that the bird is blocking some of the text. To fix this, right-click the bird and then choose **Send to back**, and then **Send to Back**. Now, the bird serves as a background for the slide.

i. In the **Slides/Outline** pane (on the left), right-click the slide and select **Duplicate Slide**. This makes an exact copy of the slide.

j. If necessary, make **Slide 2** active by clicking it in the **Slides/Outline** pane. For this slide, you want the text to go only halfway across the screen.

   1. Click anywhere on the bulleted text to display the text box.

   2. Click the right center resize handle (the little circle on the middle of the right side of the rectangle), and drag to the left until the text box is half its original size.
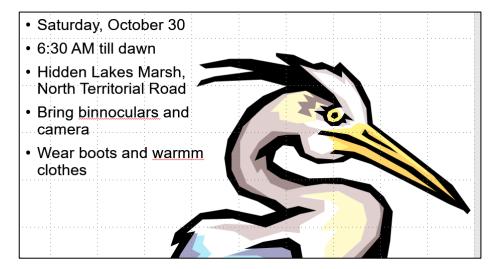
k. Crop, resize, and move the picture so that only the head of the bird appears in the lower right corner of the slide by doing the following:

1. Click the picture. In the **Format Picture** pane, click the picture icon, and then click **Reset**. This restores the picture to its original form. Drag the picture to the lower right corner of the slide.

2. On the **Picture Tools Format** tab, in the **Size** group, click the **Crop** down arrow to turn on the cropping feature.

3. Move the cursor to the bottom left cropping handle, ⌐ press and hold the mouse button, and drag up and right until you just reach the shoulder of the bird. Then, let up on the mouse button

4. Once again, click the **Crop** button to turn off the cropping feature.

5. Drag the picture to the lower right corner of the slide.

6. Click the upper left sizing handle and resize the picture as shown.

l. To make the slide a bit more flashy, apply a light blue blended background by doing the following:

    1. Move the pointer to a blank area of the **Slide** and right-click. Choose **Format Background** to open its pane.

    2. If necessary, click the arrow next to **Fill** to display its options and then click the button next to **Gradient fill** to apply a colorful background.

    3. In the **Preset gradients** drop-down menu, click one of the options (I used the light blue).

    4. In the **Direction** drop-down menu, click the third choice, **Linear Diagonal**. **Do NOT** click **Apply to All** because you want this background on this slide only, not on the other slide.

m. On the **Review** tab, in the **Proofing** group, click **Spelling** and fix any errors.

n. Tap **Ctrl + p** and set up to print a handout as follows:

- Has both slides.
- Two slides per page.
- Portrait orientation.
- Color, if using a black and white printer or grayscale, if using a color printer.
- Date, updated automatically, in the format Day, Month Date, Year.
- Page number but no header.
- Name of the file in the footer.

Compare the preview with the key. Make needed corrections, print the handout, save the presentation, and close it.

Step 4 Submit You now are ready to submit your homework for grading.

    1. Put your 3 homework papers in the following order:

        HW11-1 1A KWY Overview (slides 1,3,4,5)
        HW11-2 1B Seattle Itinerary (slides 1,3,4,5,6,7)
        HW11-3 Bird

    2. Cut out Submission Form 11 and put it on the top of the papers.

    3. Staple the papers in the upper left corner.

    4. Turn in the packet by the due date.

Step 5 Backup Now would be a good time to backup your files.

Project 12
PowerPoint Chapter 2: Formatting Presentations

Step 1 Read Read the introductory material on page 813 of the textbook.

Step 2 Activities Turn on the computer and do the following:

Project 2A: Start at the top of page 815.

Instead of Activity 2.01 step 1 do the following:

1. Navigate to your **PowerPoint Files** folder and open **p02A_Safety**, which is one of the files you downloaded at the start of the term.

2. Save the file in your **PowerPoint Files** folder using the name **LastName_FirstName_2A_Safety**

3. Do **NOT** do steps 8 and 9 in **Activity 2.21** on page 838.

4. **Return here** when you have completed Project 2A on page 838.

> ### *Do NOT do GO! With Google*

Project 2B: When you have completed Project 2A, start at the top of page 843.

Instead of Activity 2.22 step 1 do the following:

1. Navigate to your **PowerPoint Files** folder and open **p02B_Celebrations**, which is one of the files you downloaded at the start of the term.

2. Save the file in your **PowerPoint Files** folder using the name **Lastname_Firstname_2B_Celebrations**

3. Complete the rest of the Activities for this Project EXCEPT do **NOT** do steps 6 and 7 in **Activity 2.34** on page 854.

4. Do **NOT** do **Activity 2.35** on pages 854-855.

5. **Return here** when you have completed Project 2B on page 854.

> ### *Do NOT do GO! With Google Slides or GO! To Work*

Step 3 Homework After you have completed Projects A and B for this Chapter, return here, do the problems listed below, and turn them in for grading.

HW12-1 Safety (Based on Project 2A)

Problem: How can lists, pictures, text boxes, and shapes be added to a PowerPoint presentation?

a. Open the presentation **Lastname_Firstname_2A_Safety**, which you created while following the directions in the textbook and saved on page 838.

b. Save the document to your **PowerPoint Files** folder using the name **HW12-1 HWID 2A_Safety_Done**

c. For the first slide, change the font color to red and the background color to white. This will save a lot of ink.

d. Tap **Ctrl + p** and set up to print a handout as follows:

- Has all six slides.
- Six slides horizontal per page.
- Portrait orientation.
- Color, if using a black and white printer or grayscale, if using a color printer.
- Date, updated automatically, in the format Day, Month Date, Year.
- Page number but no header.
- Name of the file in the footer.

Compare the preview with the key. Make needed corrections, print the handout, save the presentation, and close it.

HW12-2 Celebrations (Based on Project 2B)

Problem: How can specially formatted artwork be created and added to a PowerPoint presentation?

a. Open the presentation **Lastname_Firstname_2B_Celebrations**, which you created while following the directions in the textbook and saved on page 854.

b. Save the document to your **PowerPoint Files** folder using the name **HW12-2 HWID 2B_Celebrations_Done**

c. Tap **Ctrl + p** and set up to print a handout as follows:

- Has slides 3, 4, 5 only.
- Three slides per page.
- Portrait orientation.
- Color, if using a black and white printer or grayscale, if using a color printer.
- Date, updated automatically, in the format Day, Month Date, Year.
- Page number but no header.
- Name of the file in the footer.

Compare the preview with the key. Make needed corrections, print the handout, save the presentation, and close it.

HW12-3 Graphics and Sound

Problem: How can graphics sound be added to a PowerPoint presentation?
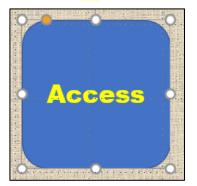
a. Start PowerPoint and open a blank presentation. Change the slide layout to **Blank** (**Home**, **Slides**, **Layout**, **Blank**).

b. Set the background for the slide to the canvas texture fill (right-click, **Format Background**, **Fill**, **Picture or texture fill**, click the second texture in the first row).

c. Save the document to your **PowerPoint Files** folder as **HW12-3 HWID Graphics and Sound Done**

d. Add some drawing objects by doing the following:

   1. If the ruler or gridlines are not showing, turn them on (**View**, **Show**, **Ruler**, **Gridlines**).

   2. On the **Insert** tab, in the **Illustrations** group, click the **Shapes** down arrow and choose **Rectangle: Rounded Corners**. The mouse pointer will turn into a cross +

   3. Move the mouse pointer onto the slide, and then click and drag to produce a small square.

      On the **Drawing Tools Format** tab, in the **Size** group, change the **Height** and **Width** to **2"**.

   4. Click inside the square and type **Access**.

   5. Make the font Arial Black, 24 pt, and yellow. If necessary, center align the text within the box.

   6. Repeat the process to create a diamond and an oval. The diamond should be 2 inches high and 3 inches wide and contain the words **Hard Work**. You can use the **Format Painter** as you did in Word and Excel to copy the text formatting quickly. The oval should be 1.5 inches high and 3.5 inches wide and contain the word **Excellence**.

e. Add some lines to connect the three shapes by doing the following:

   1. On the **Insert** tab, in the **Illustrations** group, click **Shapes**, and then **Connector: Elbow**.

2. Move the mouse pointer, which is now a cross, to the middle of the right side of the square and then click and drag to the right and down to connect to the top center of the diamond and release the mouse button.

The green dots show the objects are "connected" by the line. When you move an object, the line will stay connected and move with the object.

With the new line still selected, on the **Drawing Tools Format** tab, in the **Shape Styles** group, click the **Shape Outline** down arrow and select **Weight** and then **3 pt**. Change the line color to **red**.
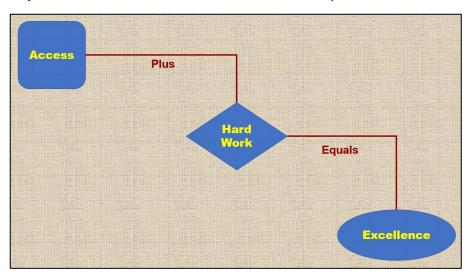
3. Use the same technique to add a connector between the oval and the diamond. A quick way to do this is to select the line you just created and tap **Ctrl + d**. This duplicates the line. Then, drag the ends to the proper locations. The ends will be green dots when the connections are correct.

f. Add some text boxes by doing the following:

It will be easiest if you create the text box at an arbitrary location on the slide and then use the mouse or arrow keys to position it after you have entered the text and formatted it.

1. On the **Insert** tab, in the **Text** group, click **Text Box**.

2. Draw a text box. Make the height 0.5 inch and the width 2. Type **Plus** in the box. Make the font Arial, red, 24 pt, and bold. Use **Ctrl + d** to duplicate the **Plus** box and then change the text to **Equals**.

Adjust the locations of the text boxes and shapes as shown.

g. Insert a couple of photos by doing the following:

1. On the **Insert** tab, in the **Images** group, click **Picture**. Navigate to your **PowerPoint Files** folder and select **HW12-3 Photo Original.jpg**, which is one of the files you downloaded at the start of the term.

2. Click **Insert**.

3. Make the photo height 3.5".

4. Move the photo to the lower left corner of the slide.

5. Insert the picture **HW12-3 Goldy Original**, which is one of the files you downloaded at the start of the term.

6. Make the picture height 2.5".

7. Move the picture to the upper right corner of the slide.

8. The background of the image covers up the slide background. You can remove the background, if you wish, by doing the following (*this is a bit tricky so it is optional*):

   • With the image still selected, on the **Picture Tools Format** tab, in the **Adjust** group, click **Remove Background**. This makes the part of the image look magenta. That is the part which will be removed. Notice that it cuts off part of Goldy and the large M.

   • On the **Picture Tools Background Removal** tab, in the **Refine** group, click **Mark Areas to Keep**. This will produce a little white pencil. Now the tricky part. Click those areas of Goldy and the M that you want to keep. It takes some trial and error. Clicking at various points removes the magenta in blocks, which are not obvious!

   • On the **Background Removal** tab, click **Keep Changes** and the texture background will show through.

   h. Add sound clips to this slide. Since you are a U of M student you have access to a huge number of free video and audio files that can be downloaded and used as you wish.

     1. Open your web browser, and type the following in the address box: https://it.umn.edu/stock-content-0

     2. Scroll down a bit to see:

Stock Content Sites

VideoBlocks: 100,000+ clips of stock video, Adobe After Effects templates, motion backgrounds and more.
AudioBlocks: Royalty-free production music, sound effects, and loops.
GraphicStock: Royalty-free photos, vectors, illustrations & other design elements.

     3. Click **AudioBlocks**.

     4. Click **Sound Effects**.

     5. In the search box type **applause** and tap **Enter**.

  Point to one of the items and click the white arrow to play the sound.

Applause, Group

SFX   People

00:08

     7. Click the download icon and select **MP3**[32].

Download

MP3

WAV

     8. A dialog box will appear allowing you to **Open** or **Save** the file. Click the button next to **Save File** and then click **OK**. The file will be downloaded to your Downloads folder as an MP3 file.

     9. Close your browser.

> *If you are doing this in our computer classroom or a public computer lab the speakers will be disabled so you cannot add a sound clip. It might work if you use headphones.*
> *If not, skip to part j below.*

---

[32] **MP3** (also known as **MPEG-3**) is the designation for a group of audio and video coding standards agreed upon by the **M**oving **P**icture **E**xperts **G**roup (**MPEG**). It was released in 1993.

10. On the **Insert** tab, in the **Media** group, click the **Audio** down arrow and select **Audio on My PC**. Navigate to the location where your audio file was downloaded and double-click its name. The file will be inserted.

11. Drag the speaker icon to the center bottom of the slide.

12. Click the play arrow to hear a preview.

13. On the **Audio Tools Playback** tab, in the **Audio Options** group, from the **Start** box select **Automatically** and then put a check next to **Hide During Show**.

14. Follow the same procedure to insert the file **HW12-3 Audio Tracks Original.mp3**, which is one of the files you downloaded at the start of the term.

15. Drag the speaker icon so it is next to the first audio icon.

16. On the **Audio Tools Playback** tab, in the **Audio Options** group, from the **Start** box select **When Clicked On** but *DO NOT* click **Hide During Show**.

17. Tap **F5** to start the slide show. The clapping will start as soon as the show starts. To start the music, click the speaker icon.

18. Tap the **Esc** key to end the slide show.

c. Tap **Ctrl + p** and set up to print a **handout** as follows:

- Has the one slide.
- One slide per page.
- Landscape orientation.
- Color, if using a black and white printer or grayscale, if using a color printer.
- Date, updated automatically, in the format Day, Month Date, Year.
- Page number but no header.
- Name of the file in the footer.

Look at the bottom of the **Print Preview**. Depending on your printer, you may see that the footer is partially cut off at the bottom.

You can fix that like you did on page **SG290**.

If necessary, tap **Ctrl + p** again and compare the preview with the key. Make needed corrections, print the handout, save the presentation, and close it.

HW12-4 Poster

Problem: How can a PowerPoint presentation be transformed into a very large poster suitable for display at a research conference?

PowerPoint is useful when one person wants to present information to an audience and there is a computer and projector available. PowerPoint can also be used to create large posters that can be displayed in a room or hall where people are walking by. In such a setting, people can read the posters that have topics which interest them. Typically, the person who made the poster is available to have one-on-one discussions of their work with passers-by.

In this project, you will create a large poster by modifying one of your previous PowerPoint presentations. More information, useful tips, and some nice templates can be found at http://www.writing.engr.psu.edu/posters.html One of their templates is included in your **PowerPoint Files** folder under the name **HW12-4 PowerPoint Poster Template Original**

a. Open the presentation **HW12-3 HWID Graphics and Sound Done**, which you created for **HW12-3**.

b. Save the presentation to your **PowerPoint Files** folder using the name **HW12-4 HWID Poster Done**

c. Modify the slide by doing the following:

   1. Delete the two sound icons.

   2. On the **Design** tab, in the **Customize** group, click **Slide Size**.

   3. Select **Custom Slide Size**.

   4. In the **Slides sized for** box click the down arrow and select **Custom**.

   5. Set the width to **40** inches and the height to **32** inches. Be sure the **Orientation** is **Landscape**.

   6. Click **OK** and then click **Maximize**.

7. Move the **Access** square so its top is at about 12 inches on the vertical ruler. Notice how the connector lines stay attached to the shapes.

Move the **Excellence** oval so its bottom is at about 10 inches.

8. Resize Goldy to be 3 inches high and 4 inches wide. Move the image to the upper right corner of the slide.

9. Make the height of the photo 8 inches and the width 12 inches. Move it to the lower left corner.

10. Right-click one of the red connectors and select **Format Shape** to open that pane. Click the paint bucket and **Line** and change the **Width** to **20 pt**. Click the other connector and change its **Width** to **20 pt**.

11. Change the font of **Plus** and **Equals** to Arial Black and position them as shown below.

12. Insert a text box at the top of the slide with the text **General College University of MN**. Make the text Arial Black and 128 pt. Adjust the text box size so the text is all on one line and in the upper left of the slide.

13. Insert a text box at the top of the slide under the word **College** and type **Presented by HWID** (use your HWID). Make the text purple Arial Black and 88 pt. Adjust the text box as shown below:

14. Insert another text box above the photo and enter the following text in bold 66 pt Arial. You can either type the text or copy it from the file **HW12-4 PowerPoint Poster Text Original**, which is one of the files you downloaded at the start of the term.

    Mission: To develop, through teaching, research, and service, the potential for baccalaureate education in students who are serious about fulfilling their previously undeveloped or unrecognized academic promise.

    Make the text box 8 inches high and 15 inches wide.

15. Just below **Goldy**, enter this text in bold 66 pt Arial.

    Purpose: GC provides entry to the University for students from a wide range of ethnic, social, and economic backgrounds who would like to pursue a four-year degree, but who lack the academic skills or records to realistically compete in a regular degree-granting college.
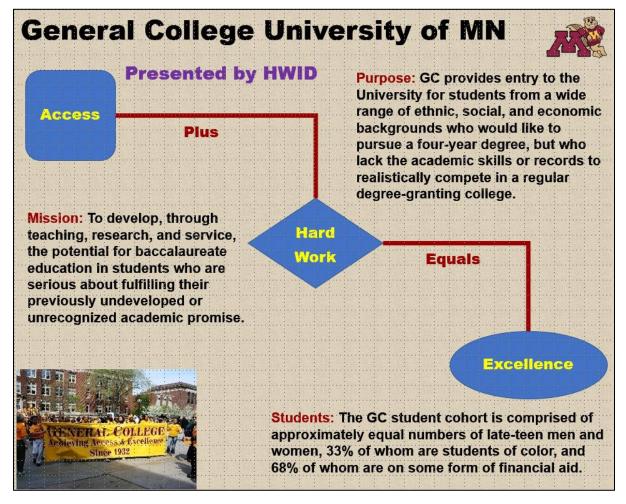
    Make the text box 9 inches high and 17 inches wide.

16. Just below **Excellence**, enter this text in bold 66 pt Arial.

    Students: The GC student cohort is comprised of approximately equal numbers of late-teen men and women, 33% of whom are students of color, and 68% of whom are on some form of financial aid.

    Make the text box 5 inches high and 23 inches wide.

17. Make the titles **Mission:**, **Purpose:**, and **Students:** red.

d. The poster is ready to print. Because you will print it on a regular-sized black and white printer, you need to tell PowerPoint to scale the output to fit an 8.5 by 11 inch piece of paper. Do the following:

1. Tap **Ctrl + p** to open **Print Preview**.

2. In the **Settings** group, click **Full Page Slides** and then be sure there is a check next to **Scale to fit paper**.

3. Choose **Color** even if you are printing on a black and white printer or **grayscale** if you are using a color printer.

4. Compare the preview with the key. Make needed corrections, print the poster, save the presentation, and close it.

If you want to print a poster on a large format printer you can use the lab in Coffman Union. The cost is $4.50 per square foot so the poster you created for this homework would run you about $36. For details on printing, see http://it.umn.edu/services/all/academic-technology-spaces/computer-labs/large-format/

If you are a CEHD student you can have your poster printed for free by emailing it to cehd104@umn.edu. Poster must be in **PDF** format (see page **SG29**) and be no wider than 42 inches. For more information call the CEHD Dean's office at 612-626-9252 or drop by 104 Burton Hall.

Step 4 Submit You now are ready to submit your homework for grading.

1. Put your 4 homework papers in the following order:

   HW12-1 2A Safety
   HW12-2 2B Celebrations
   HW12-3 Graphics and Sound
   HW12-4 PowerPoint Poster

2. Cut out Submission Form 12 and put it on the top of the papers.

3. Staple the papers in the upper left corner.

4. Turn in the packet by the due date.

Step 5 Backup Now would be a good time to backup your files.

Project 13
PowerPoint Chapter 3: Animation, Tables & Charts

Step 1 Read Read the introductory material on page 877 of the textbook.

Step 2 Activities Turn on the computer and do the following:

Project 3A: Start at the top of page 879.

Instead of Activity 3.01 step 1 do the following:
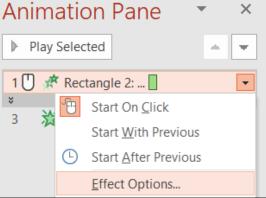
1. Navigate to your **PowerPoint Files** folder and open **p03A_Trails**, which is one of the files you downloaded at the start of the term.

2. Save the file in your **PowerPoint Files** folder using the name **LastName_FirstName_3A_Trails**

3. Do **NOT** do steps 10 and 11 in **Activity 3.17** on page 900.

4. **Return here** when you have completed Project 3A on page 900.

> **Do NOT do GO! With Google**
>
> **Do NOT do Project 3B**

Step 3 Homework After you have completed Project A **ONLY** for this Chapter, return here, do the problems listed below, and turn them in for grading.

HW13-1 Trails (Based on Project 3A)

Problem: How can customizable backgrounds, themes, and animations be added to a PowerPoint presentation?

a. Open the presentation **Lastname_Firstname_3A_Trails**, which you created while following the directions in the textbook and saved on page 900.

b. Save the presentation to your **PowerPoint Files** folder using the name **HW13-1 HWID 3A_Trails_Done**

c. To help your audience focus on what you currently are saying, it sometimes helps to dim previous bullets when a new one enters the screen. To see how this works, do the following:

1. Click Slide 3 and then, on the **Animations** tab, in the **Advanced Animation** group, click **Animation Pane**.

2. Select the three bullets.

3. In the **Animation Pane**, click the **Rectangle** down arrow and select **Effect Options**.
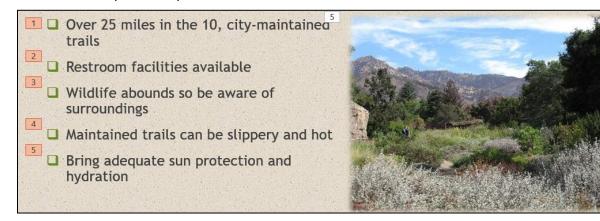
4. Click the **After animation** down arrow and select the color **brown**.

