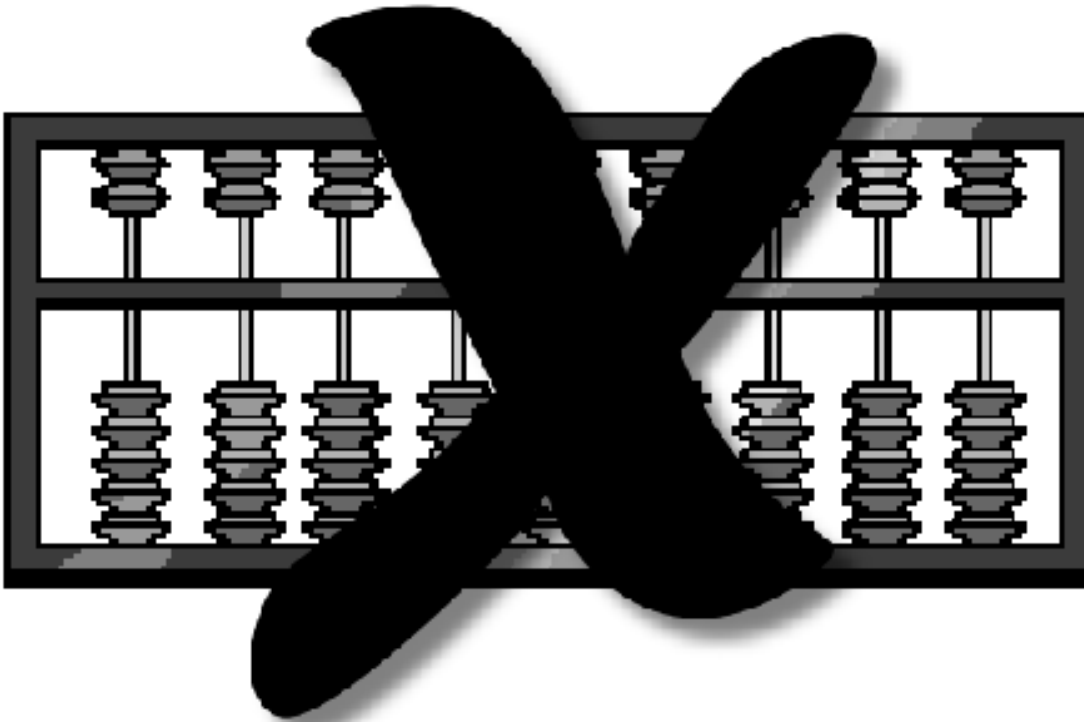


Microsoft EXCEL

TEC 921

Assignments



**Prepared by Dennis Funk
Instructor: Dr. Richard Swan**

Fresno Pacific University

Version 2010

Introduction to the Class

Assignment A - Page 2

Before we begin the coursework, I would like you to take a few moments and reflect on what you just read. One of the most critical elements of this class is understanding how technology such as Excel will change the way we and our students will function. Please send an email and introduce yourself. Tell a little about your current placement and what you see as your greatest challenges. Also, in one paragraph, react to the text you just finished reading. Remember, this is a graduate level course so your reflection should give indication that you have given the text some thought as it relates to your teaching situation.

Email this to RFSwan@comcast.net

I. What is a Spreadsheet

No Assignments

II. Getting Started

Assignment 2.1 - Page 9

This assignment is in two parts. The first part is very important because it will set the foundation for file management for the entire course.

This works the same on both platforms so whether you are using a Mac or a Windows machine, it does not matter. The files are exactly the same in both folders. But, for the sake of everyone's sanity, I have created three FPUExcel folders, two in the Windows folder and one in the Macintosh folder. In the Windows folder there is one for older Excel versions and one for Excel 2010. Use the appropriate folder.

Open either the Windows or Macintosh folder, locate the FPUExcel folder. Drag this folder to your computer's **Desktop**. We want to keep it right out in front of us until we are finished with this course. All the files you need to complete this course will be found inside this folder. Make sure you use this folder, and this folder only, for all your assignments. Save all work in this folder and it will make it very simple when it is all over.

When we are finished with the course, we will identify which of the files in the FPUExcel folder you need to return for evaluation. Neat and efficient.

Now on to part two of this assignment.

Launch Excel and open a new blank spreadsheet file. Use the **Save As...** feature and name the file PRACTICE.xlsx. (.xlsx if you are using earlier versions) (You do not need to use caps but I am going to use them throughout this course to identify filenames. The same thing applies to the underlining.) Then select the correct folder FPUExcel on your Desktop and make sure the file is saved into that folder.

Once you have named and saved the file in the correct folder, you should quit Excel and return to the **Desktop**.

Assignment 2.2 - Page 9

We are now going to go back and open the PRACTICE.xlsx file you created in the previous assignment. We are going to open it twice so you will know that there are more than one way to accomplish this task and you may select either method as you work through the course. It is entirely a matter of preference.

Method 1: File Icon - Go to your hard drive and open the folder FPUExcel by double-clicking. Find the file PRACTICE.xlsx in the folder and double-click to open. Notice that Excel was launched as well. There is information behind each file icon as to the application that created it and the computer will automatically open the file in the correct program, as long as you have the program on your computer. Click on the **File Ribbon** and then **Close** to close out of this file. This action leaves Excel still running.

Method 2: Open Menu - With Excel still running, click on the **File Ribbon**, use the **Open** command and move to the FPUExcel folder on your hard drive. Once you arrive there you should see the file PRACTICE.xlsx listed there. Double-click on this icon or name and the file will be opened.

There are several ways to quit Excel. You can either click on the top **X** on the **Titlebar** at the top of the screen or you go to **File** and **Exit**. You also have a keyboard option - **Alt + F4**.

There is no way for me to verify that you have completed this assignment. Just make real sure you understand what is going on because if you don't, I can guarantee it will come back to haunt you in the end.

Assignment 2.3 - Page 13

Open the PRACTICE.xlsx file found in the FPUExcel folder on your hard drive. Click in the very first cell, A1, and type in a few sentences about your knowledge regarding Excel. Are you a complete novice or do you have lots of experience and background? Do not worry about text wrap or any formatting.

Click in cell A2 and type in a few sentences explaining what you would like to get out of the class.

Use **Save As** to rename the file PRACTICE2.xlsx. Save it as an Excel Workbook in your FPUExcel folder.

Assignment 2.4 - Page 15

We are going to do several things at this time. This will take a while and it is a little technical so early in the course but this is the best time to work with this.

First of all, we are going to open a simple set of data that is tab separated. This is the standard text format and there are very few programs that will not accept this type of data. I am going to assume that you have Microsoft Office installed since you are using Excel so we are going to use the Word program.

Launch Word and go to the **Open** option on the **File Ribbon**. Go to the FPUExcel folder on your **Desktop**. Inside you will find a file named SOLARSYS.txt. Open this file into Word. This might not go as smoothly as it sounds. You may not see the file if Word is looking for only .doc files. Set the **FileType** to **All files** or **Text files** to see those files that are not .doc files.

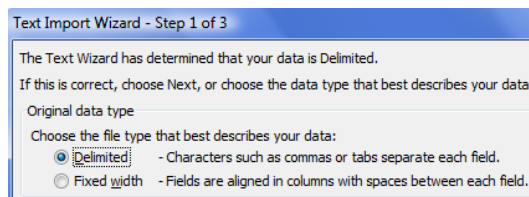
Take a good look at the information you see displayed. You will notice that it is tab separated. If you don't believe me, click on the **Paragraph Marker** button to display the hidden characters. You will see **Tab Markers**

```
Planet → Named-for → Type  
sun) → Size (km diameter) → Mass  
→ Orbit+Speed+Temperature+Atmc  
sun → → star → ancient times -  
→ 25 days → "255,000,000 ye  
travels 299,000 kps"¶  
Mercury → messenger of the gods  
→ "57,900,000" → "4,960" →  
→ 47.94 kps → 350 degrees cen  
Venus → goddess of love → terrestri
```

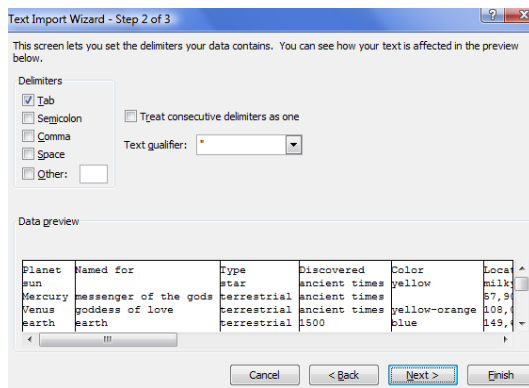
between each sets of data. All I wanted you to do here was to take a look of how it looks in word processing.

Close Word and launch Excel and go the FPUExcel folder and open the same SOLARSYS.txt file. We have the same problem here we had just a moment ago in Word. If Excel is looking only for .xlsx files, it is not going to see the text file we are trying to open. Set the **File Type** to **All files** or **Text files** and it will magically appear.

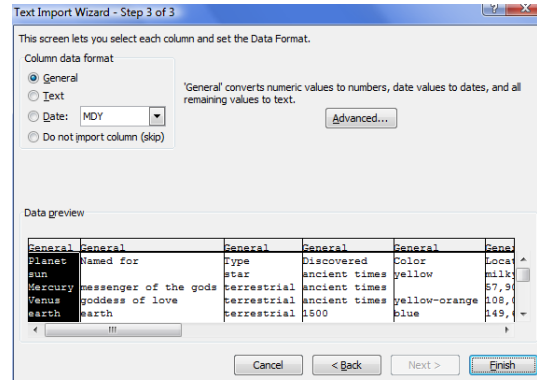
The following screen should appear:



Notice in the data types box the fact that the bullet is highlighted in front of **Delimited**. Truth is, in most cases you could simply click the **Finish** button on this screen since 90% of the time, you aren't going to be making additional choices on the next few screens. But for the sake of overall knowledge, click on the **Next >** button and the following will appear:



Notice that the **Tab** option has a check in front of it which is the correct response since our data is a text file and is tab separated. The data should look quite normal in the **Data preview** area. Click **Next >** and the following will appear:



On this screen, you can click in any column and modify the data format for that column. Read the comments on the window and it should make sense. Click **Finish** and your data is displayed in an Excel **Worksheet**.

| | A | B | C |
|----|---------|-----------------------|-------------|
| 1 | Planet | Named for | Type |
| 2 | sun | | star |
| 3 | Mercury | messenger of the gods | terrestrial |
| 4 | Venus | goddess of love | terrestrial |
| 5 | earth | earth | terrestrial |
| 6 | Mars | god of war | terrestrial |
| 7 | Jupiter | Roman god | gas giant |
| 8 | Saturn | god of time | gas giant |
| 9 | Uranus | god of heavens | gas giant |
| 10 | Neptune | god of the sea | gas giant |
| 11 | Pluto | god of underworld | terrestrial |

Save this file as an Excel Workbook file as SOLAR.xlsx in the FPUExcel folder on your hard drive.

Now, on to the second portion of this assignment. I have also included a file that has the same data except that it is separated by commas. Excel will accept data that is comma separated, exactly like what you just experienced. On the second of the dialog box screens, you would check the **comma** option and the data would flow into the cells just like it did with tabs. But, I want you to be able to take the information to any spreadsheet so I want to run you through a simple exercise that should provide enough background to make it work the effort.

