



Monday 11/2 -- we begin our Excel course and Excel journey! All aboard!

Homework is due by Sunday midnight 11/15. Lesson 2 will be sent Monday 11/16

Attached file: L1_Excel_US Presidents.xlsx

The first challenge is to "carve out common ground" amongst all of you with Excel skills. I am dividing up Excel skills into several FOCUS areas. If the tasks are too basic or too difficult, I apologize. I simply don't know your backgrounds much so this first lesson is an attempt to find out! From your work on this first lesson, you will help influence the pace of the rest of the course.

Focus Area #1: STYLE SKILLS (which I sometimes call cosmetic skills)

HW1A (please name your file **Larry Bird HW1A Jan 23.xlsx** using your name and current date of course). Send to me by email.

Create a spreadsheet (or use an existing one you created and modify it) that has examples of all of these variations of style. Send me the attached file.

- background colors within a cell (show me several cells with different background colors)
- column width (show me you have columns of variable width)
- row height (show me you have rows of variable width)
- number formats (show me examples of currency, cells with 3 decimal places)
- rotated text (show me examples of text at 30 or 45 degree angles and also one or two where the text is vertical)
- align horizontally (show me cells where the text is center or aligned right)
- align vertically (show me cells where the text is aligned top or aligned bottom or aligned middle -- all from top to bottom)
- wrapping text (show me examples of text wrapped in one cell)
- text merged in a rectangle of cells (show me examples of text wrapped not in one cell but in a bunch of cells using the merge feature)
- date formats including custom formats (show me a bunch of dates using one date format and then show me a bunch of dates using a custom format)
- using a graphic (add a graphic or two, making them be smaller in size or possibly cropping them)

The instructional video at <http://youtu.be/mV24Lar66mI> will guide you on all of these items.

See sample on page 10 from someone who took this course previously.

Focus Area #2: FORMULA SKILLS

Excel Focus Area: review of formulas including magic fill down but not including the use of the \$ symbol

HW1B (please name your file **Larry Bird HW1B Jan 23.xlsx** using your name and current date of course)

Create a spreadsheet (or use an existing one you created and modify it) that has examples of all of these formula variations. Send me the attached file by email.

magic fill (you will be using this repeatedly)

SUM (show me a bunch of numbers with the sum at bottom or right)

AVERAGE (show me a bunch of numbers with the average at bottom or right)

MAX (show me a bunch of numbers with the maximum at bottom or right)

MIN (show me a bunch of numbers with the minimum at bottom or right)

somewhat related TEXT TO COLUMNS (type in a few first names and last name such as Bob Dylan or Larry Bird and then use the trick to split the cells into two columns, one with the first and one with the last)

& (show me a few cells where you have "concatenated" and joined two names into one longer name using the & operator)

MID (show me a few cells where the computer grabs the first character out of a word)

COUNT (show me a section where you count the number of cells which have a legitimate number -- it ignores blanks and words)

COUNTBLANK (show me a section where you count the number of blank cells)

COUNTA (show me a section where you count the number of cells with any kind of typing in them)

COUNTIF (show me a section where you have a "conditional count" tallying the number of cells that equal or are bigger or smaller than a value)

example: =COUNTIF(A1:C33,"bird") counts how many cells equal bird

example: =COUNTIF(A1:C33,"44") counts how many cells equal 44

example: =COUNTIF(A1:C33,">44") counts how many cells are bigger than 44

make your own formula (show me at least one formula that begins with = but does not use any Excel special formula word)

The instructional video at <http://youtu.be/Q0SwjAFNB3I> will guide you on all of these items.

Focus Area #3: PRINTING SKILLS

Excel Focus Area: make sure you are skilled with what I consider the 3 essential tricks of printing

HW1C (please name your file **Larry Bird HW1C Jan 23.pdf** using your name and current date of course)

PRINTING SKILLS

Attached to this assignment is a spreadsheet called
L1_Excel_US Presidents.xlsx
that we will use several times in this course.

Please demonstrate that you can produce a printout ("via PDF") that has these 3 characteristics

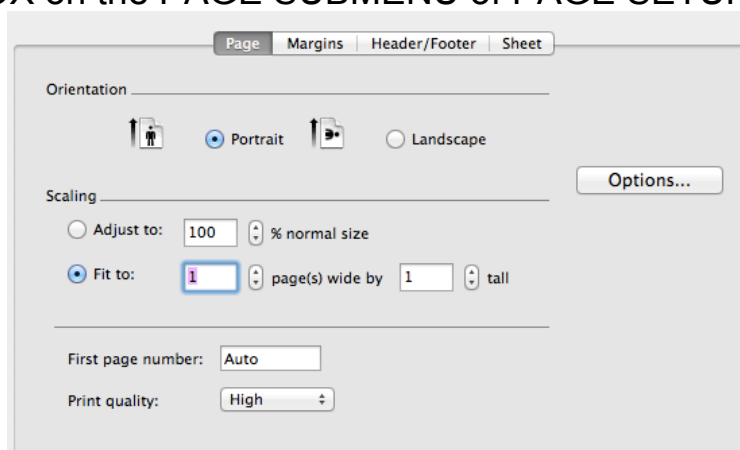
- it fits on one page
- it has a border grid around each cell
- it has minimal margins around the perimeter.