5. Click the **Animate text** down arrow and select **By letter**.

6. Click **OK**.

7. Click the **Slide Show** button on the **Status Bar** and click through the animations on this slide.

8. Repeat the process for Slide 4.

d. Tap **Ctrl + p** and set up to print a handout as follows:

- Has all six slides.
- Six slides horizontal per page.
- Portrait orientation.
- Color, if using a black and white printer or grayscale, if using a color printer.
- Date, updated automatically, in the format Day, Month Date, Year.
- Page number but no header.
- Name of the file in the footer.
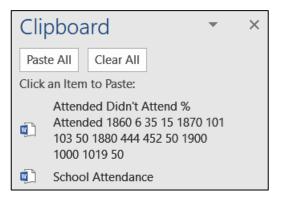
Compare the preview with the key. Make needed corrections, print the handout, save the presentation, and close it.

HW13-2 Import from Word and Excel Documents

Problem: How can tables and charts created in Word or Excel be inserted into a PowerPoint presentation?

I asked you to **skip Project 3B** in the textbook because it showed you how to create tables and charts from within PowerPoint. You already know how to do that in Word and Excel so all you really need to learn is how to import them into PowerPoint. In this exercise, you will copy a table from a Word document and a range of cells from an Excel workbook and paste them into a PowerPoint presentation. In HW13-3 you will import a chart from Excel.

a. Open the **Word** document **HW13-2a Word School Attendance Table Original**, which is one of the files you downloaded at the start of the term. It is in your **PowerPoint Files** folder. Note that you cannot open it from within PowerPoint – you must double-click its icon to have Word open it.

b. Copy the information by doing the following:

1. On the **Home** tab, in the **Clipboard** group (on the far left), click the **Clipboard** dialog box launcher 🔲 to open the **Clipboard** pane.

2. If necessary, click **Clear All** to delete any items stored on the clipboard.

3. Copy the title, **School Attendance**.

4. Select the table. Be careful to *not* include the **School Attendance** title or the paragraph mark at the bottom when you make your selection.

5. Copy the table.

6. Minimize Word but do NOT exit Word.

b. Do the following to paste the Word items you just copied into PowerPoint.

1. Start PowerPoint and change the layout of the first slide to **Blank**.

2. Save the presentation to your **PowerPoint Files** folder using the name **HW13-2d HWID Import from Word and Excel Done**.

3. On the **Home** tab, in the **Clipboard** group, click the **Clipboard** dialog box launcher 🔲 to open the **Clipboard** pane.

4. In the **Clipboard** pane, click the title **School Attendance** to insert it.

5. Change the font to 36 pt Arial Black. Move the title so it is near the top center of the slide.

6. Click a blank area of the slide to deselect the title.

7. In the **Clipboard** pane, click **Attended Didn't Attend...** to insert the table.

8. On the **Table Tools Layout** tab, in the **Table Size** group, change the width of the table to 9 inches and the height to 3 inches.

9. Make the font 24 pt Arial.

10. Move the table to the center for the slide.

11. Center the text in each cell both vertically and horizontally. Center the table on the slide (**Table Tools Layout** tab, **Alignment**, **Center Horizontally**, **Center Vertically**).

12. Apply a table style of your choice. I checked **Header Row**, **First Column**, and **Banded Rows** and **Medium Style 2 – Accent 2**.

13. With the table still selected, on the **Animations** tab, in the **Animation** group, click the **Add Animation** down arrow, and select **More Entrance Effects**.

14. Click **Bounce** (under **Exciting**) and then click **OK**.

15. On the **Animations** tab, in the **Timing** group, click the **Start** down arrow and select **With Previous**. This will automatically start the animation when the slide show begins.

c. Open the __Excel__ workbook **HW13-2b Excel Education Rates Table Original**, which is one of the files you downloaded at the start of the term. It is in your **PowerPoint Files** folder. Copy the information by doing the following:

1. In Excel, if the **Clipboard** pane is not open, on the **Home** tab, in the **Clipboard** group, click the **Clipboard** dialog box launcher.

2. If necessary, click **Clear All** to get rid of the old items that were copied.

3. Click cell **A1** and tap **Ctrl + c** to copy the title, **Education Rates by State**.

4. Select cells **B2:H12**. Tap **Ctrl + c** to copy the table.

5. Minimize Excel but do NOT exit Excel.

d. Do the following to paste the Excel items you just copied into PowerPoint.

    1. Insert a new slide using the **Blank** layout.

    2. Open the **Clipboard** pane and click the title **Education Rates by State** to insert it.

    3. Change the font to 36 pt Arial Black and move it so it is near the top center of the slide.

    4. Animate the entrance of the title with the **Fly In** animation (under **Basic**) and set it to start **After Previous** so it will enter when this slide opens.

    5. Click a blank area of the slide to deselect the title.

    6. In the **Clipboard** pane, click the table **State High School...** to insert it.

    7. Make the width of the table 9 inches and the height 3 inches (**Table Tools Layout**, **Table Size**). Be sure to choose **Table Size** and not **Cell Size**.

    8. Make the font 20 pt Arial Black.

    9. Center the table on the slide.

    10. Do a Google search for an education symbol. Pick one, copy it, and insert it as the background of the slide with 85% transparency. On the **Format Background** pane, set all four **Offsets** to 0%.

Transparency	——|——	85%	↕
☐ Tile picture as texture			
Offset left		0%	↕
Offset right		0%	↕
Offset top		0%	↕
Offset bottom		0%	↕

    11. Animate the entrance of the table using **Fade** (under **Subtle**) and set it to start **After Previous** with a 1 second delay.

    12. Close the **Clipboard** pane.

    13. Make the transition to this slide **Fall Over** (under **Exciting**).

e. When importing information from Word or Excel, it is sometimes better to take screen shots, especially if complex formatting is involved and you will not need to make changes to the data while in PowerPoint. Do the following:

    1. Insert a new slide. Use the **Blank** layout.

    2. Open the **Excel** workbook **HW13-2c Excel Current Literacy Rates Original**, which is one of the files you downloaded at the start of the term. It is in your **PowerPoint Files** folder.

    3. Use the **Snipping Tool** to take a screenshot of cells **B2:F11**.

    4. Copy the map. FYI, to create the map I selected **B4:C10** and, on the **Insert** tab, in the **Charts** group, I clicked the **Maps** down arrow and selected the map icon.

    5. Copy the images of the girl reading and the books.

    6. Paste the screenshot of the table into the PowerPoint blank slide.

    7. Make the height 4 inches and the width 6 inches. Move the screenshot to the upper left corner of the slide.

8. Paste the map, make the size 4 high inches by 7 inches wide, and drag it to the lower right corner of the slide.

9. Paste the image of the girl reading, make the size 3 inches by 3 inches, and drag it to the lower left of the slide.

10. Paste the image of the books, make the size 3 inches high by 4 inches wide, and drag it to the upper right of the slide.

11. Set animations to begin when the slide starts in the order Chart, Map, Girl, Books, entering automatically one after the other using the **Fade** animation with a one second delay between each. [33]

12. Tap **F5** to play your presentation.

d. Tap **Ctrl + p** and set up to print a handout as follows:

- Has all three slides.
- Three slides per page.
- Portrait orientation.
- Color, if using a black and white printer or grayscale, if using a color printer.
- Date, updated automatically, in the format Day, Month Date, Year.
- Page number but no header.
- Name of the file in the footer.

Compare the preview with the key. Make needed corrections, print the handout, save the presentation, and close it. Exit Word and Excel.

HW13-3 Integration

Problem: How can a PowerPoint presentation be created from a Word document and objects from other files?

a. You will use the Table of Contents of the word document **HW10-5 Large Document** as the basis for PowerPoint slides. I have copied that TOC to a Word file called **HW13-3b TOC Original**.

1. Start PowerPoint and choose the **Blank** layout.

2. Save the presentation to your **PowerPoint Files** folder using the name **HW13-3a HWID Integration Done**

3. Tap **Ctrl + O**, click **Browse**, and navigate to your **PowerPoint Files** folder. At the bottom right of the dialog box, click the **All PowerPoint Presentations** down arrow and select **All Files**.

Double-click the Word file **HW13-3b TOC Original**.

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[33] Click the chart, set it to **Start With Previous**; click the map and set it to **Start After Previous** and **Delay 1.00**; do the same for the girl and the books.
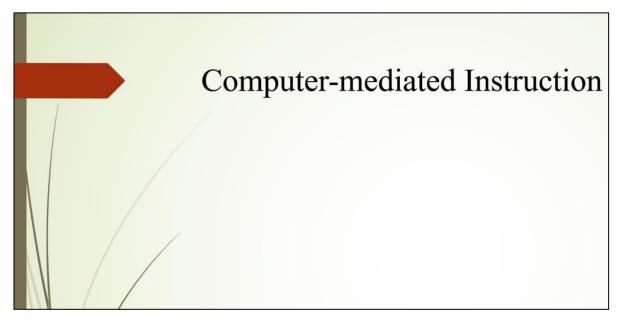
Each line of the Word document is formatted using the built-in styles **Heading 1** and **Heading 2**. The lines that were formatted with style **Heading 1** are transformed into a new PowerPoint slide; the lines that were formatted with style **Heading 2** appear as subheadings within the slides. Here is what it looks like in **Slide Sorter** view.

b. Set up the slides by doing the following:

1. Switch to normal view and select all the slides (click anywhere in the thumbnails on the left and tap **Ctrl + a**).

2. On the **Home** tab, in the **Slides** group, click the **Layout** down arrow and select **Title only**.

3. On the **Design** tab, in the **Themes** group, in the lower right, click the **More** button ⮝ and apply the **Wisp** theme.

    Notice that it has a little red right-pointing arrow on its left side.
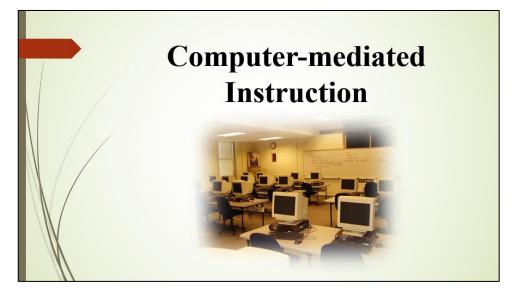
c. Do the following to set up **Slide 1 (Computer-mediated Instruction)**.

1. Click **Slide 1** and make the title 60 pt bold with center alignment so it looks like this:
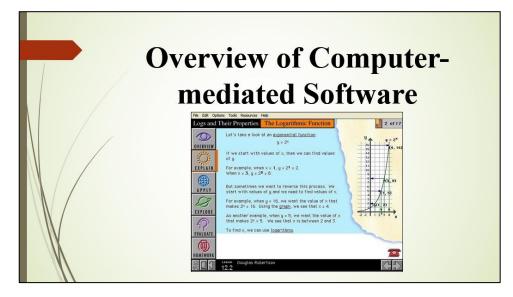
2. Minimize PowerPoint and open the **PowerPoint Files** folder. Double-click the *Word* file **HW13-3c Large Doc PPT Original**, which is one of the files you downloaded at the start of the term. Even though it is a Word file it is in the **PowerPoint Files** folder. Navigate to the **Abstract** page and copy to the clipboard the photo of the computer classroom. Then close Word.

3. Switch to *PowerPoint*. Be sure the title is not selected. Paste the photo into **Slide 1**. If the Design Ideas pane opens, close it.

4. Right-click the photo and click **Size and Position**. On the **Format Picture** pane, put a check next to **Lock aspect ratio** and change the height of the photo to 4.5". With the aspect ratio locked, when you change the height the width automatically changes to keep the height and width in the same proportion as the original (hence, no distortion).

5. On the **Picture Tools Format** tab, in the **Picture Styles** group, click the **Picture Effects** down arrow and select **Soft Edges**, **50 Point**.
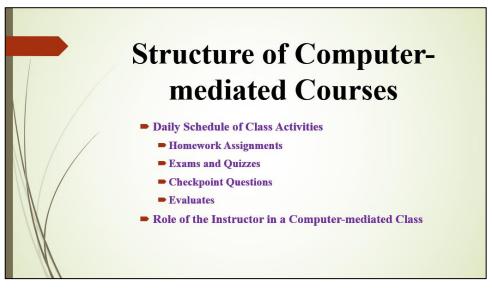
6. Position the title and picture as shown below:

d. Do the following to insert a graphic into **Slide 2 (Overview of Computer-mediated Software)**.

1. Click **Slide 2** and make the title 60 pt bold with center alignment.

2. Click on a blank area of the slide to be sure the title is not selected. On the **Insert** tab, in the **Images** group, click **Pictures**.

3. Navigate to your **PowerPoint Files** folder and double-click the file **HW13-3d Math Sample Original.jpg**, which is one of the files you downloaded at the start of the term. The graphic will be inserted.

4. Make the height of the picture 4.4".

5. Put a black border around the picture (**Picture Tools Format**, **Picture Styles**, **Picture Border**).

6. Adjust the location of the picture so that **Slide 2** looks like this:
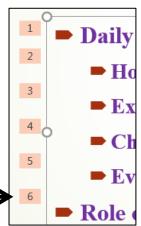
e. Adjust and animate the bullets on **Slide 3 (Structure of Computer-mediated Courses)** by doing the following:

1. Click **Slide 3** and make the title 60 pt bold with center alignment.

2. Click the text box that contains the bullets and make the font 24 pt bold.

3. Make the four bullets **Homework Assignments**, **Exams and Quizzes**, **Checkpoint Questions**, and **Evaluates** subordinate to **Daily Schedule of Class Activities**. Adjust the text box so it looks like the following:
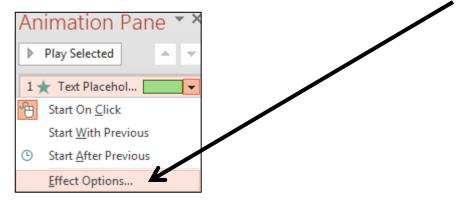
4. On the **Animations** tab, in the **Advanced Animation** group, click **Animation Pane** to display it on the right side of the screen.

5. Click the border of the text box that contains all the bullets. Set the bullets to enter using the **Appear** animation.

6. Notice that the four sub-bullets are set to enter when **Daily Schedule of Class Activities** enters (they all have the number 1 next to them). To make each individual bullet enter on its own mouse click, click the edge of the text box to select all the bullets and then, on the **Animations** tab, in the **Timing** group, set the **Start box** to **On Click**.

Now, all the entrance numbers are different, ranging from 1 through 6.

7. In the **Animation Pane**, click the down arrow and select **Effect Options**.

8. In the **After animation** box, choose the color **orange** and, in the **Animate text** box, select **All at once**. This will cause the color of a bulleted line to change to orange when the next bullet enters. This keeps the information on the screen and helps to focus the audience on the bullet that just entered.

9. Click **OK**.

10. Click the **Slide Show** button to start the presentation from this slide and watch the animations as you click the mouse. Click **Esc** to stop the slide show.

f. Delete **Slide 4** (**Student Performance in Computer-mediated Courses and Lecture Classes**).

g. Add a video to the new **Slide 4** (**Trends in Computer-mediated Mathematics Instruction**) by doing the following:

1. Make the new **Slide 4** active, change the title to **Quadratic Transformations**, and make the title 60 pt bold with center alignment.

2. Animate the title using the **Bounce** entrance (click the **More** button, click **More Entrance Effects**, scroll down to **Exciting**, click **Bounce**). Set the animation to enter by letter (use **Effect Options**) and set the **Start** box to **After Previous**. Then, deselect the title.

3. On the **Insert** tab, in the **Media** group, click **Video** and select **Video on my PC**. Double-click **HW13-3e Transformations Original**, which is one of the files you copied at the start of the semester. This video was made on an iPad by students in **CI 1806 College Algebra through Modeling** after a visit to the Weisman Art Museum on campus. They were looking for mathematical themes in visual art. The two faces look like parabolas (quadratic functions). It appears that the face on the right is reproduced by the face on the left through a quadratic transformation. [34]

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[34] If you are interested in the project, see Staats, S., Ernst, D., Berken, S. & Robertson, D., 2015. Investigating the mathematics of inaccessible objects: Algebra videos with iPads. Chapter for M. Meletiou-Mavrotheris, K. Mavrou & E. Paparistodemou (Eds). Integrating touch-enabled and mobile devices into contemporary mathematics education. IGI Global.

4. On the **Video Tools Playback** tab, in the **Editing** group, click **Trim Video** and use the green slider to set the video to start at about 4 seconds and the red slider so that the video ends at about 27 seconds.

Click **OK**.

5. On the **Video Tools Playback** tab, in the **Video Options** group, select **Start Automatically** and check **Play Full Screen** so the video fills the screen when played.
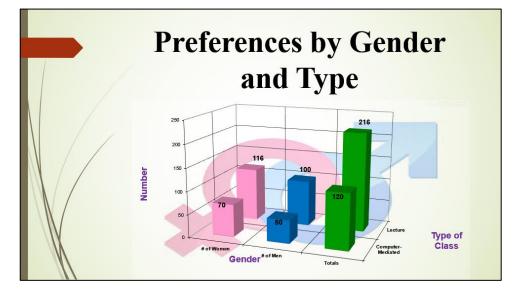
7. Make the height of the image 4 inches, center it under the title, and move it to just below the title.

8. Click the **Slide Show** button 🖥 to start the presentation from this slide and watch the video. Tap **Esc** to exit the presentation.

h. Do the following to insert a graph from Excel into **Slide 5 (Instructional Models)**.

1. Display **Slide 5** and change the title to **Preferences by Gender and Type**, and make the title 60 pt bold with center alignment. Then, deselect the title.

2. Minimize PowerPoint and open the **PowerPoint Files** folder. Double-click the _**Excel**_ file, **HW13-3f Gender Graph Original**, which is one of the files you downloaded at the start of the term. Even though it is an Excel file it is in the **PowerPoint Files** folder.

3. Select the graph by clicking near the upper left corner of the white area surrounding the graph.
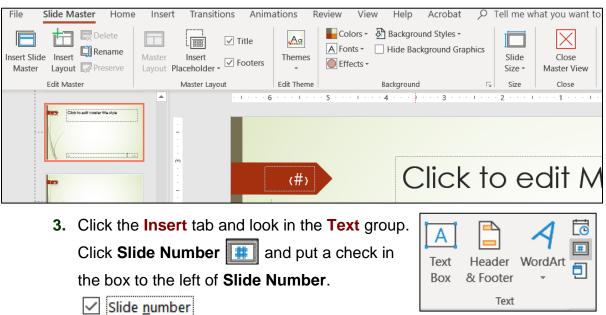
Tap **Ctrl + c** to copy the graph and then close Excel.

4. Switch back to PowerPoint and tap **Ctrl + v**. The graph is inserted.

5. Change the font of the three axis labels to 18 pt purple.

6. Change the color of the two columns for **Women** to pink and the two columns for **Men** to blue. You will have to do the columns one at a time. To select a single column, click it, wait a second, and then click it again. Then, on the **Chart Tools Format** tab, in the **Shape Styles** group, click the Shape Fill down arrow and select the color.

7. Make the height of the chart 5" (**Chart Tools Format**, on the left select **Chart Area**, and then, over on the right, change the **Height** to 5).

8. Position the title and graph so that the slide looks like the following:

i.   There are times when you may want to set up all the slides with particular objects, like a company logo or page numbers or specific text. Doing that individually to each slide is time consuming for a large presentation. To help with that task, you can use a **Master Slide**, similar to what you did when fixing printing on page **SG290**. This is like a style in Word. When you edit the **Master Slide** (or a style in Word) every slide in the presentation is affected (just like every paragraph with that style is affected in Word). To see how this works, do the following:

1. Click the thumbnail for **Slide 1**.

2. On the **View** tab, in the **Master Views** group, click **Slide Master**. This displays a new tab called **Slide Master** and displays the **Master Slide** and many different slide layouts.

3. Click the **Insert** tab and look in the **Text** group. Click **Slide Number** and put a check in the box to the left of **Slide Number**.

4. Click **Apply to All** to insert the slide number on the **Master Slide**. The current position is inside the red arrow. It can be dragged to any location but, leave it where it is.

5. On the **Insert** tab, in the **Images** group, click **Pictures**, navigate to your PowerPoint folder, and insert **HW12-3 Goldy Original**.

6. The background of the image covers up the **Wisp** theme. You can remove the background, if you wish, as you did on page **SG301** (*this is optional*).

7. Make the image height 1 inch and move it to the lower right corner of the slide.

8. Insert a text box, type **American Mathematical Association**, which is the organization that sponsored the conference where I made this presentation.

9. Make the font bold red and move the text box to the upper left of the slide, just under the large red arrow.

I used modified versions of the full 60 slide presentation at two conferences, one for the **American Mathematical Association** and the other for the **National Council of Teachers of Mathematics**. Using the **Master Slide** feature I was able to quickly change the organization name on all the slides when I went from one conference to the other.

10. On the **Slide Master** tab, in the **Close** group, click **Close Master View**.

j. Tap **F5** to run the slide show and marvel at your work. Notice that each slide has the slide number and the image of Goldy.

k. Tap **Ctrl + p** and set up to print a handout as follows:

   - Has all five slides.
   - Six slides horizontal per page.
   - Portrait orientation.
   - Color, if using a black and white printer or grayscale, if using a color printer.
   - Date, updated automatically, in the format Day, Month Date, Year.
   - Page number but no header.
   - Name of the file in the footer.

   Compare the preview with the key. Make needed corrections, print the handout, save the presentation, and close it. Exit Word and Excel.

HW13-4 (Mis)-communication

Problem: How can images from the web be copied, modified, and inserted into a PowerPoint presentation and then have animations applied?
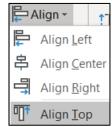
In my precalculus class, I talk about the importance of clear communication when solving problems and communicating the solutions to others. I created a slide as a humorous way of illustrating how one person can explain an obvious solution that is completely misinterpreted by his colleague.