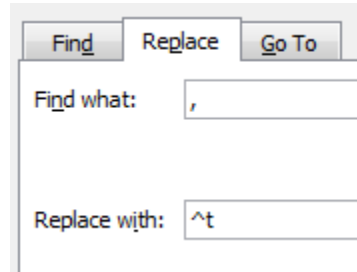
Launch Word and find the file SOLARCOMMA.txt Even though it is a text document, I purposefully put commas as delimiters instead of tabs. Once you have

opened the file, you will see the commas that are separating the data elements.

```
"Planet,Named for,Type  
sun),Size (km diameter),Mas  
earth),Gravity,Rotation,Orb  
"sun,,star,ancient times,ye  
years",,,6000 C,, "Sunlight  
"Mercury,messenger of the g  
times,, "57,900,000", "4,9  
degrees centigrade,almost n
```

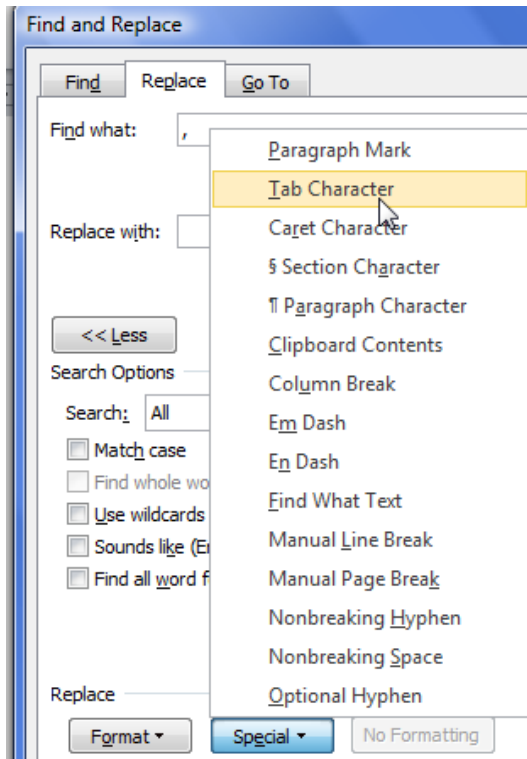
Your job is to change all the commas to tabs. This will make it a true text file in every sense. On the **Home Ribbon** click on the **Replace** button. The standard dialog box opens and you must click on the **More** button to get the feature we are looking for. We want to replace all commas with tabs so place a comma in the **Find what:** entry box. Now comes the tricky part. Make sure the **More** section is displayed and that your cursor is in the **Replace with:** entry box. Hold down your mouse button on **Special** and move up to **Tab Character**.

The following will be placed in the entry box:



Click the **Replace All** button and all the commas will be replaced with tabs. You would now save as a standard text file and this data can be opened by any database or spreadsheet program known to mankind.

You do not need to save this file. This was an exercise to demonstrate how data can be moved between applications and doctored at either the Word or Excel end.



III. The Excel Screen

Assignment 3.1 - Page 18

Open a new blank Excel file. You should have three Worksheets in this Workbook. You will find the Worksheet **Names** at the bottom of the screen. Change the **Names** to the following:

Text
Values
Formulas

Save this file as FILE1.xlsx in the FPUExcel folder on your hard drive. You should leave the file open since we are going to use it for the next few exercises.

Assignment 3.2 - Page 19

Use the FILE1.xlsx you created in **Assignment 3.1** for this assignment. On the first Worksheet, Text, make the following changes:

change the width of column A to 10
change the width of column B to 12
change the width of column C to 15

Save the file. (Since you have already given the file a name and told it where to save it, you do not need to go to **Save As...** A simple **Save** will do it.)

Assignment 3.3 - Page 20

Continue to use FILE1.xlsx for this assignment. Continue using the Text Worksheet as well. Make the following changes:

change the height of Row 2 to 25
change the height of Row 3 to 30
change the height of Row 4 to 35

Save the file and close it.

IV. Entering Data

Assignment 4.1 - Page 25

Open the FILE1.xlsx file from the FPUExcel folder on your hard drive. Move to the first Worksheet, Text, and enter the following information into the cells. Follow the instructions as you go step-by-step through this section.

1) Type "House Payment" into cell A4

2) Press the **return/enter** key (notice that the words were deposited in cell A4 and that highlight moved down one cell to A5)

3) Type "Car Payment" into cell A5 and press the **down arrow** on the keyboard. (notice that the words were deposited and the highlight moved down to cell A6)

4. Type "Food" and press the **tab** key. (Notice the word was deposited in A6 and the highlight moved to the right, to cell B6. If you are putting in a row of data, use the **tab** key - otherwise, use the **enter** or **down arrow**.)

5. Move the highlight to cell A7 and type "Utilities". Move over to the 10-key pad and find the enter key in the bottom right corner and press this key. (If you own a Mac, the word was deposited and the highlight stayed on A7, which is nice for doing what-if kinds of activities. If you own a Windows machine, well, your 10-key enter works just like the keyboard enter. It deposits the word and moves to the next cell.)

6. Move the highlight to cell B4 and enter the following amounts in cells B4 to B7:

| | A | B |
|---|---------------|-----|
| 4 | House Payment | 100 |
| 5 | Car Payment | 200 |
| 6 | Food | 300 |
| 7 | Utilities | 400 |
| 8 | | |

Save the file as FILE1.xlsx and leave it open.

Assignment 4.2 - Page 26

Continue to use FILE1.xlsx.

Highlight cells A6 and B6. You will need to drag from one to the other to do this. Now click on the **Delete** arrow and select **Delete Cells**. When asked, **Shift the cells up**, and watch the results.

Save the file and close it.

V. Working with Text

Assignment 5.1 - Page 27

Open the FILE1.xlsx file and move to the first Worksheet, Text.

First, let's add another line of information. Add "Car Insurance" in A7 and "300" in B7.

Highlight cells A4:A7 and change the font to Courier. If you do not have this font, select Helvetica or Times New Roman.

Save the file as FILE1.xlsx in the FPUExcel folder on your hard drive and leave the file open for the next exercise.

Assignment 5.2 - Page 28

Continue using the first Worksheet of the file FILE1.xlsx.

Change the font size of the cells A4:A7 to any size above 14 point.

Save the file and keep it open for the next assignment.

Assignment 5.3 - Page 28

Continue to use the FILE1.xlsx file.

Change each of the four cells, A4:A7, to a different style. Make one bold, one underlined, etc.

Save the file and keep it open for the next assignment.

Assignment 5.4 - Page 29

Continue to use the FILE1.xlsx file.

Change each of the four cells, A4:A7, to a different font color.

Save the file and close it for now. We will use it again later.

Assignment 5.5 - Page 29

Open the file [PRACTICE2.xlsx](#) from the [FPUExcel](#) folder on your hard drive.

Earlier, you entered a few sentences into cells A1 and A2. As you can see, the text strings off into the other cells. We are going to change that. Highlight cell A1 and pull down **Format** to **Cells...** Click on the **Alignment** tab on the top of the dialog box, find the **Wrap text** option and click inside the box. Click **OK** and take a look at what this did to your text. This feature is located right on the **Home Ribbon**.

Do the same thing to cell A2.

Now, modify the width of column A, making it twice as wide as before. Modify the height of row 1 and notice the change in the text. Make the height of row 1 larger than the text and go to **Format Cell** and change the **Vertical:** alignment to **Top**.

You have lots of options here. Play around with this and when you are finished, make sure you save the file as [PRACTICE2.xlsx](#) on your hard drive. Leave the file open for the next assignment.

Assignment 5.6 - Page 31

Continue with the [PRACTICE2.xlsx](#) file.

Change the height of row 2 so that it is larger than the available text in A2. Highlight A2 and set the **Alignment** to **Vertical** and then **Justify**.

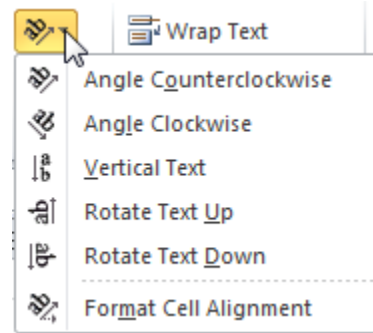
Notice that the contents were spread out to fill the cell. The taller you make the row, the more the text will be spread vertically to fill the cell.

Save the file [PRACTICE2.xlsx](#) file on the hard drive and leave it open for the next exercise.

Assignment 5.7 - Page 31

Continue with the [PRACTICE2.xlsx](#) file.

Highlight cell A1 and go to **Format Cells**. Click on the **Alignment** tab and change the **Orientation** to 90°. There is also a button on the **Home Ribbon**.



Save the file [PRACTICE2.xlsx](#) and close it.

VI. Working with Values

Assignment 6.1 - Page 34

Open the file [FILE1.xlsx](#) from the [FPUExcel](#) folder on your hard drive.

We are going to do something tricky here but it is important that you know how to do this. Move to the first Worksheet of the file, [Text](#). Highlight cells A4:B7. Place the pointer on A4 and drag right and down to B7. You will have highlighted a block of cells and remember, A4 will be white. Click on the **Copy** button on the **Home Ribbon**.

Look down at the bottom of the Worksheet, find the [Values](#) tab and click once. Click on cell A4 to highlight. Click on the **Paste** button. That is how you can copy items from one Worksheet to the next.

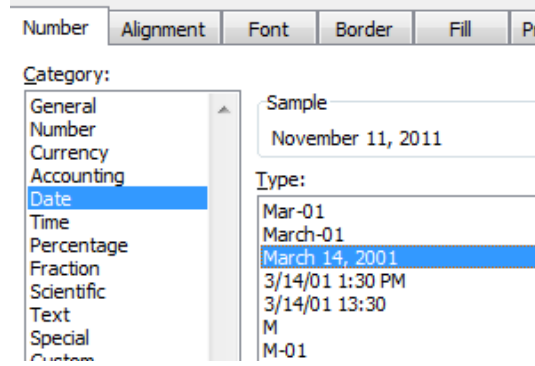
Now, making sure you are on the [Values](#) Worksheet, highlight the cells B4:B7, click on the **Format Cells** button in the bottom right of the **Font** section of the **Home Ribbon** and click on the **Number** tab. We do not want dollar signs so set it for **Number**, set the **Decimal places** to 2, and go ahead and select the thousands separator.

Save the file and leave it open for the next assignment.

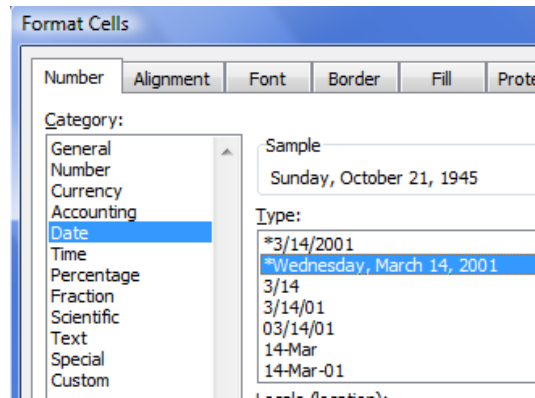
Assignment 6.2 - Page 35

Continue with the [FILE1.xlsx](#) file.

Move back to the [Text](#) Worksheet. Click in cell A9 and enter today's date. Click in cell A10 and enter someone's birthdate. Select cell A9 and click on the **Format Cells** button and click on the **Number** tab. Click on the **Date** category (or the small arrow in the **Number** section on the **Home Ribbon**) and set it for the following:



Now click on cell A10 and set it for the following:



Save the file and leave it open for the next exercise.

Assignment 6.3 - Page 35

Continue using file [FILE1.xlsx](#).

Use the [Text](#) Worksheet. Highlight cell A12 and enter "11:15". Move down to cell A13 and enter "1:36". Format the first time (A12) including seconds and change the AM to PM on the second time (A13) up in the text edit box. Your cells should look like this:

| | |
|----|-------------|
| 11 | |
| 12 | 11:15:00 AM |
| 13 | 1:36 PM |
| 14 | |

Remember to widen your column if you find the pound signs (#).

Save the file and leave it open for the next assignment.

Assignment 6.4 - Page 36

Continue using file [FILE1.xlsx](#).

Use the [Text](#) Worksheet. Enter the following values in cells A15 through A17:

100
.156
.1739

Highlight all three cells and open the **Format Cells** window and click on the **Percentage** option in the list. Set the decimal places to 2.

Now, click on cell A17 and click on the **Decrease Decimal** button on the **Toolbar** so there is only one decimal place.

Save the file [FILE1.xlsx](#) and close it.

VII. Calculations

Assignment 7.1 - Page 38

Open [FILE1.xlsx](#) and move to the second Worksheet, [Values](#).

Click on cell B9 to highlight it and enter the following:

=B4+B5+B6+B7

Press **Enter**.

This calculation adds the values of the four cells you have included above. Go back and change one of the values in any cell between B4 and B7. Don't forget to press **Enter** so that Excel knows you are ready to go.

This is a good time to utilize some of the other operands. Enter the value 2000 into cell B1. We are going to make believe that this is our take home pay. We are going to calculate how much money we have left each month after paying our bills. Click on cell B11 and enter the following:

=B1-B9

This subtracts the total of our bills (B9) from the amount of our take home pay (B1). Don't forget the **Enter** key.

Save [FILE1.xlsx](#) and leave it open for the next exercise.