I started with the following BC comic, by Johnny Hart, that I downloaded from http://www.tcj.com/johnny-hart-to-appear-b-c/hart-9/

I used the **Snipping Tool** to copy the characters and pasted them in the slide. I wanted the text to be more readable so I typed it into text boxes and made the font Arial Black. Finally, I added animations and sounds. To get some experience with this sort of process, do the following:
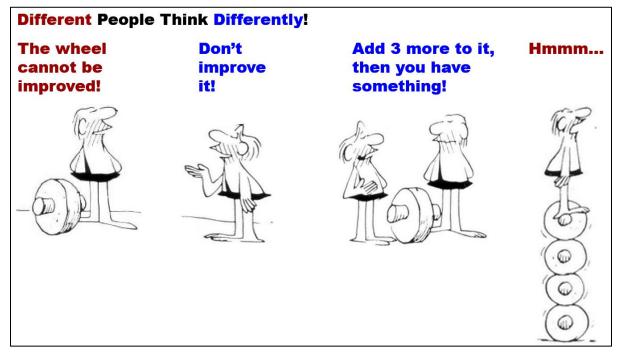
a. Open a new blank PowerPoint presentation and set the **Layout** to **Blank**. Save the presentation to your **PowerPoint Files** folder using the name **HW13-4a HWID Communication Done**

b. Insert text boxes, type the text shown below, make the font 24 point Arial Black, and position the text boxes as shown. You can quickly align the bottom 4 text boxes by selecting them and choosing **Drawing Tools Format**, **Arrange**, **Align**, **Align Top**.

To help viewers keep straight who is talking, make the color of the left-most and right-most text red and the color of the text in the two center boxes blue.
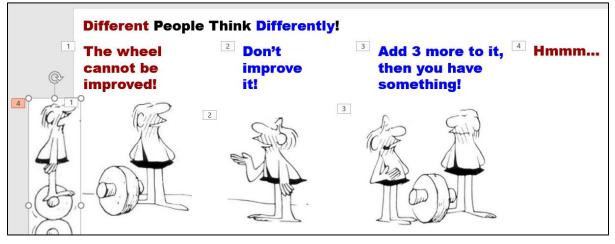
c. In your **PowerPoint Files** folder, double-click the JPEG file **HW13-4b Communication Image Original**. It may help to magnify the image by using the **Display size tool** 🔍 at the top center of the window. Make the image as large as you can while keeping the quality at an acceptable level. If you make the image too large it will become pixelated and not look good.

d. Use the **Snipping Tool** to copy the BC characters and paste them as shown:
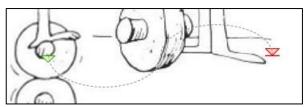
e. Insert animations by doing the following:

   1. Select the box with the text **The wheel cannot be improved!** and the image under it.

   2. On the **Animations** tab, in the **Advanced Animation** group, click **Animation Pane**.

   3. On the **Animations** tab, in the **Animation** group, click **Fade**.

   4. Set the text box to **Start: On Click**.

   5. Set the image to **Start: With Previous**.

   6. Do the same for the three other pairs of text boxes and images.
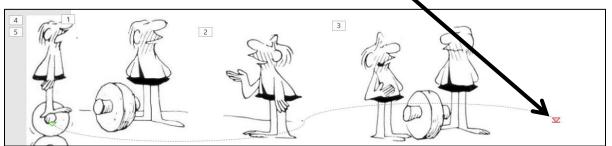
7. I wanted to have the last image appear on the left and travel across the screen until it is under **Hmmm…** To do this, drag the image under **Hmmm…** way over to the left and out of the slide. PowerPoint may resist you doing that so you may have to drag the image to the left, let up on the mouse button, and then drag the image left again.

8. With the image that has the four wheels still selected, on the **Animations** tab, in the **Advanced Animation** group, click the **Add Animation** down arrow and select **More Motion Paths…**

9. Select **S Curve 2** and click **OK**. The animation will start at the green triangle and end at the red triangle.

10. Drag the red triangle to the right until it is under the **Hmmm…** text box. Set the animation to **Start: With previous**.

f. Add sound effects by doing the following:

1. On the **Insert** tab, in the **Media** group, click the **Audio** down arrow, select **Audio on my PC**, and double-click **HW13-4c Indy Car Pass Original**, which is one of the files you downloaded at the start of the semester.

2. Drag the little speaker icon down so it is below the images.

3. On the **Audio Tools Playback** tab, put a check in the **Hide During Show** box.

4. On the **Audio Tools Playback** tab, select **Start: Automatically**.

5. Click the down arrow next to **HW13-4c Ind…** and select **Start With Previous**.

6. Deselect the speaker icon.

7. On the **Insert** tab, in the **Media** group, click the **Audio** down arrow, select **Audio on my PC**, and click **HW13-4d Hmmm Original**, which is one of the files you downloaded at the start of the semester.

8. On the **Audio Tools Playback** tab, put a check in the **Hide During Show** box.

9. On the **Audio Tools Playback** tab, select **Start: Automatically**.

g. Tap **F5** to run the slide show and check that everything is working properly.

h. So that I can see your animations, print the slide by doing the following:

1. Open a new **Word** document and save it using the name **HW13-4e HWID Communication Word Done**

2. Insert a footer that contains the name of the file.

3. Switch to PowerPoint. Be sure the **Animations** tab is selected and the **Animation Pane** is showing. Use the **Snipping Tool** to copy to the clipboard the entire slide, including the rulers and **Animation Pane**.

4. Switch to Word and paste the slide.

5. Tap **Ctrl + p** and compare the preview with the key (they should be close, but not necessarily exact). Make needed corrections, print the document, save the document and close Word.

6. Close PowerPoint and save the presentation.

OK, so now you know some ways to make your PowerPoint presentations flashy and hopefully more interesting. But, your message is the most important part so be sure to first figure out the message or facts you want your audience to leave with, then map out a talk that accomplishes your goal. Finally, consider adding animations, transitions, audio, video, and so on to liven up things. You want your audience to **pay attention**, to be surprised, to smile and nod and laugh at the right places and the extras can help with that.

HW13-5 Course Evaluation

Problem: How can you help to improve this course for future students?

During the last two weeks of the semester you will be sent an email telling you that the web-based evaluation for this course is available. To access the evaluation, follow the directions in the email, or go to https://srt.umn.edu/blue

> ***The evaluation is only available until the last day of the semester so you must complete it by then.***

a. If you do not want to fill out the evaluation, log into the site anyway so the system knows you were there and then exit without answering any of the questions.

b. After you have exited from the course evaluation site, open Word and on separate lines type your four-character **HWID**, the date, and the name of this homework problem **HW13-5 Course Evaluation** and type the words **I accessed the course evaluation web site.**

c. Save the document using the name **HW13-5 HWID Course Evaluation Done**, print it, and then close it.

Step 4 Submit You now are ready to submit your homework for grading.

1. Put your 5 homework papers in the following order:

    HW13-1 3A Trails
    HW13-2 Import from Word and Excel
    HW13-3 Integration
    HW13-4 (Mis)-communication
    HW13-5 Course Evaluation

2. Cut out Submission Form 13 and put it on the top of the papers.

3. Staple the papers in the upper left corner.

4. Turn in the packet by the due date.

Step 5 Backup Now would be a good time to backup your files.

Sample Exam Questions for PowerPoint

The final exam will cover **Excel**, **Word**, and **PowerPoint**. As was the case with the Excel and Word exams, these sample PowerPoint questions will give you a place to start in your studying but they *do not* constitute a "practice" exam so you will need to also study the activities in your textbook as well as those in this Study Guide in order to be fully prepared for the real exam. I may ask you questions on material that was covered in the textbook and your projects that are NOT covered here.

> *This is not to be handed in for grading. The file Sample-a PowerPoint Questions KEY is in your PowerPoint Files folder.*
> *The printed key is on page SG384.*

   a. Start PowerPoint and open a new blank document.

   b. Save the presentation using the name **Sample-a PowerPoint Questions Done**.

   c. **Slide 1**

      1. Change the layout to **Blank**.

> *If you get stuck, look up the question in*
> *"How to solve the Sample Exam Questions for PowerPoint"*
> *starting on page SG333 of this Study Guide.*

      2. Insert a **WordArt** object using the **Fill – Orange, Accent 2, Outline – Accent 2** motif. Type the following text: **PowerPoint Sample Exam Questions**.

      3. Make the text fill **purple**.

      4. Make the font of the **WordArt** object **Arial** and the size **48** pt.

      5. Modify the text effect of the **WordArt** object so that it has the **Deflate Bottom** transform.

      6. Move the **WordArt** object to the top center of the slide.

      7. Have the **WordArt** object enter **automatically** when the slide show begins. Use the **Fly In** animation.

      8. Insert a **text box** and, on separate lines, type your **FirstName**, **LastName**, **HWID**, **Major**, **Hometown**, and the **date**.

      9. Make the font **24** pt **Arial Black**.

     10. Make the **space before** each line **12** pt.

     11. **Animate** the six lines of text you just typed so that they enter **one at a time**, in order, each time the mouse is clicked. Use the **Fly In** animation.

     12. Set the animation so that each of the **6 lines of text is dimmed** to **purple** when the next bulleted line of text appears.

13. **Insert** the photo **Sample-b PowerPoint Balloons Original**, which is one of the files you downloaded at the start of the term.

14. Change the **height** of the photo to **3** inches and the **width** to **5** inches.

15. **Crop** the bottom of the photo so that the trees are not visible.

16. Place a **red border** around the photo and make the border weight **6** pt.

17. **Insert** an **oval**. Make the **height 4.6** inches and the **width 7** inches.

18. Make the fill texture of the oval **Bouquet** texture and the border **6** pt **red**.

19. Send the oval **behind** the photo. **Center** the picture inside the oval.
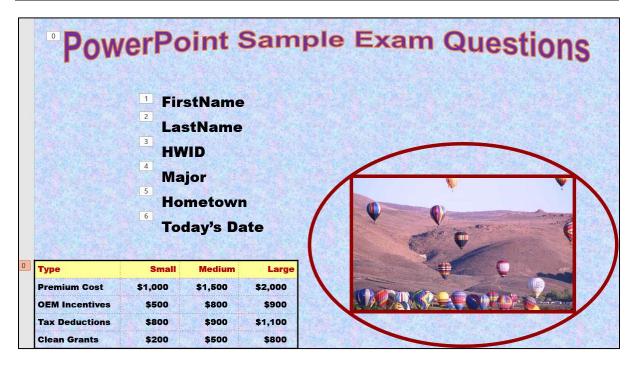
20. **Group** the photo and the oval so they act as one object when moved.

21. **Move** the Photo/Oval to the **lower right corner** of the slide.

22. Set the background for this slide only to **Bouquet** texture fill.

23. In the **PowerPoint Files** folder, double-click the *Word* file **Sample-c PowerPoint Table Original** to open it.

     Copy the table.

     Paste the table into the **PowerPoint** slide, keeping the **source formatting** of the table.

24. Make the **width** of the table **6** inches and the **height 2** inches.

25. Change the font to 14 pt Arial Black and right align the three columns on the right.

26. Move the table to the **lower left corner** of the slide.

27. Have the table enter with the **Swivel** animation **automatically** when the slide show begins. **Swivel** is under the **Subtle** category. Set the **Duration** (speed) to **Medium** (2.0).
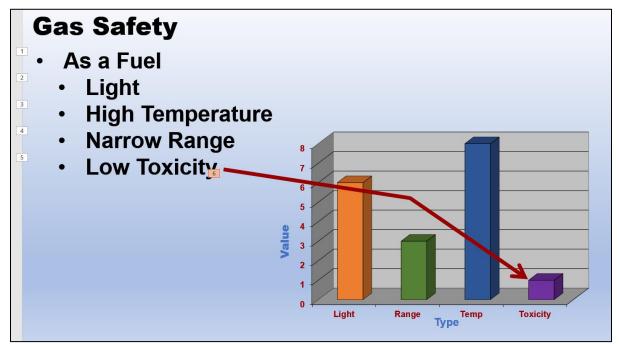
d. **Slide 2**

1. Insert a new blank slide.

2. Insert a text box, type **Gas Safety**. Make the font **40** pt **Arial Black**. Move the title to the **upper left corner** of the slide.

3. Insert a **text box**. Type the following on separate lines:

   As a Fuel
   Light
   Narrow Range
   High Temperature
   Low Toxicity

4. Change the text to **36** pt **Arial**.

5. Convert these five lines of text to a **bulleted list**.

6. Make the last four bullets subordinate to the first bullet, **As a Fuel**.

7. Move the line **High Temperature** so that it is between **As a Fuel** and **Light**.

8. **Move** the list so that it is under the title.

9. **Animate** all the bullets so they enter one at a time when the mouse is clicked. Use the **Fly In** animation.

10. Make each bulleted line **dim to orange** when the next bullet appears.

11. Open the **_Excel_** workbook **Sample-d PowerPoint Chart Original**, which is one of the files you downloaded at the start of the term.

12. Copy the chart and paste it into this slide.

13. Make the **height** of the chart **5** inches and the **width 8** inches.

14. Move the chart to the **lower right corner** of the slide.

15. Make the font color on both axes **14** pt **bold red Arial**.

16. Make the font on both axes labels (**Value** and **Type**) **18** pt **blue**.

17. Insert a **straight line** and an **arrow** as shown below. Make their **weight 6** pt and color **red**.

18. Arrange the line and arrow as shown below.

19. **Group** the line and arrow.

20. **Animate** the grouped line and arrow so the group enters when the mouse is clicked after the last bullet enters. Use the **Spiral In** animation (under **Exciting**).

21. Make the background of this slide **Gradient** fill.

e. **Slide 3**

1. Insert a new blank slide.

2. Make the **Theme** of this slide **only Parallax**.

3. Insert a **SmartArt** object that uses the **Hierarchy** category and **Horizontal Hierarchy** subcategory.
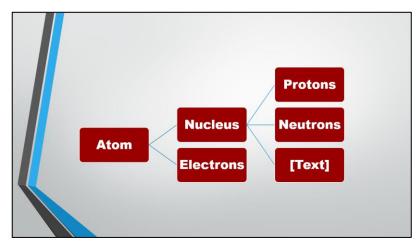
4. Adjust the connection lines as shown below so that the three boxes on the right are connected to the top middle box.

5. Add the text shown below.

6. Make the **fill** of each box **red** and the font **Arial Black**.

f. Use the **Shape** transition when moving from slide 2 to slide 3.

g. Click **Slide 1** and then view the slide show. A printed handout is shown on page **SG384**.

How to Solve the Sample Exam Questions for PowerPoint

c. Slide 1

c1. Question **c1** is on page **SG329**. Here is how to answer it:

On the **Home** tab, in the **Slides** group, click the **Layout** down arrow and select **Blank**.

c2. On the **Insert** tab, in the **Text** group, click the **WordArt** down arrow and select **Fill – Orange, Accent 2, Outline – Accent 2**

Type **PowerPoint Sample Exam Questions**

c3. Select the text and, on the **Drawing Tools Format** tab, in the **WordArt Styles** group, click the **Text Fill** down arrow and select purple.

c4. On the **Home** tab, in the **Font** group, select **Arial** and **48** pt.

c5. On the **Drawing Tools Format** tab, in the **WordArt Styles** group, click the **Text Effects** down arrow, click **Transform**, and select **Deflate Bottom**.

c6. Drag the object to the **top center** of the slide.

c7. On the **Animations** tab, in the **Animation** group, click **Fly In**.

On the **Animations** tab, in the **Advanced Animation** group, click **Animation Pane**. The Animation pane will open on the right.

On the **Animations** tab, in the **Timing** group, click the **Start** down arrow and select **With Previous**.

c8. On the **Insert** tab, in the **Text** group, click **Text Box**, move the cursor to anywhere on the slide, and drag the mouse to draw a text box. Then, type the six lines of text, one per line.

c9. Select the text you just typed and, on the **Home** tab, in the **Font** group, select **24** pt. and **Arial Black**.

c10. With the text still selected, right-click, select **Paragraph** and, in the **Spacing** group set **Before** to **12** pt. Click **OK**.

c11. With the text still selected, on the **Animations** tab, in the **Animation** group, click **Fly In**. Notice that the little numbers just to the left of each word are all set to 1. This means they will all enter at the same time so you need to change this.

On the **Animations** tab, in the **Timing** group, click the **Start** down arrow and select **On Click**. Now the little numbers show 1, 2, 3, 4, 5, 6, which means they will come in one at a time each time you click the mouse.

c12. With the text still selected, in the **Animation Pane**, click the down arrow to the right of **6 Date** and select **Effect Options**.

On the **Effect** tab, in the **Enhancements** group, click the **After animation** down arrow and select **purple**. Click **OK**.

c13. On the **Insert** tab, in the **Images** group, click **Pictures**. Navigate to your **PowerPoint Files** folder, click **Sample-b PowerPoint Balloons Original** and click **Insert**.

c14. On the **Picture Tools Format** tab, in the **Size** group, click the launch dialog button to show the **Format Picture** pane.

Uncheck **Lock aspect ratio** so you can change the height and width independently.

Type **3** in the **height** box and **5** in the **width** box.

c15. On the **Picture Tools Format** tab, in the **Size** group, click the **Crop** down arrow and select **Crop**. Drag the bottom middle size handle up until the trees are no longer visible. Click outside the photo.

c16. With the picture selected, on the **Picture Tools Format** tab, in the **Picture Styles** group, click the **Picture border** down arrow and select **red**.

With the picture still selected, on the **Picture Tools Format** tab, in the **Picture Styles** group, click the **Picture border** down arrow, click **Weight**, and select **6** pt.

c17. On the **Insert** tab, in the **Illustrations** group, click the **Shapes** down arrow and select oval.

Move the cursor to a blank spot on the slide and drag the mouse.

On the **Drawing Tools Format** tab, in the **Size** group, change the **height** to **4.6** and the **width** to **7**.

c18. On the **Drawing Tools Format** tab, in the **Shape Styles** group, click the **Shape Fill** down arrow, click **Texture**, and select **Bouquet**.

With the oval still selected, on the **Drawing Tools Format** tab, in the **Shape Styles** group, click the **Shape Outline** down arrow and select **red**.

With the oval still selected, on the **Drawing Tools Format** tab, in the **Shape Styles** group, click the **Shape Outline** down arrow, click **weight**, and select **6** pt.

c19. Right-click the oval, click **Send to Back** and select **Send to Back**.

Click the picture, hold down the **Shift** key, and click the oval. This selects both of them.

On the **Drawing tools Format** tab, in the **Arrange** group, click the **Align** down arrow, and select **Align Center**.

c20. With the picture and oval still selected, right-click, click **Group** and select **Group**.

c21. Drag the Photo/Oval group to the **lower right corner** of the slide.

c22. In a blank part of the slide, right-click, and select **Format Background**.
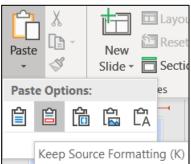
In the **Format Background** pane, click **Picture or texture fill**.

To the right of **Texture**, click the down arrow and select **Bouquet**.

c23. In the **PowerPoint Files** folder, double-click the Word file **Sample-c PowerPoint Table Original** to open it.

Select the table, tap **Ctrl + c** to copy it, switch to PowerPoint, and click a blank spot anywhere on the slide.

On the **Home** tab, in the **Clipboard** group, click the **Paste** down arrow and select **Keep Source Formatting (K)**.

c24. With the table selected, on the **Table Tools Layout** tab, in the **Table Size** group, type **6** in the **width** box and **2** in the **height** box.

c25. With the table selected, on the **Table Tools Layout** tab, in the **Font** group change the font type and size.

Select the three columns on the right. In the **Paragraph** group, click the **Right Align** button.

c26. With the table still selected, drag it to the **lower left corner** of the slide.

c27. With the table still selected, on the **Animations** tab, in the **Animation** group, click the **More** button ⬇ to open the **Animation** menu.

Click **More Entrance Effects**.
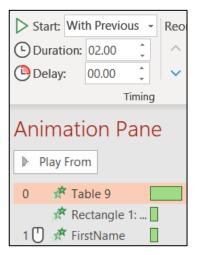
In the **Subtle** group, click **Swivel** and then **OK**.

On the **Animations** tab, in the **Advanced Animation** group, click **Animation Pane** to open it.

Select the **Start** box down arrow and select **With Previous**.

Type **2** in the **Duration** box.

In the **Timing** group, click the up arrow under **Reorder Animation** until the **Table** is first.

Tap **F5** to start the slide show. The **WordArt** and the **Table** should automatically appear. As you click the mouse, the bulleted items should appear, and then dim to purple when the mouse is clicked again.
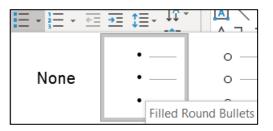
d. Slide 2

d1. On the **Home** tab, in the **Slides** group, click the **New Slide** down arrow and select **Blank**.

d2. On the **Insert** tab, in the **Text** group, click **Text Box**, move the cursor to anywhere on the slide, and drag the mouse to draw a text box. Then, type **Gas Safety**.

Select the text and, on the **Home** tab, in the **Font** group, make the font **40** pt **Arial Black**.

Select the text box and drag it to the **upper left corner** of the slide.

d3. On the **Insert** tab, in the **Text** group, click **Text Box**, move the cursor to anywhere on the slide, and drag the mouse to draw a text box. Then, type the phrases.

d4. Select the text and, on the **Home** tab, in the **Font** group, change the text to **36** pt **Arial**.

d5. With the text still selected, on the **Home** tab, in the **Paragraph** group, click the **Bullets** down arrow and select **Filled Round Bullets**.

d6. Select the last four bullets and, on the **Home** tab, in the **Paragraph** group, click the **Increase List Level** button

d7. Click the bullet next to **High Temperature** and drag it up two lines.

d8. Click the text box outline and drag the list so that it is under the title. Make the text box wider if necessary.

d9. With the text still selected, on the **Animations** tab, in the **Animation** group, click **Fly In**. Notice that the little numbers just to the left of each word are all set to 1. This means they will all enter at the same time so you need to change this.

On the **Animations** tab, in the **Timing** group, click the **Start** down arrow and select **On Click**. Now the little numbers show 1, 2, 3, 4, 5, which means they will come in one at a time each time you click the mouse.

d10. With the text still selected, in the **Animation Pane**, click the down arrow to the right of **5 Low Toxicity** and select **Effect Options**.

On the **Effect** tab, in the **Enhancements** group, click the **After animation** down arrow and select **orange**. Click **OK**.

d11. Navigate to the **PowerPoint Files** folder and double-click the Excel workbook **Sample-d PowerPoint Chart Original**, which is one of the files you downloaded at the start of the term.

d12. With the chart selected, tap **Ctrl + c** to copy it.

Switch to PowerPoint, click an empty part of the slide, and tap **Ctrl + v**.

d13. On the **Chart Tools Format** tab, in the **Size** group, change the **height** of the chart to **5** inches and the **width** to **7** inches.

d14. Click the chart box and drag it to the **lower right corner** of the slide.

d15. Click the vertical axis to select it and, on the **Home** tab, in the **Font** group, select **14** pt **bold red Arial**.

Repeat this for the horizontal axis.

d16. Select each label and change the font to **18** pt **blue**.

d17. On the **Insert** tab, in the **Illustrations** group, click the **Shapes** down arrow and select the straight line.

Click an empty part of the slide, click and drag to draw the line.

With the line still selected, on the **Drawing Tools Format** tab, in the **Shape Styles** group, click the **Shape Outline** down arrow, select **Weight** and then **6** pt. Select red for the color.

Repeat the process for an arrow.

d18. Click the line and move it to the proper position. Do the same for the arrow.

d19. Click the line, hold down the **Shift** key, and click the arrow to select them both. Right-click, select **Group**, and select **Group** again.

d20. With the group selected, on the **Animations** tab, in the **Animation** group, click the **More** button, ☑, to open its menu.

Click **More Entrance Effects**.

Scroll down to the **Exciting** group, click **Spiral In**, and click **OK**.

d21. Right-click a blank area of the slide and select **Format Background**.

In the **Format Background** pane, click **Gradient fill**. You can leave the options as they are.

e. Slide 3

e1. On the **Home** tab, in the **Slides** group, click the **New Slide** down arrow and select **Blank**.

e2. On the **Design** tab, in the **Themes** group, click the **More** button, right-click **Parallax**, and select **Apply to Selected Slides**.

e3. On the **Insert** tab, in the **Illustrations** group, click **SmartArt**.

Click **Hierarchy**, and then click **Horizontal Hierarchy**.

Click **OK**.

e4. First, you need to delete the third **Text Box** in the right column. To do that, click the box edge to select it and tap the **Del** key.

Now, insert a new **Text Box** that is connected to the top box in the middle column. To do that, right-click an edge of the bottom **Text Box** in the right column, click the **Add Shape** arrow, and select **Add Shape After**.

e5. Enter these words into the **Text Boxes**: **Atom**, **Nucleus**, **Electrons**, **Protons**, **Neutrons**, **Sub-Atomic**.

e6. Select the six **Text Boxes** by clicking on the edge of the **Atom Text Box**, holding down the **Shift** key, and clicking the edges of the other five **Text Boxes**.

On the **SmartArt Tools Format** tab, in the **Shape Styles** group, click the **Shape Fill** down arrow, and select **red**.

With the **Text Boxes** still selected, on the **Home** tab, in the **Font** group, change the font to **Arial Black**.

f. On the **Transitions** tab, in the **Transition to This Slide** group, click **Shape**.

g. Tap the **F5** key to play the slide show.

> ***Do not submit this work for grading but do go through it several times as a part of your preparation for the final exam.***

Project 14
Access Chapter 1: Getting Started with Databases

> *This project is **extra credit**. You may hand in the printed output at the final exam and points earned will be added to your Homework score when final grades are calculated. Access will NOT be covered on the final exam.*

Step 1 Read Read the introductory material on page 519 of the textbook.

Step 2 Activities Turn on the computer and do the following:

Project 1A: Start at the top of page 521.

Instead of Activity 1.02 step 2 (page 523) do the following:

1. Start Access and click **Blank database**.

2. Locate the **Browse folder**, which is just to the right of the **File Name** box.

   > File Name
   > Database1
   > \\ad.umn.edu\CEHD\Home\droberts\Documents\

   Click the **Browse folder** and navigate to your **Access Files** folder.

> *We are not going to use sub folders (e.g., Access Chapter 1). You will put all your Access files in the Access Files folder so you can see them all at once.*

3. In the **File Name** box, type **LastName_FirstName_1A_Advising**, where **LastName** is **YOUR** last name and **FirstName** is **YOUR** first name.

4. Click **OK**.

5. Click **Create**.

   When you open a database you might get the following Security Warning:

   > ⚠ **Security Warning** Some active content has been disabled. Click for more details.   Enable Content

   If that happens, click Enable Content.
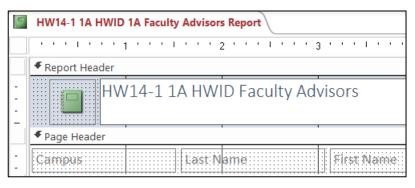
6. Complete the rest of the Activities for this Project EXCEPT do **NOT** do steps 3 and 4 in **Activity 1.17** on page 553.

7. **Return here** when you have completed Project 1A on page 553.

> ***Do NOT do GO! With Google***
>
> ***Do NOT do Project 1B***

Step 3 Homework After you have completed Project A **ONLY** return here, do the following additional activities, and turn them in for grading as **extra credit**.

HW14-1 Advising Database (Based on Project 1A)

Problem: How can a database be designed and populated with data?

a. Open the database **Lastname_Firstname_1A_Advising**, which you created while following the directions in the textbook and saved on page 553.

b. Do the following to save the database under a new name:

   1. Click the **File** tab and click **Save As**.

   2. Be sure **Save Database As** is selected.

   3. Click **Save As**.

   4. Navigate to your **Access Files** folder.

   5. In the **File name** box type **HW14-1 HWID 1A_Advising_Done**.

   6. Click **Save**. If you get a security warning click **Enable Content**.

c. Do the following to print the query, which you saved on page 547:

   1. Right-click **LastName FirstName 1A All Students Query**, select **Rename**, and replace the name with **HW14-1 1A HWID All Students Query**.

   2. Open the query.

   3. Choose **File**, **Print**, **Print Preview** and compare the preview with the key. Make needed corrections, save the query, and print it.

   4. Close the query.

d. Do the following to print the report, which you saved on page 552:

   1. Rename **Lastname Firstname 1A Faculty Advisors Report** as **HW14-1 1A HWID 1A Faculty Advisors Report**.

   2. Open the report.

   3. Switch to **Design View**.

   4. In the **Report Header** box, change the text to **HW14-1 1A HWID Faculty Advisors**.

   5. Switch the **View** to **Print Preview** and compare the preview with the key. Make needed corrections, save the report, and print it.

g. Exit Access.

Step 4 Submit You now are ready to submit your **EXTRA CREDIT** homework for grading.

1. Put your 2 homework papers in the following order:

   HW14-1 1A All Students Query
   HW14-1 1A Faculty Advisors Report

2. Cut out Submission Form 14 and put it on the top of the papers.

3. Staple the papers in the upper left corner.

4. Turn in the packet at the final exam.

Step 5 Backup Now would be a good time to backup your files.

Project 15
Access Chapter 2: Sort and Query a Database

> *This project is extra credit. You may hand in the printed output at the final exam and points earned will be added to your Homework score when final grades are calculated. Access will NOT be covered on the final exam.*

Step 1 Read Read the introductory material on page 595 of the textbook.

Step 2 Activities Turn on the computer and do the following:

Project 2A: Start at the top of page 597.

Instead of Activity 2.01 step 1 do the following:

1. Navigate to your **Access Files** folder and open **a02A_Instructors_Courses**, which is one of the files you downloaded at the start of the term

2. Save the file in your **Access Files** folder using the name **LastName_FirstName_2A_Instructors_Courses**

3. Complete the rest of the Activities for this Project EXCEPT do **NOT** do steps 9 and 10 in **Activity 2.16** on page 619.

4. **Return here** when you have completed Project 2A on page 618.

> ***Do NOT do GO! With Google***

Project 2B: When you have completed Project 2A, start at the top of page 623.

Instead of Activity 2.17 step 1 do the following:

1. Navigate to your **Access Files** folder and open **a02B_Athletes_Scholarships**, which is one of the files you downloaded at the start of the term.

2. Save the file in your **Access Files** folder using the name **LastName_FirstName_2B_Athletes_Scholarships**

3. Complete the activities through **Activity 2.24** on page 632.

4. **Return here** when you have completed **Activity 2.24** on page 632.

> ***Do NOT do GO! With Google or GO! To Work***

Step 3 Homework After you have completed Projects A and B, return here, do the problems listed below, and turn them in for grading as **extra credit**.

HW15-1 Instructors and Courses (Based on Project 2A)

Problem: How can separate databases be linked and information extracted from each to answer questions concerning the data?

a. Open the database **Lastname_Firstname_2A_Instructors_Courses**, which you created while following the directions in the textbook and saved on page 618.

b. Save the database to your **Access Files** folder using the name **HW15-1 HWID 2A_Instructors_Courses_Done**

c. Take a screen shot that shows you did all the queries by doing the following:

    1. Change the name of the **2A No Credits Query**, which you saved on page 618, to **HWID 2A No Credits Query**.

    2. Open **HWID 2A No Credits Query**.

    3. While in **Datasheet** view, use the **Snipping Tool** to take a screen shot that includes the **Navigation pane** and the **2A No Credits Query**.

    4. Open a blank Word document, type **HW15-1 2A Queries, HWID**, and tap **Enter**.

    5. Paste the screen shot you just made.

    6. Save the Word document as **HW15-1 HWID 2A Queries Done** to your **Access Files** folder.

    7. In the footer, insert fields for the file name and the date it was saved.

    8. Tap **Ctrl + p** and compare the preview with the key. Make needed corrections, print the document, save it, and close it.

d. Exit Access.

HW15-2 Athletes Scholarships (Based on Project 2B)

Problem: How can complex queries be designed and applied to linked
databases in order to answer specific questions?

a. Open the database **Lastname_Firstname_2B_Athletes_Scholarships**, which
you created while following the directions in the textbook and saved on page 632.

b. Save the database to your **Access Files** folder using the name
HW15-2 HWID 2B_Athletes_Scholarships_Done

c. Open **2B Tennis OR Swimming Query**, which you created while following
the directions in the textbook and saved on page 631.

Rename the query **HWID 2B Tennis OR Swimming Query.**

Choose **File**, **Print**, **Print Preview** and compare the preview with the key.
Make needed corrections, save the query, and print it.

d. The textbook showed you how to import data from an Excel worksheet into an
Access table. Data may also be exported from an Access table or query to an
Excel worksheet using the **Export** command. To see how this works, export
one of your queries to an Excel worksheet by doing the following:

1. Open **2B $300 or More Query**, which you created while following the
directions in the textbook and saved on page 627.

2. On the **External Data** tab, in the **Export** group, click **Excel**.

3. Click the **Browse** button, navigate to your **Access Files** folder, and save the
workbook using the name **HW15-2 HWID 300 or More Query Excel Done**.

4. Click **Save**.

5. Check the box next to **Export data with formatting and layout**.

6. Click **OK**. Click **Close** without checking the save steps box.

e. Print the Excel workbook you just created.

1. Open the Excel workbook **HW15-2 HWID 300 or More Query Excel Done**.

2. Autofit the columns.

3. Insert a footer that contains the file name in the left section and the date in the right section. Fit all the columns on one page.

4. Tap **Ctrl + p** and compare the preview with the key. Make needed corrections, print, save the workbook, and close it and exit Excel.

f. Take a screen shot that shows you did all the queries by doing the following:

1. Open **2B Awards May-June Query**, which you saved on page 618.

2. While in **Datasheet** view, use the **Snipping Tool** to take a screen shot that includes the **Navigation pane** and the **2B Awards May-June Query**.

All Tables	2B Awards May-June Query			
Search...	Scholarship Name ▾	Sport ▾	Amount ▾	Award Date ▾
2B Scholarships Awarded ☆	Texas Sportswomen Foundation Award	Basketball	$300	5/6/2022
⊞ 2B Scholarships Awarded : Table	Austin Sports Fellowship Award	Football	$500	5/1/2022
🖼 2B $300 or More Query	Austin Country Club Award	Golf	$200	6/25/2022
🖼 2B Awards May-June Query	Round Rock Country Club Award	Golf	$300	5/23/2022
🖼 2B Football AND Over $500 Query	Bluebonnet Country Club Foundation Award	Swimming	$400	5/23/2022
🖼 2B Volleyball OR Golf AND Over $200 ...	Texas Lakes Sportsmanship Award	Swimming	$100	5/23/2022
🖼 HWID 2B Tennis OR Swimming Query	District Tennis Club Leadership Award	Tennis	$200	5/6/2022
2B Athletes ☆	Pflugerville Academic Achievement Award	Volleyball	$250	5/21/2022
⊞ 2B Athletes : Table				
🖼 HWID 2B Tennis OR Swimming Query				
Unrelated Objects ☆				
🖼 2B Relationships				

3. Open a blank Word document, type **HW15-2 HWID 2B Athletes Scholarships Queries** and tap **Enter**.

4. Paste the screen shot you just made.

5. Save the Word document as **HW15-2 HWID 2B Athletes Scholarships Queries Done** to your **Access Files** folder.

6. In the footer, insert fields for the file name and the date it was saved.

7. Tap **Ctrl + p** and compare the preview with the key. Make needed corrections, print the document, save it, and close it.

g. Exit Access.

Why use Access?[35]

Now that you have extensive knowledge of Excel, and a bit of knowledge about Access, you can see how they can do similar things. So, with Excel being so powerful and "easy" to use, why do so many businesses and institutions use Access?

Access helps you manage and manipulate data more effectively and efficiently than Excel. A spreadsheet program is good for small sets of data but it is not suited for handling tens of thousands of records or where data are stored in multiple locations. For example, Excel is ideal for me to keep track of my students' scores because I have only about 300 students per semester. However, if I wanted to look at trends for homework, or performance on the Excel exam, or whatever, over the 25 years I have been teaching the course I would have to use Access because it would allow me to connect (form relationships between) the 50 gradebooks I have used.

As another example, think of the information the University keeps on each of its 50,000 current students and millions of students who have attended the U over its 169 year history. The data include things like name, address, phone, email, high school data, courses taken, health care used, employment, salaries, benefits, etc. Using Access, each of those attributes can be stored in separate databases and all linked through your U of M ID number as the "primary field." It would be easy to write queries to look for trends. For example, a simple query could generate a report that shows graduation trends of female Hispanic students between the ages of 18 and 22 who went to high school in South Dakota. Excel could not do that.

While you are in school, you probably will not have to manage or analyze huge sets of data so Excel will probably be your best bet. Once you enter the workforce you most likely will find that your knowledge of Access will come in handy.

Two of the major benefits of using a database are:

Fewer errors and inconsistencies. Maintaining one version of data minimizes the potential for duplication, errors, and inconsistent values (e.g., equivalent names such as William, Will, Willy, Bill, Billy).

Higher productivity. Using Access, you need only change a single record and all other related data in your database will automatically "see" the change. In Excel, you would need to change every occurrence of, say, a customer's name. Find and replace wouldn't necessarily catch that a customer's name is spelled six different ways. In a database, there is only one customer record to change. Every other record (orders, contacts, etc.) that relates to that customer record will never need to change because they are joined to the customer through a one to many relationship.

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[35] Adapted from http://www.opengatesw.net/ms-access-tutorials/What-Is-Microsoft-Access-Used-For.htm

Step 4 Submit You now are ready to submit your **EXTRA CREDIT** homework for grading.

1. Put your 4 homework papers in the following order:

    HW15-1 2A Queries
    HW15-2 2B Tennis OR Swimming Query
    HW15-2 300 or More Query Exported to Excel
    HW15-2 2B Athletes Scholarships Queries

2. Cut out Submission Form 15 and put it on the top of the papers.

3. Staple the papers in the upper left corner.

4. Turn in the packet by the due date.

Step 5 Backup Now would be a good time to backup your files.

Information on the Final Exam

The two hour final exam is a closed book and notes exam that you will do on a computer in our regular classroom. Unlike the Excel and Word exams, the final exam will be given during a time that is different from our regular class time. Check the syllabus for the date and time for your exam.

Date: Check your syllabus for the exact date and time.

Length: 120 minutes

Location: 128 Appleby Hall, our regular classroom.

Notes: All exams will be closed book and notes but you may use one 8.5 inch by 11 inch sheet of notes, both sides, typed, hand written, scanned, or whatever. Since you will have to cram notes for all three applications onto one sheet you will have to think carefully about what you want to include. Your notes sheet will be collected when you hand in the exam so be sure to put your name and HWID on it. The exam room printer will be disabled during the exam time so be sure you print your notes sheet **before** you enter the classroom.

Open the Word file **Notes Sheet for CI 1871 Final Exam Original**, which is one of the files you copied at the start of the semester. Use that sheet to record your notes on **Excel**, **Word**, and **PowerPoint**. You will hand in this sheet when you finish the exam.

The final exam will be more difficult than the Excel and Word exams because it will cover all three applications, **Excel**, **Word**, and **PowerPoint** and it will be longer. The questions will be similar to the Excel and Word exam questions in length, scope, and level of difficulty.

> *Access will not be covered on the final exam.*

The order of the questions on the final exam is **PowerPoint**, **Word**, **Excel**, but **you can do them in any order you wish**. The Excel formulas are the very last part of the exam and will be the most difficult for most students so be sure to leave enough time for them (or, do them first).

Be sure to go through the *Sample Exam Questions* for **Excel**, **Word**, and **PowerPoint** several times. You have not done Excel for three months and those formulas are the most difficult part of the course so be sure to spend extra study time on Excel.

The ground rules for taking the final are the same as for the Excel and Word exams (see page **SG149**). Be sure to bring your **U of M student ID** and a pencil or pen.

> *You should go through the Excel, Word, and PowerPoint, sample questions several times so you can do the procedures quickly and accurately.*
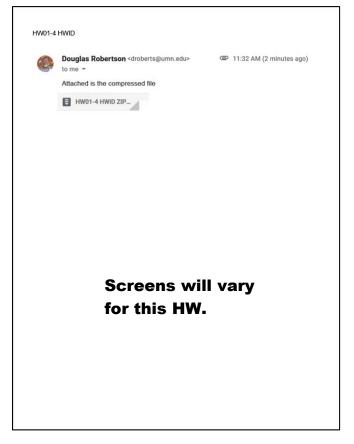
Keys for Homework Projects Spring 2020

HW01-1 Practice Save

This USB drive belongs to HWID

abcde000@umn.edu

Glossary entries

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Index Entries

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1871 Excel exam is on DATE at TIME in 128 Appleby Hall

1871 Word exam is on DATE at TIME in 128 Appleby Hall.

1871 Final exam is on DATE at TIME. It covers Excel, Word, and PowerPoint in 128 Appleby Hall.

HW01-2 Google Drive

HW01-2 HWID

Screens will vary for this HW.

HW01-3 Web-Based Training

HW01-3 HWID Web-Based Training Using LinkedIn Learning

Screens will vary for this HW.

HW01-4 PDF Files

HW01-4 HWID

Douglas Robertson <droberts@umn.edu>   11:32 AM (2 minutes ago)

to me

Attached is the compressed file

HW01-4 HWID ZIP...

Screens will vary for this HW.