Assignment 7.2 - Page 39

Continue to use the [Values](#) Worksheet in [FILE1.xlsx](#).

Let's do something out of the way for a moment. Click on cell B18 and enter the following:

=4+6*3

Don't press **Enter** just yet. The question is, what is the correct answer? Is it 30 or 22? Press **Enter** to find the answer is 22.

Let's get a little more practical. I want to find out how much I pay for house and car payment every 6 months. My house payment is cell B4 and my car payment is cell B5. The formula should look like this:

`=B4+B5*6`

Click on cell B14 and enter this formula. Go ahead and press **Enter**. Fact is, this figure is totally incorrect. The formula should read:

`=(B4+B5)*6`

Enter this into B15 and look at the difference.

Don't be caught unaware. This situation can make you look bad in front of students, peers, and boards of education. Test your calculations by putting in some easy numbers and make sure the outcome is what it is supposed to be. In almost every case, it is user-error and not Excel.

Save the FILE1.xlsx and leave it open for the next assignment.

Assignment 7.3 - Page 39

Continue to use the Values Worksheet in FILE1.

We are going to cover formulas in a big way in the next section but I want to contrast the use of formulas and calculations.

Cell B9 has the calculation that sums the four values. This works good if there are only four values but what if there are 100?

Click on cell B10 and enter the following:

`=SUM(B4:B7)`

Press **Enter** and you should see the same value in B10 as is in B9. That is because

they are summing the same set of cells. Imagine how these two cells might differ if there were 25 cells to sum. I think you get the picture.

Save FILE1.xlsx and close it. We will use it in the next section but it is important to learn how to close and open files.

VIII. Formulas

Assignment 8.1 - Page 41

Open FILE1.xlsx from your hard drive and move to the last Worksheet, Formulas.

I want you to enter values into 10 cells starting with A1. Use 4 and 5 digit numbers (1000 - 9999) and do not use commas. Your entries should look something like this, even though your values will be different.

| | A |
|----|-------|
| 1 | 1254 |
| 2 | 1245 |
| 3 | 6577 |
| 4 | 5126 |
| 5 | 4567 |
| 6 | 74858 |
| 7 | 5499 |
| 8 | 9745 |
| 9 | 97541 |
| 10 | 6879 |

I want you to experiment with entering formulas in cell A12. The formula will always be the same (=SUM(A1:A10)) but there are several ways to enter the same formula.

First of all, click on cell A12 to highlight the cell and enter the following:

```
=SUM(A1:A10)
```

Press **Enter** and the sum of the 10 values is instantly presented in cell A12. You can hardly get your **Enter** key down before the calculation is complete.

There is another way that I want you to know about. Walk through this with me. Click on cell A12 to highlight the cell once again. We are going to replace the formula there with another. Begin by typing

```
=SUM(
```

Do not press **Enter** or add anything else at this time. Grab your mouse and place the pointer on cell A1. Hold down the mouse button and drag down to cell A10. Make sure those 10 cells are contained in the dotted selection box. Release the mouse button, close the parenthesis with **shift+0** and press **Enter**. You get the same result without having to type in the **Range**.

Save FILE1.xlsx and leave it open for the next exercise.

Assignment 8.2 - Page 44

Continue to use the Formulas Worksheet of FILE1.xlsx.

Please enter the following information into cells C1 through C7.

| | C | D |
|---|--------|---|
| 1 | 32.586 | |
| 2 | | |
| 3 | INT | |
| 4 | MOD | |
| 5 | PI | |
| 6 | RAND | |
| 7 | SORT | |
| 8 | | |

Starting in cell D3, enter the following formulas into the cells down column D.

```
=INT(C1)
=MOD(D3,5)
=(PI()*C1)^2 (pi * radius squared)
=INT(RAND()*D3)
=SQRT(C1)
```

Take some time to study the formulas you entered. They are very straightforward mathematical formulas. It helps to understand what they are doing.

Save FILE1.xlsx and leave it open.

Assignment 8.3 - Page 45

Continue to use the Formulas Worksheet of FILE1.xlsx.

Let's move down a little and do a few calculations that involve statistics. Since we already have a set of numbers we can play with, we might as well use them.

Enter the following information into cells A14 through A18:

| | A |
|----|--------------------|
| 13 | |
| 14 | Average |
| 15 | Count |
| 16 | Maximum |
| 17 | Minimum |
| 18 | Standard Deviation |
| 19 | |

We are going to put the formulas in column B but we will use the values in column A. Starting in cell B14, enter the following formulas as you go down column B:

=AVERAGE(A1:A10)
 =COUNT(A1:A10)
 =MAX(A1:A10)
 =MIN(A1:A10)
 =STDEV(A1:A10)

If that doesn't impress you, you must be asleep. Go back and change any of the values in cells A1 through A10 and watch how fast the computer can recalculate all the values in A14 through A18. Who needs a calculator?

Save FILE1.xlsx and leave it open.

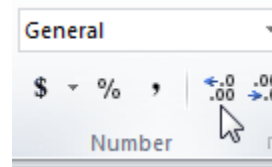
Assignment 8.4 - Page 45

Continue to use the Formulas Worksheet of FILE1.xlsx.

Enter the following information into cells C11 through D13:

| | C | D |
|----|------------|--------|
| 11 | Yearly Int | 0.0475 |
| 12 | Months | 36 |
| 13 | Loan Amt | 24600 |
| 14 | | |
| 15 | Payment | |
| 16 | | |

Point of order there. Please enter .0475 into cell D11. Percent is a decimal fraction so you cannot enter 4.75 because that is 475% and I don't think you afford that kind of a loan unless it is from Cousin Guido. Click on D11 and click the **Percent** button on the **Toolbar**. Then, add two decimal places by clicking on the **Increase Decimal** place button on the **Toolbar** and you are set.



Click on cell D15 and enter the following formula:

=PMT(D11/12,D12,D13)

Now go to the three variables in D11 through D13 and make some changes. Change the interest rate to 5.12% and see what it does to the monthly payment. Change the number of months to 48. Change the amount of the loan to 26000. You can see how this is a great way to manage loan payments.

Save the file and leave it open.

Assignment 8.5 - Page 47

Continue to use the Formulas Worksheet of FILE1.xlsx.

Enter the following into cells F1 through G1:

| | F | G |
|---|------------|-------|
| 1 | Sales | 15000 |
| 2 | Commission | |
| 3 | | |

We are going to calculate the commission to be paid the salesperson. If they sell more than \$15,000, they get 12% commission. Anything less than that they get only 9.2%. So click in cell G2 and enter the following formula:

$$=IF(G1>15000,G1*.12,G1*.092)$$

Play around with the value in G1. Enter a number greater than 15000. Enter a number less than 15000. Get the picture?

There are lots of applications for this logical formula. Keep it in the back of your mind and one of these days, it will be ready to work for you.

Save the file and leave it open for one more assignment.

Assignment 8.6 - Page 47

Continue to use the Formulas Worksheet of FILE1.xlsx.

We are going to do something simple here so you get the idea. Click in cell B19 and click on the Insert Function button. Select the **Math & Trig** from the list on the category area and select **SUM** on the right. Click on the **OK** button and then either enter A1:A10 or click on the small colorful box to the left of the top entry area. Move the pointer to cell A1 and drag from there to A10. Click on the colorful box again and another OK will complete the operation.

Save FILE1.xlsx onto the hard drive and close the file. We are finished with it for now.

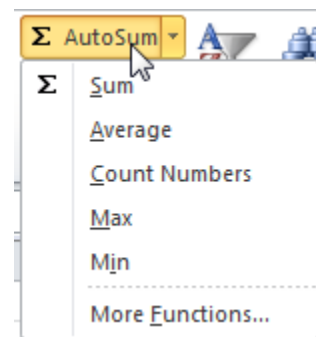
IX. Fill

Assignment 9.1 - Page 51

Open FILE2.xlsx found in the FPUExcel folder on your Desktop.

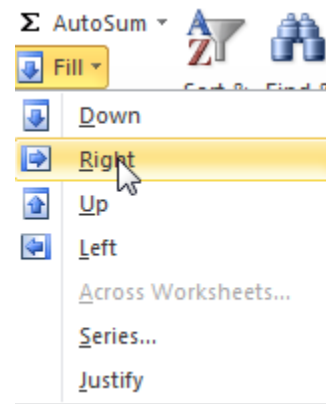
Move to the **Fill** Worksheet, the first one of the Workbook.

The first thing we are going to do here is to sum the first column of values. Click on the cell B15 and hit the **Autosum** button.



You will need to press the **Enter** key to finish the formula.

Drag from cell B5 to E5. Cell B5 will be white and the others will be highlighted. Click on the **Fill** button on the **Home Ribbon** and choose **Right**.



Now drag from B6 to E6 and use **Ctrl + R**.

Now drag from B7 to E13. Yes, this is a block of cells and B7 will be the only cell that is white while the others are all highlighted. Fill to the right. You will find that all the rows filled to the right.

Save the file as FILE2.xlsx in the FPUExcel folder on your hard drive. Leave it open for the next assignment.

Assignment 9.2 - Page 49

Continue using the FILE2.xlsx Workbook.

Make sure you are still on the Fill Worksheet.

Highlight cells B15 to E15 and do a **Fill Right**. Click on cells C15, D15, and E15 to see that Excel has adjusted the formula to account for each column.

Save the file.

Assignment 9.3 - Page 503

Continue using the FILE2.xlsx Workbook.

We are going to do some major work here so that the whole idea of relative and absolute reference can fit in.

First of all, we are going to use the **Fill** Worksheet to get an idea of what we are talking about. Highlight cells A5 to B15. This will be a block of cells. Click on **Copy**. Click on cell A20 and **Paste**. We have made a duplicate of our January payments.

What we want to do here is to figure out what percent of our total budget goes for each category. Our total is in cell B30. To figure out the percentage of each category, we need to create a fraction with the monthly payment as the numerator and the total being the denominator. The house payment would look like this: 784.52/1730.59. If we substitute cells

for values, the formula is B20/B30. So, click in cell C20 and enter the following:

=B20/B30

Highlight from cell C20 down to C28 and do a **Fill Down (ctrl + D)**. We have a problem here. The problem, as we stated in our manual, is the fact that as we **Fill** a formula, the formula is adjusted for rows and columns. If you click on C21 and C22 and study the contents, you will see the problem. The total (C30) has changed to C31 and C32 and there are no numbers there. C30 is where the total resides and does not change based on a new row or column.

To fix the problem, we need to add dollar signs to the formula. Click on cell C20 and modify the formula so that it reads:

=B20/\$B\$30

Now highlight the cells and do a **Fill Down**. Viola! It works like a champ. By the way, you need to highlight cells C20 to C28 and click on the **Percent** button so that the decimals are expressed as percent.

Save the file and close it for now. We will use it in the next assignment but we have another project for now.

I want you to open a file titled PERSTEPS.xlsx. It would be wise to print this spreadsheet out in order accomplish this next section. You are to recreate a spreadsheet that calculates personnel costs for a group of four employees. The PERSTEPS.xlsx file lists all the steps in order to complete this spreadsheet and you will find a copy of the final product in APPENDIX B of the Assignment Manual. Use the combination of these two items to complete the assignment. By going through the steps of creating a rather sophisticated Workbook, you will become much more comfortable with the use of Excel.

Save the file as PERSONNEL.xlsx and make sure that it is in the FPUExcel folder on your hard drive.

Assignment 9.4 - Page 51

Open FILE2.xlsx from the FPUExcel folder on your hard drive.

Move to the Fill Worksheet.

We are going to finish off this spreadsheet in a major fashion. The **Fill Handle** is simply awesome in its power. There are several steps we are going to take here.

1) Click on cell E5 and position the pointer so that it becomes the small black plus sign in the lower right corner of the cell. Grab it and drag it over to I5.

2) Highlight cells E6 to E13. Grab the small **Fill** box in the lower right corner of the block and drag over to I13.

3) Highlight E15 and drag the **Fill Handle** to I15. Notice that the formulas are all adjusted to the relative column.

Save the file and leave it open for the next exercise.

Assignment 9.5 - Page 52

Continue to use the Fill Worksheet of FILE2.xlsx from the previous assignment.

Drag from A40 down to A50 and click on **Fill** and down to **Series...** The series is in a column and set for **Linear** with a **Step value:** of 1. Click **OK**.

Save the file and leave it open.

Assignment 9.6 - Page 52

Continue to use the Fill Worksheet of FILE2.xlsx from the previous assignment.

Drag from B40 down to B50 and set it for **Linear** but this time, set the **Step value:** to 5.

Save the file and leave it open.

Assignment 9.7 - Page 52

Continue to use the Fill Worksheet of FILE2.xlsx from the previous assignment.

Drag from C40 to C50 and set the **Type** for **Date** and the **Date unit** to **Weekday**.

Drag from D40 to D50 and set the **Date unit** for **Month**.

Save the file and leave it open.

Assignment 9.8 - Page 53

Continue to use the Fill Worksheet of FILE2.xlsx from the previous assignment.

First of all, move down and highlight cell E40. Grab the **Fill Handle** and drag down to E50. You should find that it filled it as a series in weekday order.

Move up to cell B3 and highlight that cell. Grab the **Fill Handle** and drag to the right all the way to M3, which should be December.

Save the file and leave it open.

Assignment 9.9 - Page 53

Continue to use the Fill Worksheet of FILE2.xlsx from the previous assignment.

Move down and highlight F40. Grab the **Fill Handle** and drag down to F50. VIOLA in a big way.

Let's finish this spreadsheet while we are at it. Highlight I5 to I15, grab the **Fill Handle**, and drag over to M15.

Go back into the values and change some of the numbers. Your house payment will most likely stay the same but your food bill varies as to whether relatives are coming over. Your utilities change as well. Modify a half dozen or so. Pretend that lots of folks are coming to your house for Easter so you must allocate an additional \$150 for April's food bill.

Click on N5 and hit the **Autosum** button on the **Home Ribbon**. Don't forget to **Enter**. Highlight that cell and grab the **Fill Handle** and pull down to N13. If you make a mistake, highlight the entire column and click on **Clear** and down to **All**, it will be erased.

Now for something tricky. Click on cell N13. We are going to drag a copy of this cell down to N15. To do this, you must place the pointer on the very edge of the cell so that it becomes an arrow. If you were to drag it at this point you would move it instead of copying. You must hold down an additional key while you drag in order for it to copy. Hold down the **ctrl** key. You should see a little plus show up right next to the arrow. When you see the plus, you are copying and not moving. Now, holding down the additional key, drag the contents of N13 to N15. Neat and simple.

Save the file and **Close** it. We will come back to this file later.

X. Working with Cells

Assignment 10.1 - Page 56

Open FILE2.xlsx from your hard drive and move to the Fill Worksheet.

We are going to add another category to this budget. Move all the way to the left of the spreadsheet and click on the **Row Heading** 10. This is the little box all the way to the left with the number 10 inside. When you click on this box, the entire row 10 will be highlighted. Click on the **Insert** button on the **Home Ribbon**.

The totals have been moved from row 15 to row 16. Click on any total at the bottom of the budget to see how it has been automatically adjusted.

Click on A10 and make up your own category.

Save the file and leave it open for now.

Assignment 10.2 - Page 56

Continue using the Fill Worksheet on the FILE2.xlsx Workbook.

Add some values into row 10. Just make up some realistic values based on the category you chose.

Now, move to cell N10. There is no formula there. When you inserted a row, Excel did not automatically move the formula down. You need to add a formula into that spot. The easiest way is to click on cell N9, grab the **Fill Handle**, and drag down to cell N10.

There are other ways to do this. You could use the **Copy** and **Paste** feature, or you could have held down the **ctrl** key and used the arrow to **Copy** the contents to the next cell. Any of the ways will work just fine.

Finish out the values in row 10. You are welcome to use the **Fill Handle** if it will make it easier.

Save the file and leave it open for the next assignment.

Assignment 10.3 - Page 59

Move to the Attributes Worksheet of FILE2.xlsx.

We are going to work on most of the alignment attributes in this assignment. Complete each of the following activities: (for Excel 2007 - all commands are on the **Home Ribbon**.)

1) Use the **Alignment** section of the **Home Ribbon** to align cells A1 through A3 based on what is indicated in each cell. If it says **Right**, then **Right Justify**.

2) Use the **Format Cells** option to **Justify** cell A4.

3) Highlight A8 to H8. Use the **Format Cells to Center Across Selection**. This is found in the **Horizontal:** alignment.

4) Notice A12 and the sentence found there. The same sentence resides in A14 but you can't see it because there is a value in B14 that blocks the view. Click on A14 and use the **Format Cells to Wrap text**.

5) Modify the **Vertical:** alignment of cells A19 through A21, again based on the instructions in each cell.

Save the file and leave it open for the next assignment.

Assignment 10.4 - Page 60

Continue to use the FILE2.xlsx Workbook from your hard drive.

Move to the Borders Worksheet. Highlight A6 through F6 and **Fill** this portion with a light gray color. Do the same thing for A9:F9 and A12:F12. Again, all commands are on the **Home Ribbon**.

Now move to the **Fill** Worksheet. Use the same gray fill to emphasize rows 7 and 11.

Save the file and leave it open.

Assignment 10.5 - Page 61

Continue using FILE2 and move to the Borders Worksheet.

Starting with cell A20, set a border for each of the cells below based on the contents of that cell. You will need to go to the **Format Cells** window in order to get the top border.

Now, move to the Fill Worksheet and highlight cells B15 to N15. Place a heavy bottom border on these cells. This can be done using the **Borders** button on the **Home Ribbon**. If you would like, you can begin clicking on the small arrowed button in the bottom right of the **Font** section and click on the **Border** and **Fill** tab.

Save the file and leave it open for the next assignment.

Assignment 10.6 - Page 62

Continue to use FILE2.xlsx and move to the Borders Worksheet.

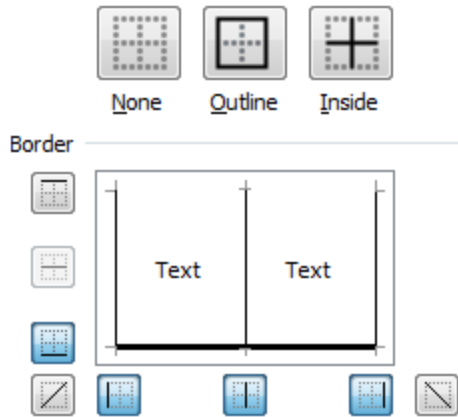
Highlight cells B4 to F13. Using the **Borders** button, set the **Border** for total borders on all cells.



Now highlight cells A4 to A13 and go to **Format Cells** and click on the **Border** tab. Set the borders as follows. Keep clicking until it is right.

No border on the far left.

Now highlight cells B3 to F3 and set the border to the following:



Make sure to have a heavy line across the bottom.

Save the file and leave it open for the next exercise.

Assignment 10.7 - Page 63

Continue using the Borders Worksheet on FILE2.xlsx.

Highlight cells B3 to F3. Change the **Alignment Orientation** to 90°. While this section is highlighted, go ahead and modify the horizontal alignment to center.

Save the file and leave it open for the next assignment.

Assignment 10.8 - Page 63

Continue using the Borders Worksheet on FILE2.xlsx.

Change the width of column A to 15. Highlight columns B through F using the **Column Heading** so the entire column is highlighted. Modify the width of these columns to 3.

Save the file and leave it open for the next assignment.

Assignment 10.9 - Page 65

Continue using FILE2.xlsx and move to the **Fill** Worksheet.

Narrow column N so that some of the numbers are no longer displayed. Leave it this way for your save.

Save the file and leave it open for the next assignment.

Assignment 10.10 - Page 65

Continue using the FILE2.xlsx Workbook and move to the Borders Worksheet.

Highlight rows 4 through 14 using the **Row Heading** and modify the **Row Height** to 20.

Save the file and leave it open for the next assignment.

Assignment 10.11 - Page 67

Continue using the Borders Worksheet on FILE2.xlsx.

Remove the **Gridlines** from the Borders Worksheet.

Save the file and leave it open.

Assignment 10.12- Page 69

Continue using the FILE2.xlsx Workbook and move to the Fill Worksheet.

Move the horizontal **Scroll Bar** all the way to the left so that column A is displayed. Split the screen between column A and column B.

Save the file and make sure it is in the FPUExcel folder on your hard drive. We are finished with this file now so you can **Close** it.

Email Assignment

I would like you to once more send an email to Dr. Swan. Provide responses to each item below in your email. You may attach a document to an email if you prefer.

1. How is the course going so far? Do you have any issues you cannot resolve?
2. How do you foresee using Excel in your classroom and in your daily life?
3. Do you sense a feeling of information overload both for you and for your students?
4. What do you see as the number one issue in education today? What do you feel is standing in the way of exceptional student learning?
5. Describe the type of student information system available at your school and what information do you find the most valuable?

Send this email to
rfswan@comcast.net

XI. Working with Worksheets

Assignment 11.1 - Page 70

Open a file named WORKSHEET from the FPUExcel folder on your hard drive.

Click on the February Worksheet tab at the bottom of the work area and add a Worksheet.

Remove the **Extra** Worksheet.

Save the file as WORKSHEET.xlsx in the FPUExcel folder. Make certain that is where it winds up.

Assignment 11.2 - Page 70

Continue using the WORKSHEET.xlsx file.

Change the name of the Worksheet you added in the previous exercise to January.

Save the file and leave it open.

Assignment 11.3 - Page 71

Continue using the WORKSHEET.xlsx file.

Rearrange May and June so that they are in order and add additional Worksheets and name them so there is a sheet for each month of the year.

Save the file and leave it open for one more assignment.

Assignment 11.4 - Page 72

Continue using the WORKSHEET.xlsx file.

Modify the **Header** so that it says the following, centered across the top of the page:

Learning Excel Worksheets

and the date is posted in the upper right corner. You will need to use the **Custom Header** option to accomplish this. Move to the **Page Layout Ribbon** and click on the arrowed button in the **Page Setup** section. There you will see the **Header** and **Footer** tab.

Modify the **Footer** so that the page number appears at the bottom of the page. Your call as to how and where it is displayed.

Go to **Print Preview** on the **File Ribbon** to make sure it works.

Save the file and **Close** it.

XII. Working with Ribbons

No assignments in this section

XIII. Printing Spreadsheets

Assignment 13.1 - Page 76

Open FILE2.xlsx from the FPUExcel folder on your hard drive.

Change the **Orientation** of this document to **Landscape**.

Save the file and leave it open for the next exercise.

Assignment 13.2 - Page 78

Continue to use FILE2.xlsx.

This assignment is in several parts.

1) Change all the margins in this file to .5".

2) On the **Page** tab, set it to **Fit to**: one page wide by one page tall.

3) On the **Sheet** tab, set the **Rows to repeat at top**: for the first three rows of the spreadsheet, which would include the column headings in the third row. (\$1:\$3)

Save the file and leave it open for the next exercise.

Assignment 13.3 - Page 79

Continue to use FILE2.xlsx.

Turn on the **Gridlines** in the **Page Setup**. **Save** the file and close it.

XIV. Working with Names

Assignment 14.1 - Page 81

Open FILE2.xlsx from the FPUExcel folder on your hard drive.

Create a **Name** for the area of the entire budget area that contains values on the Fill Worksheet. This would include all cells from B5 to M14. You can either type it in the name box or use the colorful little box. The **Refers to:** entry area should have the following:

```
=Fill!$B$5:$M$14
```

Name the area **BUDGET**.

Save the file and leave it open for the next assignment.

Assignment 14.2 - Page 81

Continue to use FILE2.xlsx.

Click on cell A35 and enter the following formula:

```
=SUM(BUDGET)
```

Save the file and close it.

XV. Managing Data

Assignment 15.1 - Page 83

Open FILE2.xlsx from the FPUExcel folder on your hard drive and move to the Fill Worksheet.

We have moved our account from Sears to Penneys and need to change the name where it appears in our spreadsheet. Use the **Replace** feature to change the name.

Save the file and close it.

Assignment 15.2 - Page 84

Open TEXT.xlsx from the FPUExcel folder.

Move to the first Worksheet, **Word List**, and use the spell check to correct the spelling errors found on that sheet.

Take a moment to consider how spell check might be able to help your students meet some of the academic standards.

Save the file as TEXT.xlsx into the FPUExcel folder on your hard drive. Leave it open for the next exercise.

Assignment 15.3 - Page 84

Continue using the TEXT.xlsx file from the FPUExcel folder on your hard drive.

Using the **Copy** and **Paste** feature, **Copy** cell D10 and **Paste** it into cell E10.