HW02-1 1A Quarterly Sales Worksheet

Pro Fit Marietta
Second Quarter Cardio Sales

	April	May	June	Total	Trend
Exercise Bikes	$ 68,991.12	$ 86,894.82	$ 99,650.58	$ 255,536.52	
Elliptical Machines	28,836.00	22,634.23	22,828.78	74,299.01	
Treadmills	59,519.78	82,337.98	99,823.87	241,681.63	
Rowing Machines	81,267.17	87,867.50	91,669.98	260,804.65	
Total	$ 238,614.07	$ 279,734.53	$ 313,973.21	$ 832,321.81	

HW02-1 HWID 1A_Quarterly_Sales_Done   Data

HW02-1 1A Quarterly Sales Formulas Worksheet

	A	B	C	D	E	F
1		Pro Fit Marietta				
2		Second Quarter Cardio Sales				
3		April	May	June	Total	Trend
4	Exercise Bikes	68991.12	86894.82	99650.58	=SUM(B4:D4)	
5	Elliptical Machines	28836	22634.23	22828.78	=SUM(B5:D5)	
6	Treadmills	59519.78	82337.98	99823.87	=SUM(B6:D6)	
7	Rowing Machines	81267.17	87867.5	91669.98	=SUM(B7:D7)	
8	Total	=B4+B5+B6+B7	=C4+C5+C6+C7	=SUM(D4:D7)	=SUM(B8:D8)	

HW02-1 HWID 1A_Quarterly_Sales_Done   Formulas

HW02-2 1B Plyometric Products Inventory Valuation

Pro Fit Marietta
Plyometric Products Inventory Valuation
As of September 30

	Warehouse Location	Quantity in Stock	Retail Price	Total Retail Value	Percent of Total Retail Value
Power Hurdle	Atlanta	125	$ 32.95	$ 4,118.75	1.41%
Speed Hurdle	Atlanta	995	59.95	59,650.25	20.37%
Stackable Steps	Marietta	450	251.59	113,215.50	38.65%
Pro Jump Rope	Marietta	1,105	49.95	55,194.75	18.84%
Plyometric Box Set	Marietta	255	158.05	40,302.75	13.76%
Plyometric Mat	Atlanta	215	94.99	20,422.85	6.97%
Total Retail Value for All Products				$ 292,904.85	

HW02-2 HWID 1B_Plyo_Products_Done   Data and Graph

HW02-3 Vehicle Sales Data Worksheet

Vehicle Sales
(in hundreds of vehicles)

	2000	2005	2010	2015
Cars				
Sedans	23	31	35	29
Coupes	14	12	16	15
Total Cars	37	43	51	44
Vans				
Full Sized	12	10	8	12
Mini	8	12	14	23
Four Wheel Drive	0	2	3	16
Total Vans	20	24	25	51
SUVs				
Regular	0	4	12	18
Towing Package	0	0	2	6
Total SUVs	0	4	14	24
Grand Total	57	71	90	119

Average is 84.25

HW02-3 HWID Vehicle Sales Done   Data

HW02-3 Vehicle Sales 3-D Column Chartsheet

Selected Vehicle Sales for 2000, 2010, 2015

HW02-3 HWID Vehicle Sales Done   3-D Column

HW03-1 2A Tree Inventory

	A	B	C	D	E	F	G	H
1			Pasadena Tree Nursery					
2			As of December 31					
3								
4				Total Items in Stock	3,022			
5				Average Price	$ 107.89			
6			Tree Statistics	Median Price	$ 107.99			
7				Lowest Price	$ 102.99			
8				Highest Price	$ 117.98			
9								
10	Oak Trees	13						
11	Maple Trees	6 (571 total items in stock)						
12								
13	Quantity in Stock	Item #	Tree Name	Retail Price	Light	Landscape Use	Category	Stock Level
14	78	13129	Golden Oak	108.99	Partial Sun	Erosion Control	Oak	OK
15	35	13358	Columnar English	106.95	Full Shade	Border	Oak	Order
16	60	15688	Coral Bark	106.25	Partial Shade	Erosion Control	Oak	Order
17	20	16555	Crimson King	105.50	Full Shade	Border	Oak	Order
18	75	21683	Japanese Blooming	103.99	Partial Shade	Erosion Control	Cherry	OK
19	60	22189	Crimson Queen	109.95	Filtered Sun	Erosion Control	Oak	Order
20	68	23677	Black Japanese	107.99	Partial Sun	Border	Maple	Order
42	350	43153	Bradford	104.99	Full Shade	Border	Pear	OK
43	7/4/2019 12:32							

HW03-1 HWID 2A_Tree_Inventory_Done   Sheet1

HW03-2 2B Weekly Sales Summary Worksheet

Sales of Rose Plants and Rose Supplies
Week of May 24

	Roses/Rose Supplies	Rose Sales	Rose Supply Sales	Total Sales
Online Sales		$ 43,460.56	$ 13,349.45	$ 56,810.01
In-Store Sales		32,957.58	11,138.12	44,095.70
Total		$ 76,418.14	$ 24,487.57	$ 100,905.71

HW03-2 HWID 2B_Weekly_Sales_Done   Summary

HW03-2 2B Weekly Sales Bonus Worksheet Formulas

	A	B	C
1			Weekly Online Sales Bonus
2			
3	Salesperson	Weekly Sales	Bonus
4	Arce	4588	=IFS(B4>4999,500,B4>3999,350,B4>2999,250,B4>0,0)
5	Matsuo	2575	=IFS(B5>4999,500,B5>3999,350,B5>2999,250,B5>0,0)
6	Morrison	3851	=IFS(B6>4999,500,B6>3999,350,B6>2999,250,B6>0,0)
7	Tindall	5162	=IFS(B7>4999,500,B7>3999,350,B7>2999,250,B7>0,0)

HW03-2 HWID 2B_Weekly_Sales_Done   Bonus Formulas

HW03-3 2G Inventory Summary Worksheet

Pasadena Inventory Summary
As of December 31

	Bulbs	Trees	Bulbs/Trees
Total Items in Stock	2,847	3,503	
Average Price	$ 8.99	$ 33.43	
Median Price	$ 8.42	$ 35.50	
Lowest Price	$ 4.75	$ 8.00	
Highest Price	$ 16.58	$ 65.00	

Bulbs Category	Number in Stock	Number of Categories	Average Price
Begonias	314	3	$ 10.92
Callas	101	2	$ 7.97
Daffodils	755	8	$ 7.52
Dahlias	473	6	$ 7.59
Gladiolus	771	4	$ 10.07
Tulips	433	5	$ 11.43

Trees Category	Number in Stock	Number of Categories	Average Price
Evergreens	583	4	$ 10.75
Flowering Trees	414	3	$ 25.67
Fruit Trees	328	3	$ 37.33
Nut Trees	918	10	$ 43.50
Shade Trees	1260	8	$ 33.63

> **Lines may not show on printed copy due to printer resolution.**

HW03-3 HWID 2G_Inventory_Done   Summary

HW03-4 Payroll IF Data Worksheet

Payroll

Date Modified:	Wed 19 Jun 2019
Time Modified:	7:31 AM
Current Date:	Fri 5 Jul 2019
Current Time:	9:36 AM

Number of **people** who earned overtime pay =	9 people
Number of **women** who earned overtime pay =	6
Sum of Total Pay for people who worked overtime =	$2,137.50
Total hours for **men** whose pay rate is under $5 =	243 hours

ID	Last Name	First Name	Sex	Pay Rate	Total Hours	Regular Pay	Overtime Pay	Total Pay	Pay Rank
4470881	Anderson	Amanda	F	6	21	$126	$0	$126	18
3580435	*Baker Jr*	Cameron	M	5	50	$200	$75	$275	4
4298561	Bastian-Smith III	Christopher	M	4	35	$140	$0	$140	17
4378285	*Bell*	Elmer Gary	M	3	50	$120	$45	$165	11
4328801	Bergstrom	Kenneth	M	4	23	$92	$0	$92	23
4719182	*Besha*	Chiyo	F	1	65	$40	$38	$78	26
4650662	Bohlken	Ryan	M	7	32	$224	$0	$224	5
4450275	Bostrom	Taylor	F	2	40	$80	$0	$80	24
4595771	Carter	Rebecca	F	3	40	$120	$0	$120	19
4662548	*Comer*	Jacqueline	F	4	50	$160	$60	$220	6
4580990	Dahl	Thomas	M	4	40	$160	$0	$160	13
4588135	Doublette	Amanda	F	5	40	$200	$0	$200	8
4611455	*Ferraro*	Claire	F	4	65	$160	$150	$310	3
4382288	Ford	Emily	F	7	23	$161	$0	$161	12
4659441	Francis	Alissa	F	2	40	$80	$0	$80	24
4395057	Grahn	Daniela	F	3	35	$105	$0	$105	22
4578225	*Grattan*	Meghan	F	6	50	$240	$90	$330	2
4235648	Grill	Christian	M	6	32	$192	$0	$192	9
4334718	Hargett	Chunguang	M	8	21	$168	$0	$168	10
4435600	Hermsen	Michael	M	5	32	$160	$0	$160	13
4019425	*Huculak*	Alexis	F	7	50	$280	$105	$385	1
4346294	Isakson	Evan	M	4	30	$120	$0	$120	19
4435622	Iverson	Rose	F	3	40	$120	$0	$120	19
4580074	Koch	Do-Kyung	F	3	23	$69	$0	$69	28
4402242	Krieger	Jun	F	2	35	$70	$0	$70	27
4557221	*Kuei*	Adam	M	2	65	$80	$75	$155	15
4429640	*Kuharske*	Malyn	F	4	50	$160	$60	$220	6
4566665	Lentsch	Michael	M	7	21	$147	$0	$147	16

HW03-4 HWID Payroll IF Done   Payroll Data

HW03-4 Payroll IF Formulas Worksheet

	A	B	C	D	E	F	G	H	I	J
1	Payroll									
2										
3	Date Modified: 43635								# overtime pay = =COUNTIF($F$9:$F$36,">40")	
4	Time Modified: 0.313194444444444								# overtime pay = =COUNTIFS(F9:F36,">40",D9:D36,"=F")	
5	Current Date: =NOW()								rked overtime = =SUMIF(F9:F36,">40",I9:I36)	
6	Current Time: =NOW()								te is under $5 = =SUMIFS(F9:F36,D9:D36,"=M",E9:E36,"<5")	
7						Total				
8	ID	Last Name	First Name	Sex	Pay Rate	Hours	Regular Pay	Overtime Pay	Total Pay	Pay Rank
9	4470861	Anderson	Amanda	F	6	21	=IF(F9<=40,E9*F9,E9*40)	=IF(F9<40,0,E9*1.5*(F9-40))	=G9+H9	=RANK(I9,$I$9:$I$36)
10	3580435	Baker Jr	Cameron	M	5	50	=IF(F10<=40,E10*F10,E10*40)	=IF(F10<40,0,E10*1.5*(F10-40))	=G10+H10	=RANK(I10,$I$9:$I$36)
11	4298561	Bassian-Smith III	Christopher	M	4	35	=IF(F11<=40,E11*F11,E11*40)	=IF(F11<40,0,E11*1.5*(F11-40))	=G11+H11	=RANK(I11,$I$9:$I$36)
12	4378285	Bell	Elmer Gary	M	3	50	=IF(F12<=40,E12*F12,E12*40)	=IF(F12<40,0,E12*1.5*(F12-40))	=G12+H12	=RANK(I12,$I$9:$I$36)
13	4328801	Bergstrom	Kenneth	M	4	23	=IF(F13<=40,E13*F13,E13*40)	=IF(F13<40,0,E13*1.5*(F13-40))	=G13+H13	=RANK(I13,$I$9:$I$36)
14	4719182	Besha	Chiyo	F	1	65	=IF(F14<=40,E14*F14,E14*40)	=IF(F14<40,0,E14*1.5*(F14-40))	=G14+H14	=RANK(I14,$I$9:$I$36)
15	4650662	Bohlken	Ryan	M	7	32	=IF(F15<=40,E15*F15,E15*40)	=IF(F15<40,0,E15*1.5*(F15-40))	=G15+H15	=RANK(I15,$I$9:$I$36)
16	4450275	Bostrom	Taylor	F	2	40	=IF(F16<=40,E16*F16,E16*40)	=IF(F16<40,0,E16*1.5*(F16-40))	=G16+H16	=RANK(I16,$I$9:$I$36)
17	4595771	Carter	Rebecca	F	3	40	=IF(F17<=40,E17*F17,E17*40)	=IF(F17<40,0,E17*1.5*(F17-40))	=G17+H17	=RANK(I17,$I$9:$I$36)
18	4662548	Comer	Jacqueline	F	4	50	=IF(F18<=40,E18*F18,E18*40)	=IF(F18<40,0,E18*1.5*(F18-40))	=G18+H18	=RANK(I18,$I$9:$I$36)
19	4580990	Dahl	Thomas	M	4	40	=IF(F19<=40,E19*F19,E19*40)	=IF(F19<40,0,E19*1.5*(F19-40))	=G19+H19	=RANK(I19,$I$9:$I$36)
20	4588135	Doublette	Amanda	F	5	40	=IF(F20<=40,E20*F20,E20*40)	=IF(F20<40,0,E20*1.5*(F20-40))	=G20+H20	=RANK(I20,$I$9:$I$36)
21	4611455	Ferraro	Claire	F	4	65	=IF(F21<=40,E21*F21,E21*40)	=IF(F21<40,0,E21*1.5*(F21-40))	=G21+H21	=RANK(I21,$I$9:$I$36)
22	4382288	Ford	Emily	F	7	23	=IF(F22<=40,E22*F22,E22*40)	=IF(F22<40,0,E22*1.5*(F22-40))	=G22+H22	=RANK(I22,$I$9:$I$36)
23	4659441	Francis	Alissa	F	2	40	=IF(F23<=40,E23*F23,E23*40)	=IF(F23<40,0,E23*1.5*(F23-40))	=G23+H23	=RANK(I23,$I$9:$I$36)
24	4395057	Grahn	Daniela	F	3	35	=IF(F24<=40,E24*F24,E24*40)	=IF(F24<40,0,E24*1.5*(F24-40))	=G24+H24	=RANK(I24,$I$9:$I$36)
25	4578225	Grawan	Meghan	F	6	50	=IF(F25<=40,E25*F25,E25*40)	=IF(F25<40,0,E25*1.5*(F25-40))	=G25+H25	=RANK(I25,$I$9:$I$36)
26	4235848	Grill	Christian	M	6	32	=IF(F26<=40,E26*F26,E26*40)	=IF(F26<40,0,E26*1.5*(F26-40))	=G26+H26	=RANK(I26,$I$9:$I$36)
27	4334718	Hargett	Chunguang	M	8	21	=IF(F27<=40,E27*F27,E27*40)	=IF(F27<40,0,E27*1.5*(F27-40))	=G27+H27	=RANK(I27,$I$9:$I$36)
28	4435600	Hermsen	Michael	M	5	32	=IF(F28<=40,E28*F28,E28*40)	=IF(F28<40,0,E28*1.5*(F28-40))	=G28+H28	=RANK(I28,$I$9:$I$36)
29	4019425	Huculak	Alexis	F	7	50	=IF(F29<=40,E29*F29,E29*40)	=IF(F29<40,0,E29*1.5*(F29-40))	=G29+H29	=RANK(I29,$I$9:$I$36)
30	4346294	Isakson	Evan	M	4	30	=IF(F30<=40,E30*F30,E30*40)	=IF(F30<40,0,E30*1.5*(F30-40))	=G30+H30	=RANK(I30,$I$9:$I$36)
31	4435622	Iverson	Rose	F	3	40	=IF(F31<=40,E31*F31,E31*40)	=IF(F31<40,0,E31*1.5*(F31-40))	=G31+H31	=RANK(I31,$I$9:$I$36)
32	4580074	Koch	Do-Kyung	F	3	23	=IF(F32<=40,E32*F32,E32*40)	=IF(F32<40,0,E32*1.5*(F32-40))	=G32+H32	=RANK(I32,$I$9:$I$36)
33	4402242	Krieger	Jun	F	2	35	=IF(F33<=40,E33*F33,E33*40)	=IF(F33<40,0,E33*1.5*(F33-40))	=G33+H33	=RANK(I33,$I$9:$I$36)
34	4557221	Kuel	Adam	M	2	65	=IF(F34<=40,E34*F34,E34*40)	=IF(F34<40,0,E34*1.5*(F34-40))	=G34+H34	=RANK(I34,$I$9:$I$36)
35	4429640	Kuharske	Malyn	F	4	50	=IF(F35<=40,E35*F35,E35*40)	=IF(F35<40,0,E35*1.5*(F35-40))	=G35+H35	=RANK(I35,$I$9:$I$36)
36	4566665	Lentsch	Michael	M	7	21	=IF(F36<=40,E36*F36,E36*40)	=IF(F36<40,0,E36*1.5*(F36-40))	=G36+H36	=RANK(I36,$I$9:$I$36)

HW03-4 HWID Payroll IF Done   Payroll Formulas

HW04-1 3A Enterprise Fund Expenditures Chartsheet

HW04-1 HWID 3A_Enterprise_Fund_Done   Expenditures Chart

HW04-1 3A Enterprise Fund Expenditures Worksheet

Pacifica Bay
Enterprise Fund Expenditures

	Originally Proposed	Adjusted	% of Total Fund Expenditures
	Recommended Adjustments		
Airport	$ 17,610,810	$ 18,121,067	18.12%
Parking	6,824,865	7,897,526	7.90%
Solid Waste	18,695,222	17,845,287	17.85%
Wastewater	12,657,765	13,985,695	13.99%
Water Usage	30,457,903	32,356,236	32.36%
Waterfront	10,976,843	9,794,189	9.79%
Total	$ 97,223,408	$ 100,000,000	

HW04-1 HWID 3A_Enterprise_Fund_Done   Enterprise Fund Expenditures

HW04-2 3B Tourism Spending Projection Worksheet

Pacifica Bay
Tourism Spending 2016 to 2020

Year	2016	2017	2018	2019	2020
Tourism Spending	$ 4,644,325	$ 5,605,958	$ 7,235,397	$ 8,824,638	$ 11,086,354
Percent Increase		21%	29%	22%	26%

Projected Tourism Spending

Estimated Growth Rate	21%

Year	2020	2021	2022	2023	2024
	$ 11,086,354	$ 13,414,488	$ 16,231,531	$ 19,640,152	$ 23,764,584

Estimated Growth in Tourism Spending 2020 to 2024

Year	2020	2021	2022	2023	2024
25% Growth Rate	$ 11,086,354	$ 13,857,943	$ 17,322,428	$ 21,653,035	$ 27,066,294
21% Growth Rate	$ 11,086,354	$ 13,414,488	$ 16,231,531	$ 19,640,152	$ 23,764,584

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HW04-2 HWID 3B_Tourism_Done   Expenditures

HW04-2 3B Advertising Worksheet

Tourism Advertising
By State

State	Expenditures
Arizona	$ 48,500
Illinois	$ 62,350
New York	$ 51,300
Oregon	$ 75,200
Washington	$ 68,500

Travel Agent Event
Invitation Analysis

Invited	125
Responded Yes	78
Attended	65

HW04-2 HWID 3B_Tourism_Done   Advertising

HW04-3 HLOOKUP Gradebook Formulas

	I	J	K	L
1				
2	Cutoff on Diagnostic Test ->	65		
3	Cutoff on Total Points Earned ->	65		
4	Num Stu with Diag Below Cutoff and Total Above Cutoff ->	=COUNTIFS(E11:E121,"<"&J2,J11:J121,">"&J3)		
5	80	82	86	90
6	Fine	Good	Pretty good	Very good
7	B-	B	B+	A-
8	=COUNTIF($K$11:$K$121,I7)	=COUNTIF($K$11:$K$121,J7)	=COUNTIF($K$11:$K$121,K7)	=COUNTIF($K$11:$K$121,L7)
9				
10	Final Ex	Total	Grade	Comment
11	74	79	=HLOOKUP(J11,$C$5:$M$7,3)	=HLOOKUP(J11,$C$5:$M$7,2)
12	65	68	=HLOOKUP(J12,$C$5:$M$7,3)	=HLOOKUP(J12,$C$5:$M$7,2)
13	67	73	=HLOOKUP(J13,$C$5:$M$7,3)	=HLOOKUP(J13,$C$5:$M$7,2)
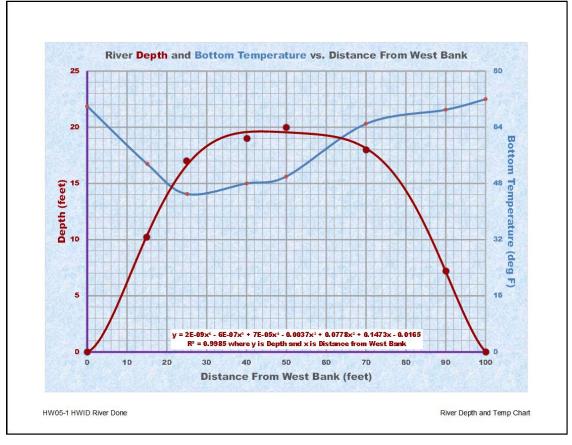
HW04-3 HWID HLOOKUP Gradebook Done   Formulas

HW04-4 VLOOKUP Shipping Data

	B	C	D	E	F	G	H	I	J	K	L
1	Shipping Costs Calculation										
2											
3	Calculate Shipping Cost		Calculate Shipping Cost			Total weight is 329.5 lbs and total shipping cost is $1,555.60					
4	Given Item Number		Given Item Weight			Highest weight is for item number 80680					
5	Choose	Shipping	Enter	Shipping							
6	Item Number	Cost	Weight	Cost							
7	80680	$33.00	1.1	$15.75							
8							Weight/Cost Table			Scratch Area	
9	Item Number	Weight (lbs)	Shipping Cost			Weight	Shipping Cost		Weight	Item Number	Shipping Cost
10	44537	7.5	$30.60			0.0	$11.75		7.5	44537	$30.60
11	80680	9.9	$33.00			1.0	$15.75		9.9	80680	$33.00
12	43913	8.7	$31.80			2.0	$18.50		8.7	43913	$31.80
13	71304	5.7	$26.75			3.0	$21.25		5.7	71304	$26.75
14	64287	4.2	$24.00			4.0	$24.00		4.2	64287	$24.00
15	60417	3.1	$21.25			5.0	$26.75		3.1	60417	$21.25
16	54049	4.2	$24.00			6.0	$29.40		4.2	54049	$24.00
17	48320	1.1	$15.75			7.0	$30.60		1.1	48320	$15.75
18	90169	4.9	$24.00			8.0	$31.80		4.9	90169	$24.00

HW04-4 HWID VLOOKUP Shipping Done

Shipping Costs

HW05-1 River Chartsheet Modified

River **Depth** and **Bottom Temperature** vs. Distance From West Bank

$y = 2E\text{-}09x^6 - 6E\text{-}07x^5 + 7E\text{-}05x^4 - 0.0037x^3 + 0.0778x^2 + 0.1473x - 0.0165$
$R^2 = 0.9985$ where y is Depth and x is Distance from West Bank

HW05-1 HWID River Done   River Depth and Temp Chart

HW05-2 Loans IF Formulas

	A	B	C	D	E
1				*Loan Payments*	
2					
3	**Today's Date:** 43659				
4					
5	**Loan**	**Due Date**	**Amount**	**Loans more than 30 days overdue**	**Number of days overdue**
6	Boat	43627	450	=IF(B$3-B6>30,"OVERDUE","")	=IF(B$3-B6>30,B$3-B6,"")
7	Car	43646	520	=IF(B$3-B7>30,"OVERDUE","")	=IF(B$3-B7>30,B$3-B7,"")
8	Home	43650	980	=IF(B$3-B8>30,"OVERDUE","")	=IF(B$3-B8>30,B$3-B8,"")
9	Student	43609	300	=IF(B$3-B9>30,"OVERDUE","")	=IF(B$3-B9>30,B$3-B9,"")

HW05-2 HWID Loans IF Done   Loan Formulas

HW05-3 Rent IF Worksheet

Rent Payments

Today's Date	11 Jul 2019

Normal Rate	$9.00 per sq. ft.
Introductory Rate	$5.00 per sq. ft.

Company	Floor Space	Initial Date	Payment Due
Lisa's Camping Supply	5,000 sq. ft.	10 Oct 2015	$45,000.00
Badtke Burger Barn	1,500 sq. ft.	04 Apr 2019	$7,500.00
Brainiac Books, Inc.	800 sq. ft.	30 Apr 2016	$7,200.00
Know It All Notions	2,000 sq. ft.	06 Jan 2019	$10,000.00

Number payments over $8,000 = 2
Sum of payments over $8,000 = $55,000.00
Sum of Floor space where Payment over $8,000 = 7,000 sq. ft.