Save the file and leave it open.

Assignment 15.4 - Page 85

Continue using the TEXT.xlsx file.

Using the **Cut** and **Paste** feature, **Cut** the contents of D11 and **Paste** it into cell E11.

Save the file and leave it open.

Assignment 15.5 - Page 85

Continue using the TEXT.xlsx file.

We are going to copy the names in column D to the gender lists in columns E and F. You will need to use the **ctrl** key to accomplish this so that you copy and not move the data.

Drag each name from column D to the proper column depending upon the gender of their name. Don't worry about alphabetical unless you feel so inclined. This sure makes moving data around a breeze.

Save the file and close it.

XVI. Linking

Assignment 16.1 - Page 86

Open the file LINKING.xlsx found in the FPUExcel folder.

Move to the first Worksheet, Bud 4175. Click in cell D10 and link it so that the current balance D7, appears in this cell. (=D7)

Save the file and leave it open for the next assignment.

Assignment 16.2 - Page 86

Continue using the LINKING.xlsx file.

We are going to create a summary of the two budgets we are managing. I have already created a Summary Worksheet so move to that one at this time.

We want to be able to check on the remaining balances in the categories listed in each of the two budgets. Click on cell B4 and hit the equal sign key (=). Move to the first Worksheet, **Bud 4175**, find cell D4 which contains the remaining balance for sub salaries for that budget. Click once in D4 and hit the **Enter** key.

Save the file and leave it open.

Assignment 16.3 - Page 87

Continue using the LINKING.xlsx file.

Move to the Summary Worksheet and click on cell C4. We want the remaining balance for Sub Salaries in this cell which would be found in cell D4 over on the second Worksheet, Bud 4196. Rather than using the method we used above, we are going to type in the link. Enter the following formula into cell D5:

='Bud 4196'!D4

Press **Enter** to complete the action.

I want you to finish this spreadsheet by finishing the remaining links. Start with column B first and link cells B5 and B6 to the corresponding cells on the first Worksheet. Add a sum at the bottom of that column in cell B7.

Now for some additional magic. Since the cells are in order by column, we can use the **Fill Handle** to do the same thing. Click on cell C4, on the Summary Worksheet, and drag the **Fill Handle** down to C6. Works like a champ.

Now, add a sum in C7 and also add sums to the right of each row of data.

Save the file and close it.

XVII. Options

Assignment 17.1 - Page 89

Open the file named WORKSHEET.xlsx in the FPUExcel folder on your hard drive.

Move to the first Worksheet of the file and open the **Options**. In the **General** section, make certain you have entered your name to **Personalize** your copy of Office. If you are using a school computer, it might be wise to just move right along and not gain the ire of your IT person.

Save the file and leave it open.

Assignment 17.2 - Page 89

Continue to use the WORKSHEET.xlsx file.

Change the default number of Worksheets to 2 instead of 3.

Save the file and close it.

Assignment 17.3 - Page 89

Open Excel using the FILE1.xlsx file and click on the **Formulas** Worksheet.

Change the Calculation to Manual and go in and change some of the values. Notice that the Sum formula is not working. Now either select Calculate Now or press F9.

Close the file but do not save it.

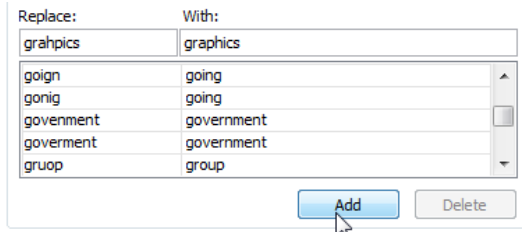
Assignment 17.4 - Page 90

Go back and open the WORKSHEET.xlsx file.

Open the Options screen and select Proofing on the left. IN the AutoCorrect section at the top, first notice that it will automatically fix two capital letters, it will automatically capitalize a day of the week, etc.

Just below that section, I want you to add an AutoCorrect. In the first box, type “grahpic” and in the second box, “graphic”. Click the Add button at the bottom.

Now, click on the **Home Ribbon** and click on any cell and enter “grahpic”. It should automatically correct the error.

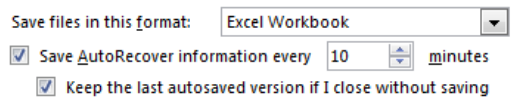


Simply leave the file open for the next assignment.

Assignment 17.5 - Page 90

Continue using the [WORKSHEET.xlsx](#) file.

Open the **File Ribbon**, go to **Options** and click on the **Save** option on the left. Check to see where the default location for your file is located. You can also change the time between **Auto Recover** if you like. I recommend you use the following options:



Leave the file open for the next assignment.

Assignment 17.6 - Page 91

Continue using the [WORKSHEET.xlsx](#) file.

Go to the **Display Options for this Worksheet** section of the **Advanced Options** screen. Hide the **Horizontal Scrollbar** and click OK. Click on **Home** and notice what has happened to your screen. Go back and turn it back on.

Leave the file open for the next assignment.

Assignment 17.7 - Page 91

Continue using the [WORKSHEET.xlsx](#) file.

I want you to add a **Close** button up on the **Quick Access Bar**. If you do not have a **New Page** and **Open** button, add those as well. Also, make sure you have a **Print** button.

Save the file and close it.

XVIII. Draw Tools

Assignment 18.1 - Page 94

While you are working through this section, you might decide to hide the **Gridlines**. This is done on the **Options/Preferences View** dialog box. You do not need to remove them to complete the assignments, it simply is your choice.

Open the file GRAPHICS.xlsx from FPUExcel folder on your hard drive.

Make sure the **Insert Ribbon** is displayed. Once you have an **Object** drawn, you will see the Draw Tools Ribbon.

Save the file and leave it open for now.

Assignment 18.2 - Page 95

Continue using the GRAPHICS.xlsx file. Move to the first Worksheet, Basic Shapes.

Click **Shapes** and then on the **Line Tool** and draw a simple line somewhere on the Worksheet.

Save the file and leave it open.

Assignment 18.3 - Page 95

Continue using the GRAPHICS.xlsx file. Move to the first Worksheet, Basic Shapes.

Click on the line you drew in assignment 18.2 so that it is selected (**Handlers**). Change the line color to a color of your choice.

Save the file and leave it open.

Assignment 18.4 - Page 96

Continue using the GRAPHICS.xlsx file. Move to the first Worksheet, Basic Shapes.

Draw a second line on the Worksheet and change the color to a new color found on the **More Line Colors...** dialog box.

Save the file and leave it open.

Assignment 18.5 - Page 96

Continue using the Basic Shapes Worksheet on the GRAPHICS.xlsx file.

Change the line thickness of each of the three lines to a different thickness.

Save the file and leave it open.

Assignment 18.6 - Page 97

Continue using the Basic Shapes Worksheet on the GRAPHICS.xlsx file.

Change the color of one of the lines using the **More Lines...** option.

Save the file and leave it open.

Assignment 18.7 - Page 97

Continue using the Basic Shapes Worksheet on the GRAPHICS.xlsx file.

Change one of the lines to a **Long Dash**.

Save the file and leave it open.

Assignment 18.8 - Page 97

Continue using the Basic Shapes Worksheet on the GRAPHICS.xlsx file.

Change one of the lines so that it has an arrow at one end only.

Save the file and leave it open.

Assignment 18.9 - Page 98

Continue using the [Basic Shapes](#) Worksheet on the [GRAPHICS.xlsx](#) file.

Change one of the lines so that it has an arrow at each end using the **More Arrows...** option.

Move the lines so that they are in the upper left corner of the Worksheet. If they are too large, make them a little shorter.

Save the file and leave it open. If at any time you need to quit, make sure to save the file as **GRAPHICS** in the **FPUExcel** folder on your hard drive. This is where it should be going anyway.

Assignment 18.10 - Page 99

Continue using the [Basic Shapes](#) Worksheet on the [GRAPHICS.xlsx](#) file.

Use the **Rectangle Tool** to draw a rectangle on the Worksheet. Once you have drawn the rectangle, use the **Handlers** to modify the size and shape of the rectangle.

Save the file and leave it open.

Assignment 18.11 - Page 99

Continue using the [Basic Shapes](#) Worksheet on the [GRAPHICS.xlsx](#) file.

Draw two more rectangles. On one of them, let's do something different. Hold down the **Shift** key while you draw the rectangle. This will force it to be a square. Neat, eh?

Practice moving the rectangles around on the screen but make sure to grab the line and not a **Handler** unless your intent is to resize it.

Save the file and leave it open.

Assignment 18.12 - Page 100

Continue using the [Basic Shapes](#) Worksheet on the [GRAPHICS.xlsx](#) file.

Select one of the rectangles you drew and change the **Fill** to a color.

Save the file and leave it open.

Assignment 18.13 - Page 100

Continue using the [Basic Shapes](#) Worksheet on the [GRAPHICS.xlsx](#) file.

Select one of the remaining rectangles and change the **Fill** to **No Fill**. Notice the fact that you can now see the **Gridlines** on the Worksheet. The rectangle is transparent.

Save the file and leave it open.

Assignment 18.14 - Page 101

Continue using the [Basic Shapes](#) Worksheet on the [GRAPHICS.xlsx](#) file.

Select the final rectangle and fill it with a **Gradient** that uses two colors. Your choice here. Make it look wild!

Save the file and leave it open.

Assignment 18.15 - Page 101

Continue using the [Basic Shapes](#) Worksheet on the [GRAPHICS.xlsx](#) file.

Draw another rectangle and **Fill** it with a **Texture**.

Save the file and leave it open.

Assignment 18.16 - Page 102

Continue using the [Basic Shapes](#) Worksheet on the [GRAPHICS.xlsx](#) file.

Draw a fifth rectangle and **Fill** it with a picture. Use the **Fill** and go down to **Picture**.

There are a number of pictures in the FPUExcel folder on your hard drive or feel free to use any picture that you might have.

Before we finish here, change the line size and line color of each of the rectangles.

Save the file and leave it open for the next exercise.

Assignment 18.17 - Page 102

Continue using the Basic Shapes Worksheet on the GRAPHICS.xlsx file.

Draw two ellipses on the Worksheet, one using the **Shift** key to get a circle. Fill each with a color, pattern, texture, picture of your choice. Change the line size and line color of at least one of the ellipses.

Save the file and close it for now. We will open it right back up but it is a good idea to make sure it is fully saved for now.

Assignment 18.18 - Page 103

Open the file GRAPHICS.xlsx from the FPUExcel folder on the hard drive and move to the AutoShapes Worksheet.

This will be a little tricky at first but with practice you should be able to select an **AutoShape** with ease. Select any of the **Basic Shapes**, one that you find interesting, and draw a shape in the upper left corner of the Worksheet. Play around with resizing the shape and moving it around the Worksheet. When you are finished, put it back in the upper left corner in the cell labeled **Basic Shapes**.

Save the file and leave it open.

Assignment 18.19 - Page 103

Continue on the AutoShapes Worksheet of the GRAPHICS.xlsx file.

Select a **Block Arrow** and draw a shape in the upper right cell labeled **Block Arrows**.

Resize it and move it around for practice but make sure it resides in the cell when you are finished.

Save the file and leave it open.

Assignment 18.20 - Page 103

Continue on the AutoShapes Worksheet of the GRAPHICS.xlsx file.

Select a **Flowchart** graphic and draw it in the lower left cell and select a **Stars and Banners** object and draw it in the lower right cell.

Now, go back and work with each of the four **AutoShapes** you have just drawn. Change the line thickness, the line color, and change the **Fill** on each as well. Try using a picture in the FPUExcel folder or select one of your own. Make each one different.

Save the file and leave it open.

Assignment 18.21 - Page 105

Continue on the AutoShapes Worksheet of the GRAPHICS.xlsx file.

Select any two objects on this Worksheet and add a **Shadow** to those graphics. Move back to the **Basic Shapes** Worksheet and add a **Shadow** to one of the graphics on that page.

Save the file and leave it open.

Assignment 18.22 - Page 105

Continue using the GRAPHICS.xlsx file and move to the Shadow Worksheet.

Use the **Shadow Settings** to modify the shadow on all three of the objects on that Worksheet. You can modify the **Fill** if you like but make sure to change the **Shadow** color as well as the horizontal and vertical length of the shadow.

Save the file and close it to make sure that everything is saved correctly.

Assignment 18.23 - Page 106

Open the GRAPHICS.xlsx file found in the FPUExcel folder on your hard drive. Move to the 3-D Worksheet.

Add a **3-D** option to the graphic in the left cell. Draw a few more smaller objects under this one and add the **3-D** option to each of them.

Save the file and leave it open.

Assignment 18.24 - Page 106

Continue using the 3-D Worksheet of the GRAPHICS.xlsx file.

Select the object in the right cell and move to **3-D Settings** to modify this object. Draw several additional objects in this box and play around with some of the **3-D Settings**. Some really wild stuff here.

Save the file and leave it open.

Assignment 18.25 - Page 107

Continue to use the GRAPHICS.xlsx file and move to the Text Box Worksheet.

Add two **Text Boxes** on this sheet and type in a paragraph in each box. Type anything that comes to your mind. You can even copy and paste from something you have typed in another program. Change the shape and location of each **Text Box**. Notice how the words wrap within the confines of the box.

Save the file and close it.

Assignment 18.26 - Page 108

Open the file GRAPHICS.xlsx from the FPUExcel folder on your hard drive and move to the Word Art Worksheet.

Open a new **Word Art** object and enter your first and last name. Rotate your **Word Art** using the rotation tool on the **Word Art Tool Palette**.

Save the file and leave it open.

Assignment 18.27 - Page 108

Continue using the Word Art Worksheet.

Click on the **Work Art** you created earlier and **Copy** and **Paste**. This will give you a second copy of your object. Use the **Word Art Shape Tool** to change the shape of the second copy.

Save the file and leave it open.

Assignment 18.28 - Page 109

Continue using the Word Art Worksheet.

Resize one of the **Word Art** from Assignment 18.27 so that it fills about 1/4 of the Worksheet. If you have a little yellow diamond, reshape the curve.

Save the file and leave it open.

Assignment 18.29 - Page 110

Open the GRAPHICS.xlsx file and move to the Grouping Worksheet.

Select the three objects you find there and group them so they act as one.

Create three additional graphic objects in the remaining space and group them as well.

Save the file and leave it open.

Assignment 18.30 - Page 111

Continue using the [GRAPHICS.xlsx](#) file but move to the [Layering](#) Worksheet.

You will find three objects on this Worksheet. You need to do a little work before you can use them to create the drawing below. You must first turn off the **Fill** and change the line to **No Line**. You can select all three and do them all at once by holding down the shift key to select.

Once you have made the modifications, you are now ready to layer the images so you can create the image below. Change the layers and position the images so that they appear as shown below. Once you have them in position, add some people from the **Clip Art**, or any other source, and place them behind the car in front of the church.



Save the file and leave it open.

Assignment 18.31 - Page 111

Continue to use the [GRAPHICS.xlsx](#) file and move to the [Nudging](#) Worksheet.

Select the graphic on the right and use the left **Arrow** key to nudge it toward the image to the left so that the line that separates them become one.

Save the file and leave it open.

Assignment 18.32 - Page 112

Continue using the [GRAPHICS.xlsx](#) file but move to the [Aligning](#) Worksheet.

Select the five graphics to the left of the cell and **Align** them to the **Left**. Select the five objects in the center and **Align** them to **Center**. Select the final five objects on the right side of the cell and **Align** them to **Top** and **Distribute Horizontally**.

Save the file and leave it open.

Assignment 18.33 - Page 113

Continue to use the [GRAPHICS.xlsx](#) file and move to the [Rotating](#) Worksheet.

Select the arrow in the upper left and rotate so that it points in a different direction. Make sure it does not point at any of the 90° angles.

Save the file and leave it open.

Assignment 18.34 - Page 114

Continue to use the [Rotating](#) Worksheet.

Select one of the arrows and flip it horizontally. Relocate the arrows and using the Nudge feature, move them so their tips touch. Tender, isn't it?



Save the file and leave it open.

Assignment 18.35 - Page 114

Continue using the [GRAPHICS.xlsx](#) file and move to the [Resizing](#) Worksheet.

Resize the car you see here into three different shapes. Make one low and sleek, turn another into a Volkswagen by making it short, and resize the third so that it is a smaller version of itself.

Save the file and leave it open.

Assignment 18.36 - Page 116

Continue to use the [GRAPHICS.xlsx](#) file and move to the [Image Control](#) Worksheet.

You will find a beautiful picture of the Golden Gate Bridge. If you have never been to San Francisco, this is a sight to behold.

First, change the image to **Grayscale**. Take a good look at the image. If you were going to print this image on a regular laser printer, this is how you would want to do it.

Now, change the image to **Watermark or Washout**. You can change either color or grayscale to **Watermark** but I happen to prefer grayscale.

Save the file and leave it open.

Assignment 18.37 - Page 121

Continue using the [GRAPHICS.xlsx](#) file and move to the [Clip Art](#) Worksheet.

Create a single picture here by adding at least three **Clip Art** images to the Worksheet.

Save the file and leave it open.

Assignment 18.38 - Page 122

Continue using the [GRAPHICS.xlsx](#) file and move to the [Cropping](#) Worksheet.

Crop this image so the only portion remaining is the man sitting at the desk.

Remember, **Cropping** does not change the size of the graphic and that is what I am going to be looking at.

Save the file and close it. We are finished with the [GRAPHICS](#) file.

XIX. Sort

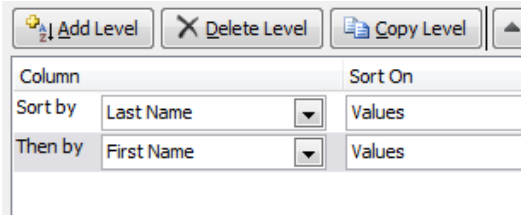
Assignment 19.1 - Page 125

Open the [SORT.xlsx](#) file from the [FPUExcel](#) folder on your hard drive.

On this Worksheet you will find two identical lists of students with lots of information on each. We are going to **Sort** the first group correctly and then see how it works if we do not.

Highlight rows 1 through 21 and pull down **Sort** to **Custom Sort...** In the top **Sort by:** entry area, select **Date of Birth**. Click **OK** and you now have a list of students by age.

We are not going to leave it like that. I want you to alphabetize the students in the top list so highlight rows 1 through 21 again and this time we need to do a two level **Sort**. **Sort** first by **Last Name** and then by **First Name**.



We do it this way in case two students share the same last name.

Now we move to the bottom list. First of all, click on cell B27. Pull down to **Custom Sort** and you will see that Excel has done the selection for you. Pretty smart, eh? Cancel out of that and highlight cells A26 through A45. Pull down **Sort** to **Z to A** to sort in reverse alpha, and examine the warning message very carefully. Click on the **Continue with the current selection** and click **OK**. Notice how you messed up your data big time. Be careful.

Save the file and close it.

XX. Advanced Formulas

Assignment 20.1 - Page 126

Open the file [ADVANCED.xlsx](#) from the [FPUExcel](#) folder on your hard drive.

Now, move to the first Worksheet, [If](#). We are going to complete three examples of the **IF** function.

In the first, click on cell B3 and enter the following formula:

```
=IF(B2>9000,B2*.10,B2*.5)
```

Play around with the value in B2. If the number entered is greater than 9,000, then the amount in B3 will be 10% of B2. If it is less than 9,000, then the amount in B3 will be 5% of B2.

Let's move to the next example. Click on cell B8 and enter the following formula:

```
=IF(B7>3.99,B6,0)
```

Now, play around with the number of hours in B7. In our district, if anyone works four hours or more, they are entitled to medical benefits. Try 2 hours and 6 hours.

Now for the last example, which is a little more tricky in that it involves text. Click on cell B12 and enter the following formula:

```
=IF(B11="m","male","female")
```

Now change cell B11 to "f" and then back to "m". Notice the changes in cell B12.

Think through the logic here. It will come to you.

Save the file and leave it open for the next exercise.

Assignment 20.2 - Page 127

Continue using the file ADVANCED.xlsx and move to the Lookup Worksheet.

We are going to begin the makings of a gradebook program. Move down to A20 where you find the words Grading Scale and enter the following information:

| | A | B | C |
|----|---------------|---|---|
| 19 | | | |
| 20 | Grading Scale | | |
| 21 | 50 | 0 | |
| 22 | 60 | 1 | |
| 23 | 70 | 2 | |
| 24 | 80 | 3 | |
| 25 | 90 | 4 | |
| 26 | | | |

We are now going to enter the formula for calculating a numeric grade in column C. The numeric grade is based on the 4=A, 3=B, 2=C, etc. Move to cell C3 and enter the following formula:

```
=VLOOKUP(B3,A21:B25,2)
```

Test this formula by entering several values into B3. Try 81, 80, and 79 to see if it changes to 2 when you hit 79. If it does, you know the formula is working correctly.

We now need to copy this formula down to the nine cells below, but we have a problem. We need to anchor the lookup range so that it is an absolute reference while we leave column B as relative to the row. So, modify the formula in cell C3 to the following:

```
=VLOOKUP(B3,$A$21:$B$25,2)
```

Notice that we did not anchor B3. Now, using the **Fill Handle**, copy C3 down to C12. Enter some values into column B to see if it works correctly.

Save the file and leave it open.

Assignment 20.3 - Page 128

Continue using the Lookup Worksheet.

We are going to move over to column E and calculate the ranking of the scores. Start by highlighting cell E3. Enter the following formula:

```
=RANK(B3,$B$3:$B$12,0)
```

Notice we have added the dollar signs to anchor the reference to the range (B3:B12) which contains the scores. Also notice we put a 0 at the end so the ranking would be descending - highest score to lowest score. Copy cell E3 down to E12 and VIOLA!

Let's finish off a few more ideas on this sheet before we move on. We want Excel to tell us the letter grade of the students, not just a numeric grade. We are going to problem solve as we move through this concept.

We are going to do it a more difficult way first so we can learn how formulas can work together. It is possible to use the CHOOSE function to establish letter grades, but there is a problem which will surface in a moment. Move to cell D3 and enter the following formula:

```
=CHOOSE(C3,"F","D","C","B","A")
```

The idea here is to select the value from the list based on the value in C3. The problem is, CHOOSE does recognize a 0. It starts with the number 1. So modify the formula to the following by simply removing the "F" from the list:

```
=CHOOSE(C3,"D","C","B","A")
```

Try changing the grade in cell B3. This will work just fine as long as the grade is greater than 59, which is the break point between a D and an F. Since it cannot recognize an F, there is no way to get an F into that cell using the formula in this way. We need a way to take into consideration the 0 numeric grade.

We are going to use a combination of functions to accomplish our goal. In the previous section we worked with the IF function and we

are going to resurrect it to solve our problem. The situation is the following: if the grade is a 0 then we want it to put an F in the letter grade spot, if not, we want it to use the CHOOSE formula to figure out the correct grade. Modify cell E3 to the following:

=IF(C3=0,"F",CHOOSE(C3,"D","C","B","A"))

You only need add the boldface items in the editing window at the top of the Worksheet. This formula now says IF C3 equals 0, then put an F in the cell. If not, then use the CHOOSE formula to select D, C, B, or A from the list. You don't need any dollar signs on this formula since we are not referring to any other fixed range so cells. Copy from E3 to E12 and play around with the scores in column B. It would be much easier to read if you centered the letters in column E.

Now for the easy way. Move down the cell D20 and enter the following information:

| | D | E |
|----|----------------------|---|
| 20 | Grading Scale | |
| 21 | 50 | F |
| 22 | 60 | D |
| 23 | 70 | C |
| 24 | 80 | B |
| 25 | 90 | A |

Now, move up to cell F3 and enter the following formula:

=VLOOKUP(B3,\$D\$21:\$E\$25,2)

Notice we refer over to B3 which contains the percentage score, not the numeric grade. Copy the formula from F3 to F12. VIOLA!

Save the file and leave it open.

Assignment 20.4 - Page 129

Continue using the ADVANCED.xlsx file and move to the PMT Worksheet.

We are going to calculate the payment of a loan and then lay out the payment schedule for the first year. While we did this earlier in the class. I want to repeat the exercise to make sure it sinks in.

To begin with, enter the following information into the cells starting with B3:

| | A | B |
|---|----------------------------|--------|
| 1 | | |
| 2 | | |
| 3 | Loan Amount | 19600 |
| 4 | Interest Charged | 0.0426 |
| 5 | Number of Monthly Payments | 48 |

In cell B4, enter .0426 and click on the **Percent** button on the **Toolbar**. You will also have to increase the decimals to two.