HW05-3 HWID Rent IF Done   Rent

HW05-3 Rent IF Formulas Worksheet

	A	B	C	D
1			Rent Payments	
2				
3	Today's Date	43657		
4				
5	Normal Rate	9		
6	Introductory Rate	5		
7				
8	Company	Floor Space	Initial Date	Payment Due
9	Lisa's Camping Supply	5000	42287	=IF($B$3-C9>365,$B$5*B9,$B$6*B9)
10	Badtke Burger Barn	1500	43559	=IF($B$3-C10>365,$B$5*B10,$B$6*B10)
11	Brainiac Books, Inc.	800	42490	=IF($B$3-C11>365,$B$5*B11,$B$6*B11)
12	Know It All Notions	2000	43471	=IF($B$3-C12>365,$B$5*B12,$B$6*B12)
13				
14			s over $8,000 =	=COUNTIF(D9:D12,">8000")
15			s over $8,000 =	=SUMIF(D9:D12,">8000",D9:D12)
16			t over $8,000 =	=SUMIF(D9:D12,">8000",B9:B12)

HW05-3 HWID Rent IF Done   Rent Formulas

HW05-4 Commission IF

	A	B	C	D	E	F	G
1		*MicroMania, Inc., Sales and Earnings Summary*					
2							
3	Employee	Hardware Sales	Software Sales	Hardware Commission	Software Commission	Total Commission	Total Earnings
4	Sherri	$ 23,000.00	$ 800.00	$ 2,360.00	$ 64.00	$ 2,424.00	$ 14,424.00
5	Mary	$ 13,500.00	$ 500.00	$ 1,350.00	$ 40.00	$ 1,390.00	$ 12,390.00
6	Lawrence	$ 28,200.00	$ 200.00	$ 2,984.00	$ 16.00	$ 3,000.00	$ 15,000.00
7	Brady	$ 75,191.00	$ 960.00	$ 8,623.04	$ 76.80	$ 8,699.84	$ 20,699.84
8	Monica	$ 9,500.00	$ 253.00	$ 950.00	$ 20.24	$ 970.24	$ 10,970.24
9	Jezebel	$ 79,944.00	$ 919.00	$ 9,193.28	$ 73.52	$ 9,266.80	$ 21,266.80
10	Abigail	$ 31,013.00	$ 112.00	$ 3,321.56	$ 8.96	$ 3,330.52	$ 15,330.52
76	Marisa	$ 25,271.00	$ 782.00	$ 2,632.52	$ 62.56	$ 2,695.08	$ 14,695.08
77	Sean	$ 98,630.00	$ 810.00	$ 11,435.60	$ 64.80	$ 11,500.40	$ 23,500.40
78	Max	$ 62,357.00	$ 958.00	$ 7,082.84	$ 76.64	$ 7,159.48	$ 19,159.48
79	Amy	$ 33,883.00	$ 974.00	$ 3,665.96	$ 77.92	$ 3,743.88	$ 15,743.88
80	Jessica	$ 58,418.00	$ 388.00	$ 6,610.16	$ 31.04	$ 6,641.20	$ 18,641.20
81	Totals	$ 4,050,169.00	$ 44,539.00	$ 456,120.06	$ 3,563.12	$ 459,683.18	$ 1,378,683.18
82	Averages	$ 52,599.60	$ 578.43	$ 5,923.64	$ 46.27	$ 5,969.91	$ 17,904.98

Used Goal Seek to change this value so G6 is exactly $15,000. Remember that Notes do not print.

HW05-4 HWID Commission IF Done   Sales Data

HW05-5 Sorting Values Filtered Worksheet

	B	C	D	E	F	G	H	I
1					Home Values			
2	Num	Address	Estimated Value	Property Tax	Lot Size (acre)	Cable TV Hookup	Small Lot with Cable	Small Lot or Cable
6	4	23 Fourth Street	$ 242,467	$ 2,051.00	1.12	No		
11	9	3580 Lake Avenue	$ 262,890	$ 1,891.00	1.05	No		
20								
21		9	= number with cable					
22		2	= number over one acre and tax under $2,100					
23		$8,724	= sum of taxes for lots over one acre					
24		$768,347	= sum of values for lots over 1 acre and no cable					
25		Click here to open Zillo.com to see more home values in any area you choose.						
26								

HW05-5 HWID Sorting Values Done   Values Original

HW05-5 Sorting Values Formulas Worksheet

	B	C	D	E	F	G	H	I
1			Home Values					
2	Num	Address	Estimated Value	Property Tax	Lot Size (acre)	Cable TV Hookup	Small Lot with Cable	Small Lot or Cable
3	=ROW()-2	24 Fourth Street	262990	2430	1.1	No	=IF(AND(F3<1,G3="Yes"),"Yes","")	=IF(OR(F3<1,G3="Yes"),"Yes","")
4	=ROW()-2	3580 Lake Avenue	262890	1891	1.05	No	=IF(AND(F4<1,G4="Yes"),"Yes","")	=IF(OR(F4<1,G4="Yes"),"Yes","")
5	=ROW()-2	3578 Lake Avenue	261578	2149	0.8	No	=IF(AND(F5<1,G5="Yes"),"Yes","")	=IF(OR(F5<1,G5="Yes"),"Yes","")
6	=ROW()-2	3579 Lake Avenue	252467	2056	0.9	No	=IF(AND(F6<1,G6="Yes"),"Yes","")	=IF(OR(F6<1,G6="Yes"),"Yes","")
7	=ROW()-2	23 Fourth Street	242467	2051	1.12	No	=IF(AND(F7<1,G7="Yes"),"Yes","")	=IF(OR(F7<1,G7="Yes"),"Yes","")
8	=ROW()-2	25 Fourth Street	50000	2313	0.95	No	=IF(AND(F8<1,G8="Yes"),"Yes","")	=IF(OR(F8<1,G8="Yes"),"Yes","")
9	=ROW()-2	3581 Lake Avenue	311582	2051	0.88	Yes	=IF(AND(F9<1,G9="Yes"),"Yes","")	=IF(OR(F9<1,G9="Yes"),"Yes","")
10	=ROW()-2	1459 Via Colinas	301582	2352	1.2	Yes	=IF(AND(F10<1,G10="Yes"),"Yes","")	=IF(OR(F10<1,G10="Yes"),"Yes","")
11	=ROW()-2	1460 Via Colinas	297566	2321	0.97	Yes	=IF(AND(F11<1,G11="Yes"),"Yes","")	=IF(OR(F11<1,G11="Yes"),"Yes","")
12	=ROW()-2	3582 Lake Avenue	296566	390	0.77	Yes	=IF(AND(F12<1,G12="Yes"),"Yes","")	=IF(OR(F12<1,G12="Yes"),"Yes","")
13	=ROW()-2	1461 Via Colinas	285456	2227	0.94	Yes	=IF(AND(F13<1,G13="Yes"),"Yes","")	=IF(OR(F13<1,G13="Yes"),"Yes","")
14	=ROW()-2	21 Fourth Street	275456	2040	0.6	Yes	=IF(AND(F14<1,G14="Yes"),"Yes","")	=IF(OR(F14<1,G14="Yes"),"Yes","")
15	=ROW()-2	22 Fourth Street	263578	1969	0.82	Yes	=IF(AND(F15<1,G15="Yes"),"Yes","")	=IF(OR(F15<1,G15="Yes"),"Yes","")
16	=ROW()-2	1458 Via Colinas	260890	2035	0.7	Yes	=IF(AND(F16<1,G16="Yes"),"Yes","")	=IF(OR(F16<1,G16="Yes"),"Yes","")
17	=ROW()-2	1457 Via Colinas	252467	1969	0.8	Yes	=IF(AND(F17<1,G17="Yes"),"Yes","")	=IF(OR(F17<1,G17="Yes"),"Yes","")
18		Average	=AVERAGE(D3:D17)					
19		Median	=MEDIAN(D3:D17)					
20								
21		=COUNTIF(G3:G17,"Yes")	= number with cable					
22		=COUNTIFS(F3:F17,">1",E3:E17,"<2100")	= number over one ac					
23		=SUMIF(F3:F17,">1",E3:E17)	= sum of taxes for lots					
24		=SUMIFS(D3:D17,F3:F17,">1",G3:G17,"No")	= sum of values for lo					
25		Click here to open Zillo.com to see more home v						

HW05-5 HWID Sorting Values Done   Values Sorted Formulas

HW05-6 Find and Macros Sec 1 Worksheet

	A	B	G	H	I	J	K	AD	AE	AF	AG	AH
1		CI 1871 sec 1, 4 cr, Fall 2019, MW 1: Printed Tue 9 Jul 2019 at 9:25 AM						90	95			
2	Sort By Name		Year in school	Number	Total Pts Ave			A-	A			
3			Freshman	8	59							
4	Sort By HWID		Sophomore	10	62							
5			Junior	8	64			Acc: TP = 80				
6	Grades		Senior	8	77			Mon	Wed	Pct of		
7			Non-degree	2	73			5	7	Final		
8	Get class lists & enter grades at							Dec	Dec	Grade		
9	myu.umn.edu							40	40	20		
10	HWID	Name	email	First Name	Last Name	Comments	Code	H13	H14	HW	Tot Pts	Grade
11	101	Bergameister, Alexandra	berg7023@umn.edu	Alexandra	Bergameister			40	40	100	100	A
12	102	Bets, Sam	bets7266@umn.edu	Sam	Bets					90	86	B+
13	103	Biff, Timothy		Timothy	Biff					85	77	C+
14	104	Bing, William	bing3263@umn.edu	William	Bing		NOL			0	0	F
15	105	Cheng, Rebecca	chen2172@umn.edu	Rebecca	Cheng		W			12	2	F

HW05-6 HWID Find and Macros Done   Sec 1
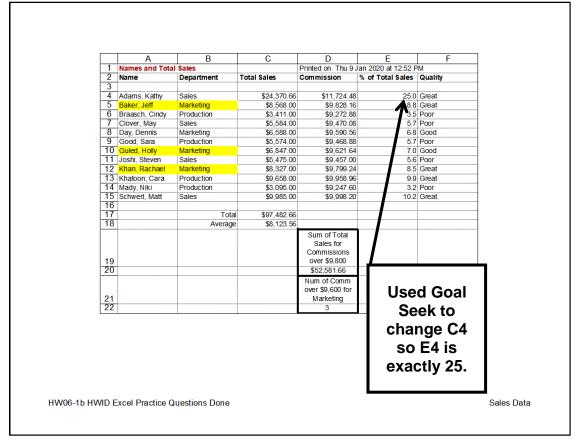
HW05-6 Find and Macros Server Worksheet

	T	U	V	W
1			Scratch Area	
2	First name	Last name	Comma	Space
3	=MID(C3,V3+1,W3-V3-1)	=LEFT(C3,V3-1)	=FIND(",",C3)	=FIND(" ",C3)
4	=MID(C4,V4+1,W4-V4-1)	=LEFT(C4,V4-1)	=FIND(",",C4)	=FIND(" ",C4)
5	=MID(C5,V5+1,W5-V5-1)	=LEFT(C5,V5-1)	=FIND(",",C5)	=FIND(" ",C5)
6	=MID(C6,V6+1,W6-V6-1)	=LEFT(C6,V6-1)	=FIND(",",C6)	=FIND(" ",C6)
7	=MID(C7,V7+1,W7-V7-1)	=LEFT(C7,V7-1)	=FIND(",",C7)	=FIND(" ",C7)
8	=MID(C8,V8+1,W8-V8-1)	=LEFT(C8,V8-1)	=FIND(",",C8)	=FIND(" ",C8)
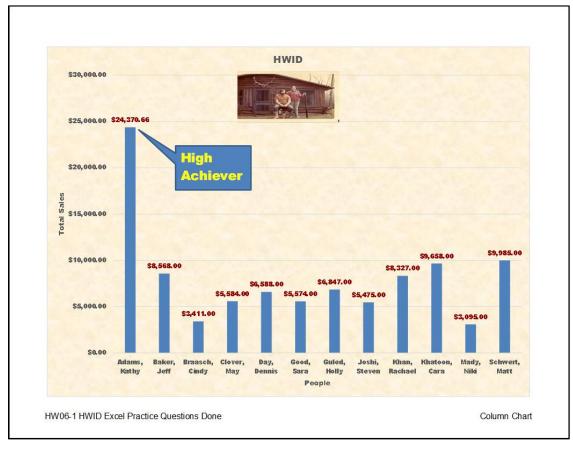
HW05-6 HWID Find and Macros Done   Server

HW06-1 Sales Data Worksheet

	A	B	C	D	E	F
1	Names and Total Sales			Printed on Thu 9 Jan 2020 at 12:52 PM		
2	Name	Department	Total Sales	Commission	% of Total Sales	Quality
3						
4	Adams, Kathy	Sales	$24,370.66	$11,724.48	25.0	Great
5	Baker, Jeff	Marketing	$8,568.00	$9,828.16	8.8	Great
6	Braasch, Cindy	Production	$3,411.00	$9,272.88	3.5	Poor
7	Clover, May	Sales	$5,584.00	$9,470.08	5.7	Poor
8	Day, Dennis	Marketing	$6,588.00	$9,590.56	6.8	Good
9	Good, Sara	Production	$5,574.00	$9,468.88	5.7	Poor
10	Guled, Holly	Marketing	$6,847.00	$9,621.64	7.0	Good
11	Joshi, Steven	Sales	$5,475.00	$9,457.00	5.6	Poor
12	Khan, Rachael	Marketing	$8,327.00	$9,799.24	8.5	Great
13	Khatoon, Cara	Production	$9,658.00	$9,958.96	9.9	Great
14	Mady, Niki	Production	$3,095.00	$9,247.60	3.2	Poor
15	Schwert, Matt	Sales	$9,985.00	$9,998.20	10.2	Great
16						
17		Total	$97,482.66			
18		Average	$8,123.56			
19				Sum of Total Sales for Commissions over $9,800		
20				$52,581.66		
21				Num of Comm over $9,600 for Marketing		
22				3		

Used Goal Seek to change C4 so E4 is exactly 25.

HW06-1b HWID Excel Practice Questions Done   Sales Data

HW06-1 Column Chartsheet

HW06-1 HWID Excel Practice Questions Done   Column Chart

HW06-1 Bonus Data Two Worksheet

	A	B	C	D	E	F	G
1			**Bonus Data**				
2	Highest Bonus Awarded was $1,000.00						
3	**Name**	**Sales**	**Bonus**		Average of Total Sales is $8,123.56		
4	Maren	$38,200	$1,000				
7	**Elana**	**$22,054**	**$400**				
8	Kathy	$17,866	$200				
9							
10	**Sales**	$15,000	$20,000	$25,000	$30,000	$35,000	$40,000
11	**Level**	Low	Fair	Medium	Good	Excellent	Outstanding
12	**Bonus**	200	400	600	800	1000	1200

HW06-1b HWID Excel Practice Questions Done   Bonus Data Two

HW06-1 Births Chartsheet

Live Births Per Thousand Women vs. Age

$$y = -0.0003x^5 + 0.0598x^4 - 3.9721x^3 + 117.28x^2 - 1460.7x + 6164.9$$
$$R^2 = 0.9973$$

HW06-1b HWID Excel Practice Questions Done   Births Chart

HW07-1 1A Flyer With Field Codes Showing

Internships Available

Interviews will be held:

Friday and Saturday, January 14 and 15

In the Career Services Conference Room

This summer, Sturgeon Point Productions will be filming a short documentary in Costa Rica about its native birds and has positions available for two interns. The filming will begin the first week of July and will last approximately two weeks. Payment will be by Day Rate of $100 per day. Transportation, food, and lodging will be provided.

The First Assistant Director will work with the second film crew, which will be filming background video. The Assistant Script Supervisor will work with the Script Supervisor and will be responsible for coordinating communication between the two camera crews.

You must have a valid U. S. passport; no inoculations are necessary. Details are available on the company website.

Today's Date: { DATE \@ "dddd, MMMM dd, yyyy" * MERGEFORMAT }

Date Last Saved: { SAVEDATE \@ "dddd, MMMM dd, yyyy" * MERGEFORMAT }

Last Saved By: { LASTSAVEDBY * MERGEFORMAT }

Edit time in minutes: { EDITTIME * MERGEFORMAT }

To set up an interview, apply online at:

www.SturgeonPointProductions.com

{ FILENAME * MERGEFORMAT }{ FILENAME * MERGEFORMAT }

HW07-2 1B Programs (page 1 only)

Sturgeon Point

Productions

Internship Guide

Apply Online → Interview → Train on the Job

The Internship Program

Sturgeon Point Productions produces and markets educational videos. We started our company in 1968, and now we are a dynamic and creative independent film and commercial production company. From our base in Miami, we create both contract and in-house videos and feature films.

As an intern, you might take part in the following types of productions:

- Short feature films
- Documentaries
- Commercials
- Training films
- Sales and marketing videos
- Recordings of live concerts, sporting events, or theatrical productions

HW07-2 HWID 1B_Programs_Done

HW07-3 Agenda

Agenda
Campus Service Club

Service / Respect / Dignity

Our club always follows Robert's Rules of Order.

1. New Business
   a. Treasurer's report
   b. Big brother and big sister project
   c. Food Shelf donations
   d. Tax program
   e. Election of officers
      i. President
      ii. Treasurer
      iii. Secretary
   f. Other new business

2. Old Business
   a. Reading of minutes
   b. Continue discussion of fundraising projects

DRAFT

HW07-3 HWID Agenda Done
6/24/2019 12:26 PM

HW07-4 Brochures

AD-EXCELLENCE   **MEMO**

PO Box 75732
Colorado Springs, CO 80970
719-638-9511
719-638-9515 fax
JohnWells@ad-excellence.net

TO: Patricia Smith, Marketing Director

FROM: John Wells,

SUBJECT: Production of brochures

DATE: XXX, XXX 0, 0000

The concept for the new product brochures has been reviewed and passed by the marketing committee. Stan is working on design ideas and plans to have something ready for us to look at the next meeting.

- Be prepared to discuss in detail your ideas concerning the layout of the brochure. It is a nice piece that we can be proud of. ....IMPORTANT!

- Have ready in report form your analysis of the marketability of the new product. Include the target population as well as revenue projections.

I need to schedule this with the printer so they can order paper. My understanding is that we will be printing copies as follows.

Style	Colors	Price	Thickness (Decimals lined up)
Regular	one color	4	.000008
Folded	two color	5.25	11.6
Multi-stapled	four color	13.3	8.1

Is that correct?

Here is our latest promotional video. Check it out.

TITLE

Decimals NOT lined up

Word Count

Statistics:	
Pages	1
Words	162
Characters (no spaces)	772
Characters (with spaces)	930
Paragraphs	14
Lines	31

Include textboxes, footnotes and endnotes

Close

HW07-4 HWID Brochures Done

HW08-1 2A Resume

Josh Hayes
1541 Dearborn Lane, St. Petersburg, FL 33713   (727) 555-0313
jhayes@alcona.net

Objective   Technology writing and editing position in the robotics industry, using research and advanced editing skills to communicate with customers.

Summary Of Qualifications
- Two years' experience in robotics lab for Aerospace Instruction Team
- Excellent interpersonal and communications skills
- Proficiency using Microsoft Office and page layout and design software
- Fluency in spoken and written Spanish

Experience   **Assistant Executive Editor**, Tech Today Newsletter, St. Petersburg, FL
September 2019 to present
- Write and edit articles for popular college technology newsletter
- Responsible for photo editing, cropping, and resizing photos for newsletter
- Winner of Top College Technology Publication Award

Instructional Lab Assistant, University of South Florida, Tampa, FL
July 2018 to June 2020
- Assisted robotics professors with sophisticated experiments
- Set up robotics practice sessions for Aerospace Instruction Team

College Assistant, Florida Port Community College, St. Petersburg, FL
July 2016 to June 2018
- In Aerospace Department, helped students with homework, explained assignments, organized materials for professors
- Set up robotics lab assignments for students

Education   **University of South Florida, Tampa FL**
Bachelor of Science, Mechanical Engineering, June 2020

Florida Port Community College, St. Petersburg, FL
Associate of Arts, Journalism, June 2018

Honors And Activities
- Elected to Pi Tau Sigma, honor society for mechanical engineers
- Qualified for Dean's List, six semesters
- Student Mentor, helped other students in engineering programs

HW08-1 HWID Resume Done

HW08-2 2B Cover Letter

Jennifer Garcia

1776 Bay Cliff Drive, Tampa, FL 33602
(727) 555-0347 Jgarcia@alcona.net

May 12, 2020

Ms. Mary Walker-Huelsman, Director
Florida Port Community College Career Center
2745 Oakland Avenue
St. Petersburg, FL 33713

Dear Ms. Walker-Huelsman:

I am seeking a position in which I can use my computer and communication skills. My education and experience, outlined on the enclosed resume, includes a Business Software Applications Specialist certificate from Florida Port Community College.

With a permanent position as my goal, I hope to use the Florida Port Community College Career Center to secure a temporary job. I can be available for a flexible number of hours or days and am willing to work in a variety of businesses or organizations.

As my resume illustrates I have excellent computer skills. I am an honor student at Florida Port Community College and have outstanding references. In addition, I have part-time work experience as a software tester, where I perform the following computer activities:

Program	Duty
Microsoft Access	Test database queries
Microsoft Excel	Enter software test data
Microsoft Word	Create and mail form letters

You can contact me by email at jgarcia@alcona.net or by telephone at (727) 555-0347. I am available for an interview at your convenience.

Sincerely,

Jennifer Garcia

Enclosure

HW08-2 HWID Cover Letter Done

HW08-3 Bill of Rights (page 2 only)

Amendment VII

In Suits at common law, where the value in controversy shall exceed twenty dollars, the right of trial by jury shall be preserved, and no fact tried by a jury, shall be otherwise re-examined in any Court of the United States, than according to the rules of the common law.

Amendment VIII

Excessive bail shall not be required, nor excessive fines imposed, nor cruel and unusual punishments inflicted.

Amendment IX

The enumeration in the Constitution, of certain rights, shall not be construed to deny or disparage others retained by the people.

Amendment X

The powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people.