Now we move to cell B7 for the formula. Enter the following:

=PMT(B4/12,B5,B3)

You can now play around with the numbers in B3 to B5 and see what would happen to your loan payment.

Now, we are going to depart from these numbers to cover a related topic. Highlight from A11 to A22 and **Fill** down and over to **Series...** We want to increment the **Fill** by month. Now move over to cell D10 and enter 18000. Let's say we make a payment of 500 per month. Enter 500 in cell B11.

If our interest rate were 4% per year it would require 4/12 to calculate the per month interest. We pay this amount on the previous month's unpaid balance, which at this point resides in cell D10. Move to cell C11 and enter the following:

=D10*(.04/12)

We put the parenthesis to force Excel to calculate the monthly interest rate prior to calculating the interest due. So, we are going to pay \$60 in interest for the first month.

We now need to calculate our balance after making our January payment. We must subtract the interest from the payment and subtract the remaining amount from the unpaid balance. Move to cell D11 and enter the following:

=D10-(B11-C11)

Now, drag from B11 to D22 and use the **Fill Down** command. WOW. Well there you go. Works like a champ.

Save the file and close it. I think your brain needs a little breather after this last section.

Assignment 20.5 - Page 130

Open the ADVANCED.xlsx file from the FPUExcel file on your hard drive and move to the Text Worksheet.

We are going to play around with a few text functions found in Excel. To begin with, type your last name into G1 and your first name into H1.

Let's begin by calculating the length of each cell with text. Move to cell B3 and enter the following formula:

=LEN(B1)

The number is 16 because the space is a character and is counted along with all the other letters. Hold down the **ctrl** key and drag cell B3 to D3. Continue to hold down the **ctrl** key and drag D3 to E3 and E3 to G3 and G3 to H3. Neat!

Move to cell B5 and using the LEFT function, have Excel display the word Fern in that cell. The formula would look like this:

=LEFT(B1,4)

In cell D5 have Excel display Mic using the LEFT function. Try one with your name in either cell G3 or H3

Now use the RIGHT function to have Excel display "key" in cell D7. Try one with your name in G7 or H7.

Using the MID function, have Excel display the word "and" in cell B9. The formula would look like this:

=MID(B1,5,3)

Play with your name and see if you can't find a word using the MID function.

Now onto the big word. We will use this with your first and last name just for practice. Move to cell G11 and enter the following:

=H1&" "&G1

In cell G12, enter the following:

=G1&", "&H1

Save the file and close it.

I want you to take a look at another potential use for Excel. I have included a file named SPELLINGpractice.xlsx. Take a good look at the formulas found in column C. Think about this for having students practicing their spelling words. This works. No assignment. Just want you to consider and learn.

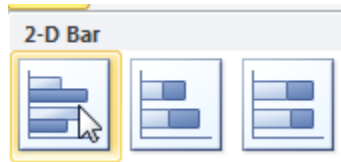
XXI. Charting

Assignment 21.1 - Page 133

It should become quite obvious as you work through this next section on charting that this feature has some powerful application in helping students achieve academic standards in so many subject areas. While math is identified specifically, it should be quite clear how it can be used in science and social studies to analyze data. As you work, keep in the back of your mind how this can impact your classroom, not only in achievement of the part of your students, but on how you might use this to track and report student growth toward standards.

Open the file [CHARTING.xlsx](#). Make sure you are on the [Chart 1](#) Worksheet.

Highlight cells A1 to E5 and go to the **Insert Ribbon**. Select a horizontal **Bar** chart and select the first sub-type on the top row. The other options would not make sense.



To demonstrate what I mean by not making sense, you might click on several of the sub-types. Some of them simply do not make sense.

Let's not go any farther with this.

Save the file and leave it open.

Assignment 21.2 - Page 136

Continue using the [CHARTING.xlsx](#) file from the [FPUExcel](#) folder on your hard drive.

Stay on Worksheet [Chart 1](#) for a moment. You already have one chart on this page. Make sure it is small enough for one more chart to fit on the Worksheet.

Make a **Line Chart** out of the same information. Use the **Insert Ribbon** to accomplish this. Take a look at the two charts. One makes a lot more sense out of the information than the other.

Save the file and move to the [Pie Chart](#) Worksheet.

Make a **Pie Chart** out of the information found on this screen. Again, you can add any embellishments you wish

Save the file and leave it open for the next exercise.

Assignment 21.3 - Page 136

Continue using the [CHARTING.xlsx](#) file and move to the [Chart 2](#) Worksheet.

Notice that the series of data on this Worksheet is in columns instead of rows. Highlight cells A1 through E5.

Go ahead and select a **Line Chart** at this time. Notice that the data now makes no sense at all. Excel is smart but not that smart. It cannot determine the proper direction of the data. So, in the **Data** section of the **Chart Tools Design Ribbon**, click on the **Switch Row/Column** and like magic, it makes sense.

If you look closely at your data, you will see a blue line which outlines your data range. We are only interested in what happens to American Airlines and Shell. So to remove the other two we pull the line in from the left on column and pull it in one line from the right so that the blue box encompasses only Shell and American Airlines. Make sure you have the right **Row/Column** selected.

Save the file but leave it open.

Assignment 21.4 - Page 138\

Continue using the [CHARTING.xlsx](#) file and move to the Worksheet [Chart 3](#).

You will find all the buttons you need to accomplish the rest of this chapter on the **Chart Tool Ribbons**. Look and you will find them.

We are going to go back and chart the stock prices again but this time, we are going to add some enhancements. Highlight A1 to E5 and create a Column chart. Do something fun like 3-D or such.

Go to **Chart Tools Layout Ribbon** and in the **Title** area, select one of the options and enter "Stock Market Trends" and then label the X-axis (Vertical) as "Months" and the Y-axis (Horizontal) as "Share Prices".

Simply move on to the next assignment.

Assignment 21.5 - Page 139

Continue using [CHARTING.xlsx](#) and stay on Worksheet, [Chart3](#).

Have some fun here. Change the colors and style of this chart. Make it come alive.

Continue without saving or closing.

Assignment 21.6 - Page 140

Continue using [CHARTING.xlsx](#) and stay on Worksheet, [Chart3](#).

Click on some of the elements and change the **Fill**. Be creative. This is your time to play.

Continue without saving or closing.

Assignment 21.7 - Page 140

Continue using [CHARTING.xlsx](#) and stay on Worksheet, [Chart3](#).

Resize the chart to your liking and move it to the spot of your choice.

Do not close the window or quit the application. Move onto the next assignment.

Assignment 21.8 - Page 146

Continue using [CHARTING.xlsx](#) and stay on Worksheet, [Chart3](#).

Draw a few arrows and circles to emphasize items on your chart. Don't forget to **Fill None** so you do not cover up your display.

There are two final activities for this section and both are to be completed using the [CHARTING.xlsx](#) file.

First of all, I would like you to chart the testing scores for the students on the [Student Worksheet](#). I will give you a lot of latitude here to make your own decisions. Understand that we are charting achievement test scores of students over a five year period so make the chart reflect that information.

Save the [CHARTING.xlsx](#) file.

Lastly, move to the [Your Chart Worksheet](#) and I would like you to create a chart of your own making. Decide on the type of data and the type of chart. Show off your skills here in terms of colors, fills, values, labels, legends, etc.

Save the file and you may close it. We are finished with the [CHARTING.xlsx](#) file.

XXII. Excel as a Database

A note before we begin this next section. There are some assignments in this section that I will not be able to verify your activity. While skipping over any of these sections would save you time in this course, it will result in missing pieces. Excel can be very powerful in the use of Lists as a database so be very careful to do the assignment as stated. In the long run, you will benefit.

Assignment 22.1 - Page 143

Open the DATABASE.xlsx file from the FPUExcel folder on your hard drive.

The first Worksheet of this file is titled Your Own List. I would like you to begin a database using this Worksheet. Decide for now the type of database you want to create. Do you want to keep track of cassette tapes or CDs? Home inventory? School inventory? Books? A list of students? The type of database is important because you must decide what fields you want to create. On the first row, create three field names. Then add at least four records for each of the three fields. You are welcome to make something up if you like. I just want you to have the experience.

Once you have entered the data, go to the **Insert Ribbon** and create a **Table**, then click on the **Form** button on the **Quick Access Toolbar**. You may need to go and add that button if it is not there.

Save the file making sure it is saved in the FPUExcel folder on your hard drive. Leave it open for the next assignment.

Assignment 22.2 - Page 144

Continue using the DATABASE.xlsx file. Move to the Students 1 Worksheet.

Highlight A1 to G21 and click on the **Form** button. Move through the records you find there.

Close the window when you are finished and move to the next assignment.

Assignment 22.3 - Page 145

Using the Students 1 Worksheet, open the **Data Form** and add at least three additional records. Just make up some names and addresses. Then, remove two that were there before. You should wind up with a total of 21 records. This is what I will be looking for.

Save the file and leave it open for the next assignment.

Assignment 22.4 - Page 146

Continue using the DATABASE.xlsx file and stay on the Students 1 Worksheet.

Sort the list by Last Name only.

Save the file and leave it open.

Assignment 22.5 - Page 148

Continue using the DATABASE.xlsx file and move to the Students 2 Worksheet.

First of all, convert this data to a **Table** or **List**.

Sort this file alphabetically by City. Make sure that City is your first sort.

Save the file and leave it open for the next assignment.

Assignment 22.6 - Page 148

Move to the Filter 1 Worksheet.

Using the **AutoFilter**, select all those records that live in Sanger.

Save the file and leave it open.

Assignment 22.7 - Page 150

Move to the Filter 2 Worksheet.

Select all those students that have allergies. You will be looking for all the non-blank cells.

Save the file and leave it open.

Assignment 22.8 - Page 150

I want you to complete **Your Own List**. Add additional fields so there are a total of 6 fields. Add records so they total 10. You are welcome to make up information. **Filter** the information on one of the fields and **Sort** the remaining data by a field of your choice.

Save the file and close it. We are finished with it.

XXIII. Annotating Cells

Assignment 23.1 - Page 151

Open the file FILE2.xlsx from the FPUExcel folder on your hard drive. Move to the Fill Worksheet.

Select any three cells and add a **Comment** to those cells. A good example might be food costs in April if you have your family coming over for Easter. Make up some comments for any three cells.

Save the file and leave it open.

Assignment 23.2 - Page 152

Continue using the FILE2.xlsx file.

Switch it to **Show Comments** to make sure all three **Comments** are displayed.

Save the file and close it.

XXIV. Using Templates

Assignment 24.1 - Page 153

Open a brand new Excel file.

Create some form of template that you might need to use in the future. It might be a book checkout form, a candy sale sheet, a student checklist, a permission slip, whatever...

Save this as a **Template** document in the FPUExcel folder. Name the file TEMPLATE.xlt. **Close** the file because we are going to use it in the next assignment.

Assignment 24.2 - Page 154

While in Excel, go to **Open...** and change the **List Files of Type:** to **Templates**. Make sure you are in the FPUExcel folder and your TEMPLATE.xlt file should be displayed. **Open** it.

Notice that the filename has been changed to **Template1**. Add some information to this file.

Save it now as a standard Excel Workbook file to the FPUExcel folder. Use the name TEMPLATE1.xlsx. **Close** the file.

XXV. Protecting Your Spreadsheet

Assignment 25.1 - Page 156

Open the file PROTECT.xlsx from the FPUExcel folder on your hard drive.

We are going to protect the formulas on the Formula Worksheet. Since the default is locked, we need to highlight cells B4 to F11 and go to **Format Cells...** and click on the **Protection** tab. Notice the check in front of **Locked**. Click once to remove this check and click **OK**.

Save the file and leave it open since we must finish the process with the next assignment.

Assignment 25.2 - Page 156

Continue using the PROTECT.xlsx file.

On the Formula Worksheet, click on **Protect Sheet** on the **Review Ribbon**. Leave all the checkmarks as they are but add your own **Password**. I should not be able to get into this file.

Once you have closed the dialog window, change some of the values in the cells B4 to F11. Now try and add a value into a cell that contains a formula, such as G9.

Save the file and **Close** it.

XXVI. Working Collaboratively

Assignment 26.1 - Page 158

Open FILE1.xlsx from the FPUExcel folder on your hard drive.

Enable the **Track Changes** option and then go in and make some changes.

Save the file and **Close** it. When I open it, it will track any modifications I make to it.