Names of Senators in March, 1789

Richard Bassett
Pierce Butler
Charles Carroll
Tristram Dalton
Oliver Ellsworth
Jonathan Elmer
William Few
William Grayson
James Gunn
John Henry
Ralph Izard
William S. Johnson
John Langdon
Richard Henry Lee
William Maclay
Robert Morris
William Paterson
George Read
Philip John Schuyler
Caleb Strong
Paine Wingate

HW08-3 HWID Bill of Rights Done

HW08-4 Park

MEMO TO: Dana Brothers, Vice President, Marketing
FROM: Valerie Fair
DATE: Tuesday, July 16, 2019
SUBJECT: Final Changes in Hours of Operation, Ticket Prices, and Restrictions

The hours of operation are very similar to last year; the Sunday opening time is the only change:

Days	Opens	Closes
Monday-Thursday	1 pm	10 pm
Friday	1 pm	11 pm
Saturday and Holidays	11 am	11 pm
Sunday	Noon	11 pm

Admission charges are significantly different, with the price of season passes reduced by $20 for Adults, and increased by $20 for Juniors. Let's hope the 15% increase in revenue is realistic!

	Ave	One Day	Season Pass
Toddler	3 & under	Free	Free
Junior	4 to 11	$19	$89
Adult	12 to 59	$39	$129
Senior	60+	$29	$99

Height and age restrictions are unchanged for most of the activities, with the following exceptions:
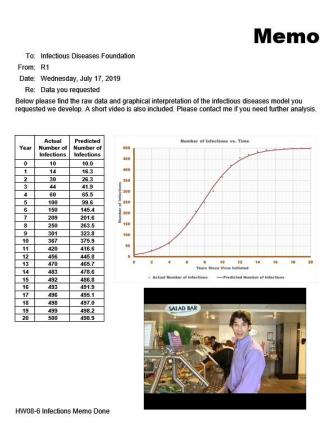
Activity	Minimum height/age:	To be able to:
Speed Go-Karts	52" tall	Drive alone
	16 years old	Drive with a passenger
	40" tall	Ride as a passenger
Bumper Boats	44" tall	Drive alone
	14 years old	Drive with a passenger
	32" tall	Ride as a passenger
Miniature Golf	10 years old	Play without parent/guardian
	No age limit	Play with parent/guardian
	5 years old	Play with 12+ year old companion

HW08-4 HWID Park Done

HW08-5 Sales

Sales Record for January for First National Bank

Date	Product	Amount	Sales Rep	Points
29 Jan	Savings	6,300	Betsey	44
12 Jan	Savings	6,000	Betsey	42
16 Jan	Certificate	5,000	Betsey	400
26 Jan	Certificate	150	Betsey	120
13 Jan	Certificate	5,000	Carolyn	200
22 Jan	Credit	2,000	Carolyn	16
30 Jan	Savings	1,450	Carolyn	10
23 Jan	Mortgage	5,000	Diane	1750
9 Jan	Auto Loan	4,500	Diane	145
8 Jan	Certificate	1,500	Diane	12
16 Jan	Checking	600	Diane	3
12 Jan	Certificate	5,000	Jonell	360
20 Jan	Auto Loan	2,500	Jonell	125
30 Jan	Checking	1,200	Jonell	6
27 Jan	Mortgage	5,000	Pam	1650
30 Jan	Auto Loan	5,000	Pam	250
16 Jan	Savings	4,000	Pam	28
8 Jan	Auto Loan	3,000	Pam	300
6 Jan	Certificate	300	Pam	240
23 Jan	Checking	6,000	Paula	30
6 Jan	Credit	5,000	Paula	40
15 Jan	Savings	1,000	Paula	7
30 Jan	Checking	800	Paula	4
28 Jan	Certificate	15,000	Rhonda	120
9 Jan	Mortgage	5,000	Rhonda	1250
23 Jan	Auto Loan	1,750	Rhonda	177
30 Jan	Auto Loan	6,500	Richard	165
19 Jan	Savings	5,600	Richard	39
12 Jan	Credit	2,000	Richard	16
7 Jan	Mortgage	500	Richard	1500
7 Jan	Checking	1,600	Sharon	6
5 Jan	Savings	1,000	Sharon	70
6 Jan	Auto Loan	750	Sharon	177
		Sum = 116,000		Ave = 281.88

HW08-5 HWID Sales Done

HW08-6 Infections Memo

Memo

To: Infectious Diseases Foundation
From: R1
Date: Wednesday, July 17, 2019
Re: Data you requested

Below please find the raw data and graphical interpretation of the infectious diseases model you requested we develop. A short video is also included. Please contact me if you need further analysis.

Year	Actual Number of Infections	Predicted Number of Infections
0	10	10.0
1	14	16.3
2	30	26.3
3	44	41.9
4	60	65.5
5	100	99.6
6	150	145.4
7	209	201.6
8	250	263.5
9	301	323.8
10	367	375.9
11	420	416.6
12	456	445.8
13	470	465.7
14	483	478.6
15	492	486.8
16	493	491.9
17	496	495.1
18	498	497.0
19	499	498.2
20	500	498.9

HW08-6 Infections Memo Done

HW09-1 3A Quantitative Technology (Works Cited page 4)

Foster 4

Works Cited

Glaser, John P., and Claudia Salzberg. *The Strategic Application of Information Technology in Health Care Organizations*. San Francisco: Jossey-Bass, 2011. Print.

Ogden, Cynthia L. *NCHS Data Brief Number 82*. 15 January 2012. Web. 17 January 2021.

Topol, Eric J. *The Creative Destruction of Medicine*. New York: Basic Books, 2012. Print.

HW09-1 HWID 3A_Quantitative_Technology_Done

HW09-2 3B Environment Newsletter

University Medical Center Goes Green

Volume 1, Number 1   January 2021

University Medical Center continues its commitment to implementing environmentally friendly practices and fostering ecologically sustainable communities. This newsletter focuses on practices being implemented at the Center in accordance with government guidelines.

RECYCLING TRASH

More than 300 recycling bins have been placed beside trash bins throughout the hospital. That means that for every two to four trash or hazardous waste receptacles, there is now a bin to collect and process recyclable materials. Plastic and aluminum cups, bottles, and cans are the main articles that will be recycled in these bins, which are clearly marked with the recycling sign to differentiate them from other types of waste. In addition to these bins, two extra cardboard balers have been installed to help with our increase of cardboard box recycling.

HARVESTING DAYLIGHT

Low-watt energy-efficient light bulbs have replaced traditional lights throughout the center and energy-efficient lamps and daylight controls have been installed. This move will conserve energy and cut down on the hospital's use of electricity.

GREENER LANDSCAPING

New landscaping incorporates the use of regionally-native plants and a reduction in turf, thus reducing the need for extensive use of power equipment. Water-saving devices and a system that uses 100% recycled water have been installed outside the center, replacing the previous watering system. Plants and fauna stay green in an environmentally conscious manner.

GREENER GROCER

The hospital cafeteria has eliminated non-compostable materials and is using recyclable paper goods. In addition, a vegetable and herb garden outside the southeast corner of the Palomar Pavilion supplements fruits and vegetables purchased at local farmers markets.

GREENER RECORDS

Electronic medical records and consent forms have replaced a paper system, conserving not only paper, but also reclaiming valuable working and storage space.

"Everything we can do here at University Medical Center to protect our environment and conserve resources sets the example for others to do the same."
Emily Lynn—Facilities Director

HW09-2 HWID 3B_Environment_Newsletter_Done

HW09-3 Home Address Labels

Joe College HWID Room 203 Bailey Hall, St. Paul Campus Campus mail code: 6017 651-555-1234	Joe College HWID Room 203 Bailey Hall, St. Paul Campus Campus mail code: 6017 651-555-1234	Joe College HWID Room 203 Bailey Hall, St. Paul Campus Campus mail code: 6017 651-555-1234
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HW09-4 Name Tag Labels

Hello, my name is Jill
My major is English
My interests are
     Flute
     Walking
     Gardening
I live in Bailey Hall on the St. Paul Campus
	Hello, my name is Sue
	My major is Biology
	My interests are
	     Band
	     Jogging
	I live in Territorial Hall on the Minneapolis Campus

Hello, my name is Bill
My major is Computer Science
My interests are
     Money
     Money
     Money
	Hello, my name is Barak
	My major is Political Science
	My interests are
	     Community Service
	     Sports

Hello, my name is Albert
My major is Physics
My interests are
     Special Relativity
     General Relativity
     Photons
I live in Territorial Hall on the Minneapolis Campus
	Hello, my name is Will
	My major is English
	My interests are
	     Poetry
	     Plays
	I live in Bailey Hall on the St. Paul Campus

Hello, my name is My major is My interests are	Hello, my name is My major is My interests are

HW09-5 Thank Merge DATA

First	Last	Email	Priority
Joyce	Banch		3
Doug	Robertson	droberts@umn.edu	3
Sue	Sherro	sher001@umn.edu	2
Kathy	Osterberg	oste001@umn.edu	1
Alan	Samek	same001@umn.edu	1

HW09-5 HWID Thank DATA Done

HW09-5 Thank Merge MAIN

«Skip Record If...»**I Gave to the Community Fund Drive**

«First»:

When you send in your contribution to the **Community Fund Drive**, please drop this card in the fish bowl in the mail room. This will help us keep track of the number of contributions that have come in and it will tell us if you want to be in the raffle for prizes. If you do not want to be included in the drawing for prizes, check here:

If you do not want to be included in the All University drawing for prizes, check here:

«First» «Last»

HW09-5 HWID Thank MAIN Done

HW09-6 IF Merge MAIN With Merge Codes Showing

{ SKIPIF { MERGEFIELD Sex } = "Unknown" }{ MERGEFIELD Title } { MERGEFIELD FirstName } { MERGEFIELD LastName }
{ MERGEFIELD Address }
{ MERGEFIELD City }, { MERGEFIELD State } { MERGEFIELD Zip }

Dear { MERGEFIELD Title } { MERGEFIELD LastName }:

Thank you for your interest in our magazines. As a new customer I would like to offer you a special deal on { IF { MERGEFIELD Sex } = "Male" "Sports Illustrated" "" }{ IF { MERGEFIELD Sex } = "Female" "Ms. Magazine" "" }. Your special yearly rate is { IF { MERGEFIELD Sex } = "Male" "$15.99" "$13.99" }. The shipping and handling charge would be { IF { MERGEFIELD Zip } > 50000 "$6.95" "$4.95" }.

Sincerely,

Keisha Rollings

{ FILENAME * MERGEFORMAT }

HW10-1 Character Styles (page 1 only)

Declaration of Independence

IN CONGRESS, July 4, 1776

The unanimous Declaration of the thirteen United States of America,

When in the Course of human events, it becomes necessary for one people to dissolve the political bands which have connected them with another, and to assume among the powers of the earth, the separate and equal station to which the Laws of Nature and of Nature's God entitle them, a decent respect to the opinions of mankind requires that they should declare the causes which impel them to the separation.

We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness.--That to secure these rights, Governments are instituted among Men, deriving their just powers from the consent of the governed, --That whenever any Form of Government becomes destructive of these ends, it is the Right of the People to alter or to abolish it, and to institute new Government, laying its foundation on such principles and organizing its powers in such form, as to them shall seem most likely to effect their Safety and Happiness. Prudence, indeed, will dictate that Governments long established should not be changed for light and transient causes; and accordingly all experience hath shown, that mankind are more disposed to suffer, while evils are sufferable, than to right themselves by abolishing the forms to which they are accustomed. But when a long train of abuses and usurpations, pursuing invariably the same Object evinces a design to reduce them under absolute Despotism, it is their right, it is their duty, to throw off such Government, and to provide new Guards for their future security.—Such has been the patient sufferance of these Colonies; and such is now the necessity which constrains them to alter their former Systems of Government. The history of the present King of Great Britain is a history of repeated injuries and usurpations, all having in direct object the establishment of an absolute Tyranny over these States. To prove this, let Facts be submitted to a candid world.

He has refused his Assent to Laws, the most wholesome and necessary for the public good.

HW10-1 HWID Character Styles Done

HW10-2 Paragraph Styles (page 1 only)

Problem Solving in Developmental Mathematics

In 1988 the mathematics faculty began to experiment with the way in which we teach our developmental mathematics courses. We were disappointed with the number of students who could not successfully complete our arithmetic and algebra courses and with the number of the students who successfully completed our intermediate algebra course but who could not successfully complete college algebra offered through the Mathematics Department. We felt that developing a new sequence of courses, based on the ideas of problem solving, was needed.

Courses

The courses we developed are based on the notions that students who are specifically trained in general problem solving will do better at solving mathematics problems than students who have received no such instruction, and that students who construct their own knowledge, rather than acquire it from the teacher, will exhibit a better understanding of mathematics and, hence, will perform better. These notions are in concert with Professional Standards for Teaching Mathematics statement that

Educational research findings from cognitive psychology and mathematics education indicate that learning occurs as students actively assimilate new information and experiences and construct their own meanings.

Basically, we believe that the purpose of education is to transform novices into experts and that knowledge is something that cannot be transferred from one individual to another but rather a personalized version of it must be constructed by the individual learner. We believe that we do not teach mathematics to students but that we stimulate the students to construct mathematical concepts and ideas by arranging experiences for them where they are actively involved in the learning process. Under this paradigm, the students are active participants in the teaching process rather than passive recipients of lecture material. Our philosophical approach to the learning process can be thought of as an underlying principle that guides us as we conduct our classes. We can implement the philosophy using a number of activities that include group work, writing, reading, discussing, skill building, problem solving, and discovery learning.

Implementation

Our implementation of problem solving involves students working in groups on various topics with the course instructor taking on the role as a facilitator and question poser rather than as a source of new information or as the ultimate authority in the verification of answers. Because our students have all

HW10-2 HWID Paragraph Styles Done

HW10-3 Census (page 1)

HW10-3 HWID Census Done   Sec 1 Page 1

U.S. Department of Commerce Economics and Statistics Administration
BUREAU OF THE CENSUS

Introduction

The U.S. population census records contain a wealth of information. They are useful in learning about one's family and local social and economic conditions at various times in history. For more recent years especially, they are official documents for persons who need to prove their age (in the absence of a birth certificate), relationship, citizenship, residence, and other facts in order to qualify for pensions; get jobs, naturalization papers, passports, or insurance policies; establish an inheritance; or trace ancestry.

There was a population census taken in 1790 and every 10th year after that. The Bureau of the Census publication, 200 Years of U.S. Census Taking: Population and Housing Questions, 1790-1990 (Washington, DC, 1989), shows the specific questions and the way they appear on the records. It also reproduces instructions given to the enumerators for taking each census.

The Document

This document explains what census materials are available and how to obtain them, and also lists the sources for some other useful information including:hh

1. Citizen Archivists such as those people who have some background in history but who are no professional historians.
2. Federal Employees whose job might include gathering, analyzing, or publicizing information on the history of the United States of America.
3. Genealogists
4. Members of Congress many of whom waste their time and the taxpayers money in slowing the progress of the business of the People.
5. Preservation
6. Records Managers
7. The Press
8. Attend an Event
9. Donate to the Archives so that we can continue our work in making accessible many of the artifacts of the country.
10. Work at the Archives

HW10-3 Census (page 2)

HW10-3 HWID Census Done   Sec 1 Page 2

Census Schedules Available to the Public

Individual records from the national population censuses are confidential for 72 years, by law (Title 44, U.S. Code). Thus, April 2002 is the scheduled date for the National Archives to open the 1930 records to public use.

Microfilm copies of the original population schedules, from 1790 through 1920 (virtually all of the 1890 records were destroyed in a 1921 fire), are available at the National Archives in Washington (http://www.archives.gov /index.html) and its 13 regional archives, and many libraries in various parts of the United States. Most have facilities for making paper copies from the microfilm.

There are sound of the surname rather than its spelling indexes on microfilm for the 1880, 1900, and 1920 censuses for each State, and for 1910 for 21 States, principally in the South. Alphabetic indexes to the 1790-1860 and most of the 1870 censuses are available in genealogical libraries.

Researchers may find two Bureau of the Census publications useful; most major libraries have copies: Heads of Families at the First Census of the United States Taken in the Year 1790 (12 vols., Washington, DC, 1907-08, reprinted 1965-75), contains specific names. A Century of Population Growth—1790-1900 (Washington, DC, 1909, reprinted 1967-1970), includes the incidence of surnames in 1790, and a variety of summary tables from colonial censuses and from 1790 to 1900.

A number of State and territorial censuses were Nationalized in the intra-decennial years, particularly in the 19th century. See Henry J. Dubester, An Annotated Bibliography of Censuses Taken After the Year 1790, by States and Territories of the United States (Washington, DC, 1948, reprinted 1969 and 1975) and State Census Records, Ann S. Lainhart, Genealogical Publishing Co., Inc., 1992. An appendix to the Dubester book tells where the existing records (some including names) were located; copies of many can be obtained commercially on microfiche.

Some 19th century economic, agriculture, and mortality census schedules have survived, mainly in State archives but generally available on microfilm. These records frequently can be related to individuals listed in the population censuses.

HW10-3 Census Sample Page (page 100)

Census HW10-3 HWID Census Done   Sec 5 Page 100

HW10-4 Track Changes (page 1 only)

International Development Issues through Algebra

Douglas Robertson and Susan Staats

University of Minnesota

> Commented [HWID1]: The names of the authors should be reversed since Sue did the original draft.

We live in a world in which, on average, people's standard of living is increasing slightly, even for many poor people, yet inequalities between the rich and poor are also increasing. In the 1990's, poverty rates declined slightly in Sub-Saharan Africa, but the number of poor people increased by 140 million (Millennium Development Goals Report 2006, p. 4). Globalization is responsible for desperate working conditions in many parts of the world, but it also allows people who will never meet in person to communicate and collaborate. Global development issues are complex, interdisciplinary, and frequently, they are conveyed through mathematical data. Unfortunately, many people try to avoid using mathematics because they perceive it to be beyond their capabilities.

> Commented [HWID2]: Should we use the word "complicated" instead?

Yet *relatively* few math educators—nor their colleagues in other disciplines—receive the training in global issues to let them guide students in becoming critical users of international data. Michael Vern, a multicultural education scholar, writes that "(t)he near absence of a critical global perspective in teacher education programs is unfortunate because we are situated in the most financially and politically privileged and influential nation in the world. (Vern 2002 101-102). Furthermore, learning to access and evaluate international situations through data is in line with the National Council of Teachers of Mathematics connections standard, which recommends that students learn to use math in interdisciplinary contexts ranging from science to social science and medicine, and to use mathematics to examine social issues. This means that students must have opportunities for using mathematics that they have learned to analyze and assess significant social issues like problems in international development.

> Formatted: Font: Italic
>
> Deleted: to become

Insert Figure 1 About Here

> Moved (insertion) [1]   [Go]

Figure 1: Millennium Development Goals. The assessment targets are available at http://www.un.org/millenniumgoals/.

In this paper, we describe international issues that can be taught alongside standard algebra topics. We identify sources of data that teachers need to be able to implement the topics along with the specific learning outcomes for international development that teachers can convey to their students.

The Millennium Project

The United Nations' Millennium Project provides a framework for teaching students about international priorities for development. The project was initiated in the year 2000, and it highlights eight Millennium Development Goals (MDGs) focused on making

—1—

HW10-5 Large Document Table of Contents (section 3)

Table of Contents

The page numbers on these four pages may be different from yours due to computer and printer setups.

Print pages that contain

Table of Contents
Equations
Table 1
Index

HW10-5 Large Document Equations (page 7)

Exams and Quizzes

The exams are given to students on paper rather than on the computer. Students may use a calculator on the exams and quizzes. Five exams are given per semester plus a comprehensive final exam. By giving a fairly large number of exams, students are able to study smaller chunks of the course for each exam. This is especially helpful for students who struggle with math. Six quizzes are also given during the semester according to a set schedule, and students are informed about the contents of the quizzes.

Checkpoint Questions

Checkpoint questions consist of one or two questions, that may include graphics, over recently covered concepts or skills. They are given to students typically early in the class period and are due by the end of class. Students are encouraged to work together, compare strategies, and determine if their solutions make sense. Students may use any available resource. When students believe that they have answered the question correctly and have provided a sufficient written explanation of how they arrived at the answer, the instructor checks their work. If it is correct and complete, the instructor informs the student of this and collects it so that the score can be recorded. Here is an example of a checkpoint question:

"Use the Quadratic Formula, $x_{1,2} = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ to solve $5x^2 - 3x + 1 = 0$."[1]
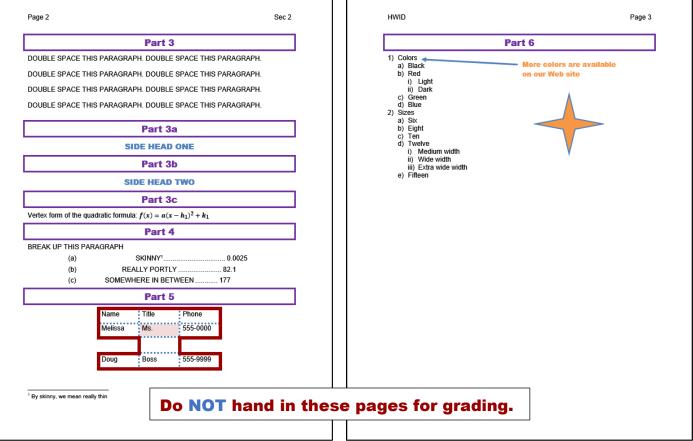
Checkpoint questions also promote student-student interaction, which makes a computer-mediated course feel more like a regular class rather than an open lab. If a student is having difficulty, the instructor provides feedback to point the student in the

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[1] Here, quad refers to the number of sides of a square, which has 2 dimensions.

HW10-5 Large Document Table 1 (page 14)

mediated classes were significantly more satisfied than students in lecture classes, $t(334) = 3.39, p = 0.001$.

Course	N	Mean	SD	SEM
Introductory Algebra				
Computer-mediated	65	3.52	0.48	0.06
Lecture	166	3.23	0.63	0.05
Intermediate Algebra				
Computer-mediated	120	3.51	0.46	0.04
Lecture	216	3.33	0.48	0.03

Table 1: Course Satisfaction

The end-of-the-semester survey also asked students about their perceptions of the activities that contributed most to their learning. Computer-mediated students were asked the following question: Which of the following activities resulted in your learning the most mathematics? Students selected from the following choices: (a) using software, (b) doing homework, (c) using the math center, and (d) reviewing for exams. For students in lecture classes, the first choice was changed to "listening to lectures."

The choices "using software" and "listening to lecture" are the primary methods of delivering the instruction in the computer-mediated and lecture formats, respectively. The results, shown in Table 2, indicated significant differences in the activities that contributed most to student learning according to a chi-square test, $(3, N = 580) = 51.1, p < .001$. Computer-mediated students indicated that using the software was the primary

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HW10-5 Large Document Index (page 32)

Index

Key for Sample-b Exam Questions TOC

Table of Contents

Key for Sample-b Exam Questions (page 1)

Part 1

This study analyzes the citation patterns in an algebra writing assignment completed by students in two sections of college algebra, one that used iPads throughout the semester and one that did not. Students in the iPad section did not prefer to use apps as an information source more than students in the non-iPad section, even though available apps were closely linked to course content. Open-ended assignments are a useful tool in iPad initiatives to gauge student interest in new learning technologies.

The Apple iPad tablet computer has received equal measures of excitement and criticism as an educational tool. The format of a mobile application seems well-suited to educational endeavors because they focus students' attention on specific sets of knowledge and experiences. This is just what students do as they develop knowledge in a class—they reduce disciplinary analysis into smaller skills and bits of knowledge. Like any new technology, however, students must decide whether it is useful to them to spend time learning to use it. In a recent algebra class, students had the opportunity to use iPads as a research tool for a writing assignment on mathematical and social perspectives on HIV epidemics. This article reports on students' citation patterns as a means of judging the extent to which they chose to use iPads as a research tool.

Part 2

a. This is the first lettered item. It contains the word Diskette, which should NOT have the style e1 applied to it.
b. This is the second lettered item. It contains the word disk, which should NOT have the style e1 applied to it.
c. This is the third lettered item. It contains the word *Disk*, which should have the style e1 applied to it.

A few universities have introduced iPads, which do not have a *Disk*, within a wide range of undergraduate classes. Pepperdine University, for example, conducted a three term experimental *Disk* comparison of iPad- and non-iPad-using classes use across discipline including calculus, business, nutrition, and religion.

Do NOT hand in these pages for grading.

Key for Sample-b Exam Questions (page 2)

Part 3

DOUBLE SPACE THIS PARAGRAPH. DOUBLE SPACE THIS PARAGRAPH.

DOUBLE SPACE THIS PARAGRAPH. DOUBLE SPACE THIS PARAGRAPH.

DOUBLE SPACE THIS PARAGRAPH. DOUBLE SPACE THIS PARAGRAPH.

DOUBLE SPACE THIS PARAGRAPH. DOUBLE SPACE THIS PARAGRAPH.

Part 3a

SIDE HEAD ONE

Part 3b

SIDE HEAD TWO

Part 3c

Vertex form of the quadratic formula: $f(x) = a(x - h_1)^2 + k_1$

Part 4

BREAK UP THIS PARAGRAPH

(a) SKINNY[1] 0.0025
(b) REALLY PORTLY 82.1
(c) SOMEWHERE IN BETWEEN 177

Part 5

Name	Title	Phone
Melissa	Ms.	555-0000
Doug	Boss	555-9999

[1] By skinny, we mean really thin

Key for Sample-b Exam Questions (page 3)

Part 6

1) Colors   **More colors are available on our Web site**
  a) Black
  b) Red
    i) Light
    ii) Dark
  c) Green
  d) Blue
2) Sizes
  a) Six
  b) Eight
  c) Ten
  d) Twelve
    i) Medium width
    ii) Wide width
    iii) Extra wide width
  e) Fifteen

Do NOT hand in these pages for grading.

Key for Sample-b Exam Questions (page 101)

Sample-b Exam Questions Done   Page 101   Saturday, July 27, 2019

Index

D

disk...1

Q

quadratic formula...2

R

REALLY PORTLY 2

Do NOT hand in this page for grading.

Key for Sample-c Graphics and Other Stuff

Practice Questions for Word Exam

This file provides practice with graphics and columns

With a permanent position as my ultimate goal, I hope to used the Florida Port Community College Career Center to secure a temporary job.

I can be accessible for a flexible number of days or hours and am willing to work in a diversity of businesses or organizations.

As my resume illustrates, I have exceptional computer skills. I am a honor student at FPCC and have outstanding references.

In addition, I have part-time work experience as a software tester, where I perform the following computer activities.

I am available for the purpose of an interview at your convenience. You can contact me by email at jgarcia@alcona.net or by telephone at (727) 555-0347.

Education	Weekly earnings	Yearly Earnings	Lifetime Earnings	Unemployment rate
Doctoral degree	1,743	90,636	4,531,800	1.5%
Professional degree	1,836	95,472	4,773,600	1.5%
Master's degree	1,401	72,852	3,642,600	2.2%
Bachelor's degree	1,173	60,996	3,049,800	2.5%
Associate degree	836	43,472	2,173,600	3.4%
Some college, no degree	774	40,248	2,012,400	4.0%
High school diploma, no college	712	37,024	1,851,200	4.6%
Less than a high school diploma	520	27,040	1,352,000	6.5%

Key for Sample-e Table Sort

Num	BirthDate	LastName	FirstName	State	Weight	Height
21	Oct 5, 1829	Arthur	Chester	VT	231	66
30	Jul 4, 1872	Coolidge	Calvin	VT	211	71
9	Feb 9, 1773	Harrison	William	VA	191	
3	Apr 13, 1743	Jefferson	Thomas	VA	240	
4	Mar 16, 1751	Madison	James	VA	176	64
5	Apr 28, 1758	Monroe	James	VA	192	66
12	Nov 24, 1784	Taylor	Zachary	VA	212	61
10	Mar 29, 1790	Tyler	John	VA	213	66
1	Feb 22, 1732	Washington	George	VA	185	60
28	Dec 28, 1856	Wilson	Woodrow	VA	205	62
34	Oct 14, 1890	Eisenhower	Dwight	TX	189	74
36	Jan 4, 1916	Johnson	Lyndon	TX	233	73
15	Apr 23, 1791	Buchanan	James	PA	214	68
20	Nov 19, 1831	Garfield	James	OH	161	71
18	Apr 27, 1822	Grant	Ulysses	OH	205	61
29	Nov 2, 1865	Harding	Warren	OH	210	68
23	Aug 20, 1833	Harrison	Benjamin	OH	202	68
19	Oct 4, 1822	Hayes	Rutherford	OH	160	63
25	Jan 29, 1843	McKinley	William	OH	250	66
27	Sep 15, 1857	Taft	William	OH	171	73
8	Dec 5, 1782	Buren	Martin	NY	201	68
13	Jan 7, 1800	Fillmore	Millard	NY	236	67
26	Oct 27, 1858	Roosevelt	Theodore	NY	151	60
32	Jan 30, 1882	Roosevelt	Franklin	NY	247	71
22	Mar 18, 1837	Cleveland	Grover	NJ	166	61
14	Nov 23, 1804	Pierce	Franklin	NH	207	69
7	Mar 15, 1767	Jackson	Andrew	NC	207	69
17	Dec 29, 1808	Johnson	Andrew	NC	160	61
11	Nov 2, 1795	Polk	James	NC	211	60
38	Jun 6, 1923	Ford	Gerald	NB	176	65
33	May 8, 1884	Truman	Harry	MO	152	67
2	Oct 30, 1735	Adams	John	MA	173	73
6	Jul 11, 1767	Adams	John	MA	173	60
41	Jun 12, 1924	Bush	George	MA	223	73
35	May 9, 1917	Kennedy	John	MA	191	61
16	Feb 12, 1809	Lincoln	Abraham	KY	152	64
40	Feb 6, 1911	Reagan	Ronald	IL	222	71
31	Aug 10, 1874	Hoover	Herbert	IA	165	70
44	Aug 2, 1956	Obama	Barack	HI	238	74
39	Oct 1, 1924	Carter	Jimmy	GA	244	73
43	May 1, 1946	Bush	George	CT	240	70
37	Sep 5, 1932	Nixon	Richard	CA	171	65
42	Aug 19, 1946	Clinton	Bill	AR	162	70

Do NOT hand in these pages for grading.

Key for Sample-g Merge MAIN Codes Showing

{ SKIPIF { MERGEFIELD Height } = "" }Dear President { MERGEFIELD LastName }:

We have analyzed your data and find that your height of { MERGEFIELD Height } and weight of { MERGEFIELD Weight } indicates that { IF { MERGEFIELD Weight } > 200 "you need to lose a few pounds" "you are in good shape" }

Sincerely,

Dr. Watson

Key for Sample-h Merge PRINTED (page 1 of 41)

Dear President Arthur:

We have analyzed your data and find that your height of 66 and weight of 231 indicates that you need to lose a few pounds

Sincerely,

Dr. Watson

Do NOT hand in these pages for grading.
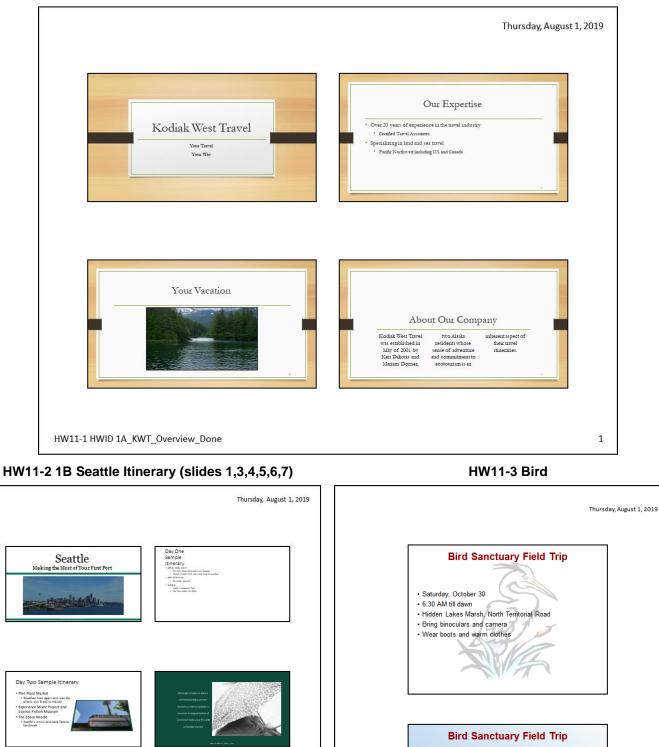
Key for Sample-i Merge Labels

«FirstName»
«LastName»
«BirthDate»

«Next Record»«FirstName»
«LastName»
«BirthDate»

«Next Record»«FirstName»
«LastName»
«BirthDate»

«Next Record»«FirstName»
«LastName»
«BirthDate»

«Next Record»«FirstName»
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«LastName»
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«Next Record»«FirstName»
«LastName»
«BirthDate»

«Next Record»«FirstName»
«LastName»
«BirthDate»

«Next Record»«FirstName»
«LastName»
«BirthDate»

Key for Sample-j Merge Labels PRINTED (page 1)

Chester Arthur Oct 5, 1829
Calvin Coolidge Jul 4, 1872
William Harrison Feb 9, 1773

Thomas Jefferson Apr 13, 1743
James Madison Mar 16, 1751
James Monroe Apr 28, 1758

Zachary Taylor Nov 24, 1784
John Tyler Mar 29, 1790
George Washington Feb 22, 1732

Woodrow Wilson Dec 28, 1856
Dwight Eisenhower Oct 14, 1890
Lyndon Johnson Jan 4, 1916

James Buchanan Apr 23, 1791
James Garfield Nov 19, 1831
Ulysses Grant Apr 27, 1822

Warren Harding Nov 2, 1865
Benjamin Harrison Aug 20, 1833
Rutherford Hayes Oct 4, 1822

William McKinley Jan 29, 1843
William Taft Sep 15, 1857
Martin Buren Dec 5, 1782

Millard Fillmore Jan 7, 1800
Theodore Roosevelt Oct 27, 1858
Franklin Roosevelt Jan 30, 1882

Grover Cleveland Mar 18, 1837
Franklin Pierce Nov 23, 1804
Andrew Jackson Mar 15, 1767

Andrew Johnson
James Polk
Gerald Ford Jun 6, 1923

Do NOT hand in these pages for grading.

HW11-1 1A KWY Overview (slides 1,3,4,5)

Thursday, August 1, 2019

Kodiak West Travel

Your Travel
Your Way

Our Expertise

- Over 20 years of experience in the travel industry
  - Certified Travel Associates
- Specializing in land and sea travel
  - Pacific Northwest including U.S. and Canada

Your Vacation

About Our Company

Kodiak West Travel was established in May of 2001 by Ken Dakona and Mariam Dorner, two Alaska residents whose sense of adventure and commitment to ecotourism is an inherent aspect of their travel itineraries.

HW11-1 HWID 1A_KWT_Overview_Done   1

HW11-2 1B Seattle Itinerary (slides 1,3,4,5,6,7)   **HW11-3 Bird**

Thursday, August 1, 2019   Thursday, August 1, 2019

Seattle
Making the Most of Your First Port

Day One
Sample
Itinerary
- Get an early start
  - The Pike Market for breakfast and shopping
  - Olympic Sculpture Park and a visit along the waterfront
- Mid-afternoon
  - The Seattle Aquarium
- Evening
  - Seattle Underground Tour
  - The Place Market for dinner

Day Two Sample Itinerary
- Pike Place Market
  - breakfast from again and visit the places you loved or missed
- Experience Music Project and Science Fiction Museum
- The Space Needle
  - Seattle's iconic and most famous landmark

Although cruises to Alaska are held during summer months, a visit to Seattle in summer is no guarantee of sunshine! Keep your favorite umbrella handy!

And if you can spare one more day…

Visit Mt. Rainier National Park!

Bird Sanctuary Field Trip

- Saturday, October 30
- 6:30 AM till dawn
- Hidden Lakes Marsh, North Territorial Road
- Bring binoculars and camera
- Wear boots and warm clothes

Bird Sanctuary Field Trip

- Saturday, October 30
- 6:30 AM till dawn
- Hidden Lakes Marsh, North Territorial Road
- Bring binoculars and camera
- Wear boots and warm clothes

HW11-2 HWID 1B_Seattle_Done   1   HW11-3 HWID Bird Done   1

HW12-1 2A Safety

HW12-2 2B Celebrations

HW12-3 Graphics and Sound

HW12-4 PowerPoint Poster

HW13-1 3A Trails

HW13-2 Import from Word and Excel

HW13-3 Integration

HW13-4 (Mis)-communication

HW13-5 Course Evaluation

HWID

Today's date

HW13-5 Course Evaluation

I accessed the course evaluation web site.

Key for PowerPoint Sample Exam Questions

HW14-1 1A All Students Query

HW14-1 1A HWID All Students Query   8/5/2019

Last Name	First Name	Email	Phone	Student ID
Fresch	Jenna	jfresch@tlcc.edu	(512) 555-7550	1023045
Telfer	Larry	ltelfer@tlcc.edu	(512) 555-2017	2034834
Ingram	Joseph	jingram@tlcc.edu	(512) 555-0717	2345677
Vohra	Ashwin	avohra@tlcc.edu	(512) 555-0302	2349535
McElaney	Cleta	cmcelaney@tlcc.edu	(512) 555-0305	2583697
Wall	WenLi	wwall@tlcc.edu	(512) 555-2329	3128456
Snyder	Amanda	asnyder@tlcc.edu	(512) 555-9120	3456689
Caputo	Stephanie	scaputo@tlcc.edu	(512) 555-2330	3458632
Thomas	Carlis	cthomas@tlcc.edu	(512) 555-0301	3569325
Reid	Carla	creid@tlcc.edu	(512) 555-2026	3572184
Stavish	Joseph	jstavish@tlcc.edu	(512) 555-9360	3586943
Hernandez	Anna	ahernandez@tlcc.edu	(512) 555-0301	3593653
Alexander	Rebekah	ralexander@tlcc.edu	(512) 555-1017	3768532
Morris	Atonye	amorris@tlcc.edu	(512) 555-1018	3852938
Nguyen	Cong	cnguyen@tlcc.edu	(512) 555-1004	3856930
Bradley	Christine	cbradley@tlcc.edu	(512) 555-2013	4352863
DiAntonio	Avelina	adiantonio@tlcc.edu	(512) 555-2319	4719238
Alvarez	Eliza	ealvarez@tlcc.edu	(512) 555-2025	4739502
Furfy	Jana	jfurfy@tlcc.edu	(512) 555-2064	4769304
Parkhill	James	jparkhill@tlcc.edu	(512) 555-2323	4852384
Rose	Edward	erose@tlcc.edu	(512) 555-2019	5820384
Kakaulian	Anastasia	akakaulian@tlcc.edu	(512) 555-2031	5834924
Poon	Laurence	lpoon@tlcc.edu	(512) 555-0304	5835035
Soltan	Reza	rsoltan@tlcc.edu	(512) 555-9362	5849320
Campbell	Daria	dcampbell@tlcc.edu	(512) 555-1016	5860300

Page 1

HW14-1 1A Faculty Advisors Report

HW14-1 1A HWID Faculty Advisors   Monday, August 5, 2019   10:57:58 AM

Campus	Last Name	First Name	Email
Northwest	Abromsky	Alexandru	aabromsky@tlcc.edu
Northwest	Bell	Dora	dbell@tlcc.edu
Northeast	Betancourt	Charles	cbetancouret@tlcc.edu
Northeast	Bowman	Nuzhut	nbowman@tlcc.edu
Southwest	Briggs	Luis	lbriggs@tlcc.edu
Southeast	Capelle	Arturo	acapelle@tlcc.edu
Southwest	Friend	Gyula	gfriend@tlcc.edu
Southeast	Gilmore	Teshome	tgilmore@tlcc.edu
Southwest	Goldani	ZsuZsa	zgoldani@tlcc.edu
Southeast	Hackett	Jessica	jhackett@tlcc.edu
Southeast	Haq	Mark	mhaq@tlcc.edu
Northwest	Hart-Rodriguez	Melanie	mrodriguez@tlcc.edu
Southeast	Hasenfeld	Larthia	lhasenfeld@tlcc.edu
Northwest	Holland	Timothy-John	tjholland@tlcc.edu
Southeast	Kilbride	Thea	tkilbride@tlcc.edu
Northeast	Kubzansky	Amy	akubzansky@tlcc.edu
Southeast	Lang	Phillippe	plang@tlcc.edu
Southwest	Michaels	Payne	pmichaels@tlcc.edu
Northwest	Ong	Joel	jong@tlcc.edu
Northeast	Saguy	Vilma	vsaguy@tlcc.edu
Southeast	Sideris	Dana	dsideris@tlcc.edu
Southeast	Soja	Binit	bsoja@tlcc.edu
Southwest	Suh	Kingston	ksuh@tlcc.edu
Southwest	Sweeney	Megan	msweeney1@tlcc.edu
Northwest	Szulkin	Martin	mszulkin@tlcc.edu
Northeast	Torres	Robert	rtorres@tlcc.edu
Southwest	Treiman	Roger	rtreiman@capccc.edu
Northwest	Villareal	Jose Luis	jlvillareal@tlcc.edu
Northwest	Wazir	Paul	pwazir@tlcc.edu

HW15-1 2A Queries

HW15-1 2A Queries, HWID

HW15-1 HWID 2A Quiries Done Monday, August 5, 2019

HW15-2 2B Tennis OR Swimming Query

HWID 2B Tennis OR Swimming Query   8/5/2019

First Name	Last Name	College Email	Home Phone
Renato	Cildaro	rcildaro@tlcc.edu	(512) 555-2318
Nora	Ramos	nraramos@tlcc.edu	(512) 555-2325
Carla	Reid	creid@tlcc.edu	(512) 555-2026
Carla	Reid	creid@tlcc.edu	(512) 555-2026
Eugene	Sotova	esotova@tlcc.edu	(512) 555-2030
Joseph	Stavish	jstavish@tlcc.edu	(512) 555-9360
Florence	Zimmerman	fzimmerman@tlcc.edu	(512) 555-9356
Florence	Zimmerman	fzimmerman@tlcc.edu	(512) 555-9356

Page 1

HW15-2 300 or More Query Exported to Excel

Scholarship Name	Sport	Amount
Texas State Baseball Association	Baseball	$500.00
Texas State Baseball Association	Baseball	$300.00
Roundball Academic Achievement Award	Basketball	$500.00
Austin Sports Fellowship Award	Basketball	$500.00
Hoops National Winner Award	Basketball	$400.00
Hoops Fellowship Award	Basketball	$500.00
Hoops Sports Award	Basketball	$500.00
Austin Sports Award	Basketball	$500.00
Texas Sportswomen Foundation Award	Basketball	$300.00
Austin Jump Ball Award	Basketball	$300.00
Austin Sports Fellowship Award	Football	$500.00
Texas Science Achievement Award	Football	$750.00
The Touchdown Alumni Association Award	Football	$600.00
Round Rock Country Club Award	Golf	$300.00
Dolphin Club Award	Swimming	$300.00
Rivers and Parks Foundation Award	Swimming	$750.00
Bluebonnet Country Club Foundation Award	Swimming	$400.00
Michael Fresch Foundation Award	Tennis	$400.00
Joseph Ingram Memorial Award	Tennis	$400.00

HW15-2 HWID 300 or More Query Excel Done   8/5/2019

HW15-2 2B Athletes Scholarships Queries

HW15-2 HWID 2B Athletes Scholarships Queries

HW15-2 HWID 2B Athletes Scholarships Queries Done Friday, January 10, 2020

Index

Index entries are followed by a letter that indicates the section of this Study Guide in which the entry is located: **[I]** = Introduction, **[GS]** = Getting Started, **[W]** = Word, **[P]** = PowerPoint, **[E]** = Excel, **[A]** = Access