Assignment 26.2 - Page 159

Open the file DATABASE.xlsx from the FPUExcel file which contains students' names and addresses.

Click on the **File Ribbon** and go to **Save As...** and set the **File Type** to **Text (Tab Delimited)**. **Save** this file as TEXTFILE.txt in the FPUExcel folder.

Now, use any word processing program you have, the most likely candidate would be Word, and open the TEXTFILE.txt from the FPUExcel folder on your hard drive. Change the font to very small and notice how the data is laid out. Make sure to be aware of the **File Type** or you may not see the file listed.

Save this word processing file as WORDDATA.doc in the FPUExcel folder on your hard drive.

Assignment 26.3 - Page 159

There are two files that came with this course, that contain student information. One file contains the students in grades 6 and 7 and is titled GRADES67.xlsx. The other file contains the students from grades 8 and 9, titled GRADES89.txt. The GRADES89.txt file is a text file while the GRADES67.xlsx is an Excel file.

Open the Excel file titled GRADES67.xlsx. Now open the GRADES89.txt

file. Highlight all the rows that contain data in the GRADES89.txt file and **Copy** to the **Clipboard**. Now move over to the GRADES67.xlsx file. Click in the first cell in column A under the last line of data. Click on **Paste** and you have combined the two sets of data.

Save this new GRADES67.xlsx file as GRADES.xlsx in the FPUExcel folder on your hard drive. You may **Close** this file.

Assignment 26.4 - Page 170

Open the file HYPHER.xlsx.

Move to the Hyper Worksheet and click on the cell that contains NASA. Go to **Insert** and click on **Hyperlink...** and enter the following URL in the top window:

<http://www.nasa.gov>

Now, click on the White House and enter the following **Hyperlink**:

<http://www.whitehouse.gov>

And finally, click on the Fresno Pacific Web Page cell and enter the following URL **Hyperlink**:

<http://www.fresno.edu>

We are going to link to one **Named** range. I have already prepared a **Name** on the second Worksheet titled FPU. Click on the cell which contains Go to Fresno Pacific and click on **Hyperlink...** Move to the bottom window and click on the **Select...** button. You will find FPU listed. Select it and you are done.

If you have a browser set up, you will be able to test these links. Otherwise, the last one is the only one you will be able to play with.

Save the file and **Close** it.

XXVII. Using Macros

Email Assignment

Before you complete the final activities of this course, I would like you to send one final email to Dr. Swan. First of all to let him know you are nearing the end of your coursework and to provide some feedback regarding the course. What did you find the most valuable? What did you find the least beneficial? And finally, in one sentence, describe how this course will impact your classroom management, your communication, your teaching.

Send this email to
rfswan@comcast.net

XXVIII. Excel in Education

Assignment 28.1 - Page 164

Your final assignment will be four project files that you need to complete from scratch. In addition, I am going to ask you to select one colleague and demonstrate or teach one skill you have learned that you think they might benefit from.

This course has covered a lot of territory and taken a significant amount of time and effort so I feel somewhat restrained in the amount of work I want to assign as your projects. This isn't a six-unit course and I am aware of that. I still want you to be able to use Excel as a tool in your classroom so please complete the following four projects.

1) School Budget

I want you to create a sample school budget. We will limit ourselves to only four categories but you should get the idea. **Open** the file SCHSTEPS.xlsx. Open a new empty file right over the top of this one. Resize them and position the two windows so that you can see

both on the screen. Complete the steps you find to complete the SCHOOL.xlsx file that will be saved on your hard drive. Enter the data that you find in **APPENDIX A** found at the end of this Assignments booklet.

*Be on your toes! Office Supplies has a \$300 balance!

Save this file as SCHOOL.xlsx in the FPUExcel folder on your hard drive.

2) Candy Sale

Create a spreadsheet that will keep track of a 5-day candy sale. To make it easy, say each candy bar costs \$1.00. Be sure to include the following:

10 students
 First day distribution per student
 5 days of collection
 Calculated total sold
 Calculated balance due
 Enter data

Save this file as PROJECT2.xlsx in the FPUExcel folder on your hard drive.

3) Gradebook

Create a gradebook that calculates the following information:

10 student names
 5 scores
 Average per each score
 Average per each student
 Highest grade per score
 Lowest grade per score
 Enter data

Save this file as PROJECT3.xlsx in the FPUExcel folder on your hard drive.

4) Project of your choice

Please create a spreadsheet of your choice. I will give you a lot of latitude here but I want you to make sure it is something you will be able to use in your classroom. Use this

project to show off your expertise. If you have already created a spreadsheet that you are using, you are welcome to submit that as your project of choice. Your call. Just remember, on Page 4 of the Course Manual, we set out the following minimum requirements for your project.

- 2 Worksheets
- 10 Cells with formulas
- 5 Cells with Fill Color
- 1 Chart
- 3 Linked cells
- 2 Graphics from Clip Art
- Wrapped Text in a Cell
- 1 Hyperlink
- 1 WordArt

Save this file as PROJECT4.xlsx in the FPUExcel folder on your hard drive.

5) Peer Coaching

Select a colleague and teach them one skill or concept that you feel they could benefit from. You might want to really score some points and pick an administrator that must keep track of budgets.

You are to provide a paragraph or two which identifies your selected peer, what concept you decided to demonstrate, and a comment as to how it went. You may do this in a word processing file or as text in a cell. Title the file PEER.xlsx and make sure it is in the FPUExcel folder on your hard drive.

National Technology Standards

The assignments contained in this course are closely aligned to the ISTE National Content Standards established for technology known as the National Educational Technology Standards (NETS) and Performance Indicators.

The following technology standards are addressed throughout this course.

1. Facilitate and Inspire Student Learning and Creativity

Teachers use their knowledge of subject matter, teaching and learning, and technology to facilitate experiences that advance student learning, creativity, and innovation in both face-to-face and virtual environments.

Teachers:

- A. promote, support, and model creative and innovative thinking and inventiveness.
- B. engage students in exploring real-world issues and solving authentic problems using digital tools and resources.
- C. promote student reflection using collaborative tools to reveal and clarify students' conceptual understanding and thinking, planning, and creative processes.
- D. model collaborative knowledge construction by engaging in learning with students, colleagues, and others in face-to-face and virtual environments.

2. Design and Develop Digital-Age Learning Experiences and Assessments

Teachers design, develop, and evaluate authentic learning experiences and assessments incorporating cotemporary tools and resources to maximize content learning in context and to develop the knowledge, skills, and attitudes identified in NETS-S.

Teachers:

- A. design or adapt relevant learning experiences that incorporate digital tools and resources to promote student learning and creativity.
- B. develop technology-enriched learning environments that enable all students to pursue their individual curiosities and become active participants in setting their own educational goals, managing their own learning, and assessing their own progress.
- C. customize and personalize learning activities to address students' diverse learning styles, working strategies, and abilities using digital tools and resources.
- D. provide students with multiple and varied formative and summative assessments aligned with content and technology standards and use resulting data to inform learning and teaching.

3. Model Digital-Age Work and Learning

Teachers exhibit knowledge, skills, and work processes representative of an innovative professional in a global and digital society.

Teachers:

- A. demonstrate fluency in technology systems and the transfer of current knowledge to new technologies and situations.
- B. collaborate with students, peers, parents, and community members using digital tools and resources to support student access and innovation.
- C. communicate relevant information and ideas effectively to students, parents, and peers using a variety of digital-age media and formats.
- D. model and facilitate effective use of current and emerging digital tools to locate, analyze, evaluate, and use information resources to support research and learning.

4. Promote and Model Digital Citizenship and Responsibility

Teachers understand local and global society issues and responsibilities in an evolving digital culture and exhibit legal and ethical behavior in their professional practices.

Teachers:

- A. advocate, model, and teach safe, legal, and ethical use of digital information and technology, including respect for copyright, intellectual property, and the appropriate documentation of sources.
- B. address the diverse needs of all learners by using learner-centered strategies and providing equitable access to appropriate digital tools and resources.
- C. promote and model digital etiquette and responsible social interactions related to the use of technology and information.
- D. develop and model cultural understandings and global awareness by engaging with colleagues and students of other cultures using digital-age communication and collaboration tools.

5. Engage in Professional Growth and Leadership

Teachers continuously improve their professional practice, model lifelong learning, and exhibit leadership in their school and professional community by promoting and demonstrating the effective use of digital tools and resources.

Teachers:

- A. participate in local and global learning communities to explore creative applications of technology to improve student learning.
- B. exhibit leadership by demonstrating a vision of technology infusion, participating in shared decision making and community building, and developing the leadership and technology skills of others.
- C. evaluate and reflect on current research and professional practice on a regular basis to make effective use of existing and emerging digital tools and resources in support of student learning.
- D. contribute to the effectiveness, vitality, and self-renewal of the teaching profession and of their school and community.

Appendix A

| | A | B | C | D | E | F | G |
|----|----------------------|------------------------|-----------------|----------------|------------------|----------------|---|
| 1 | | | | | | | |
| 2 | School Budget | | | | | | |
| 3 | | | | | | | |
| 4 | | | Budgeted | Spent | Remaining | Percent | |
| 5 | 1120 | Sub Salaries | 2000.00 | 255.00 | 1745.00 | 87.3% | |
| 6 | 4310 | Instr. Supplies | 2950.00 | 745.35 | 2204.65 | 74.7% | |
| 7 | 4510 | Office Supplies | 500.00 | 0.00 | 500.00 | 100.0% | |
| 8 | 6490 | New Equipment | 3000.00 | 0.00 | 3000.00 | 100.0% | |
| 9 | | TOTALS | 8450.00 | 1000.35 | 7449.65 | 88.2% | |
| 10 | | | | | | | |
| 11 | 1120 | Sub Salaries | | | | | |
| 12 | Date | Payee | Comment | P.O. | Amount | | |
| 13 | 1/1/05 | Sammy Sub | Bob | | 85.00 | | |
| 14 | 1/5/05 | Sarah Sub | 2-day conf | | 170.00 | | |
| 15 | | | | | | | |
| 16 | | | | | | | |
| 17 | | | | | | | |
| 18 | | | | | 255.00 | | |
| 19 | 4310 | Instr. Supplies | | | | | |
| 20 | Date | Payee | Comment | P.O. | Amount | | |
| 21 | 1/2/2005 | GW School | Posters | 2342 | 487.30 | | |
| 22 | 2/1/2005 | Barnes & Nobles | Books | 65435 | 257.99 | | |
| 23 | | | | | | | |
| 24 | | | | | | | |
| 25 | | | | | | | |
| 26 | | | | | 745.35 | | |
| 27 | 4510 | Office Supplies | | | | | |
| 28 | Date | Payee | Comment | P.O. | Amount | | |

Appendix B

| | A | B | C | D | E | F |
|----|-----------------|-----------|----------|-----------------|-----------|---|
| 1 | | | | | | |
| 2 | Personnel Costs | | | Health Benefits | 6985 | |
| 3 | | | | PERS | 7.20% | |
| 4 | | | | OASDI II | 1.30% | |
| 5 | | | | Un. Ins. | 1.10% | |
| 6 | | | | | | |
| 7 | EMPLOYEE | | | | | |
| 8 | ===== | ===== | ===== | ===== | ===== | |
| 9 | Wages | | | | | |
| 10 | Work Days | 180 | 175 | 180 | | |
| 11 | Hours per Day | 5 | 3 | 3.5 | | |
| 12 | Hourly Wage | 8.75 | 9.21 | 8.75 | | |
| 13 | | | | | TOTAL | |
| 14 | TOTAL | 7,875.00 | 4,835.25 | 5,512.50 | 18,222.75 | |
| 15 | ===== | ===== | ===== | ===== | ===== | |
| 16 | BENEFITS | | | | | |
| 17 | | | | | | |
| 18 | Health Benefits | 6,985.00 | - | - | 6,985.00 | |
| 19 | PERS | 587.00 | 348.14 | 396.90 | 1,312.04 | |
| 20 | OASDI | 102.38 | 62.86 | 71.66 | 236.90 | |
| 21 | Un. Ins. | 80.63 | 53.19 | 60.64 | 200.45 | |
| 22 | | | | | | |
| 23 | TOTAL | 15,616.00 | 5,299.43 | 6,041.70 | 26,957.13 | |
| 24 | | | | | | |
| 25 | | | | | | |
| 26 | | | | | | |