HW1C (please name your file **Larry Bird HW1C Jan 23.pdf** using your name and current date of course). Send me the attached file by email. If you don't know how make a PDF, we will do it together in our first conversation.

Here are my favorite tips when printing.

TIP #1

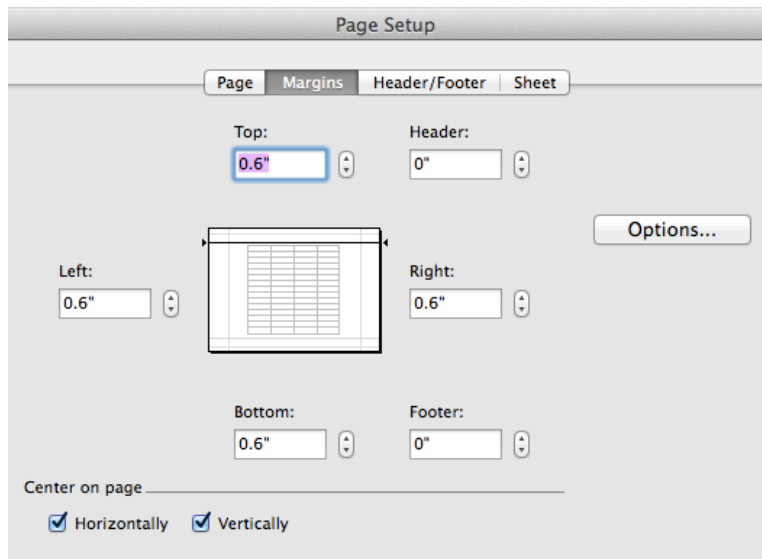
If you are trying to print a relatively small spreadsheet on one piece of paper, then click the CHECKBOX on the PAGE SUBMENU of PAGE SETUP where it says FIT.



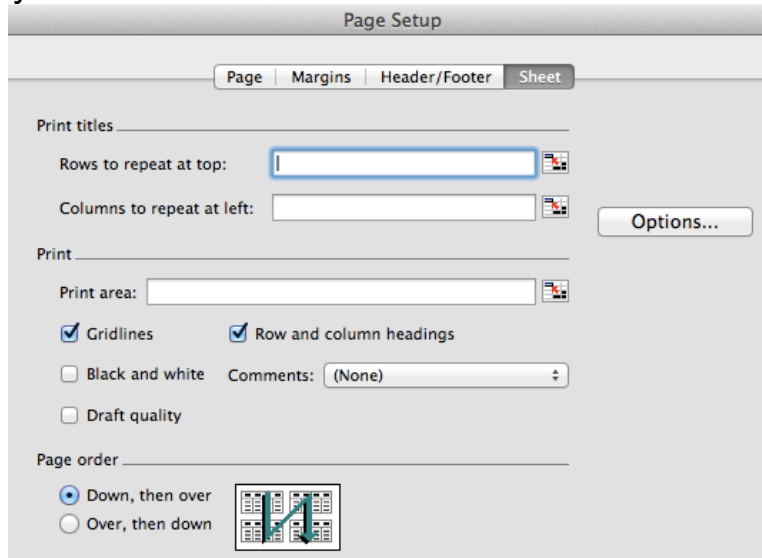
Sometimes I change the FIT to be 1 page wide and 2 or 3 pages tall.

TIP #2

To maximize the printing room on the paper, change the margins as you see below via the MARGINS SUBMENU of PAGE SETUP.

**TIP #3**

To make sure the printout contains the grid spreadsheet, click the checkbox that says "Gridlines" as you see below the SHEET SUBMENU of PAGE SETUP.



Depending on usage, I sometimes click the "Row and column headings" as well.



Below is a summary of **Excel basics from the Summercore Primer** that you may or may not find useful. I am declaring it **OPTIONAL** so that you have it and can peruse it but you are not required to read it thoroughly.

A spreadsheet is an electronic piece of paper divided into rows and columns. We can use a spreadsheet to tabulate grades, budgets, bank loans, inventory totals, or calculate experiments in science.

Rows & columns

A spreadsheet consists of rows and columns. Just like the pillars that hold up a building, columns are vertical. And just like radishes in a garden, the rows are horizontal. The intersection of each row and column is called a Cell.

The rows of a spreadsheet are labeled on the left with numbers 1,2,3 and so on, going down usually for at least 1000 rows. The columns are labeled on the top with letters from A to Z. Although beginners think there are only 26 columns, the notation of AA, AB, AC through AZ allows for another 26 columns. Although some spreadsheets have just 52 columns, most have several hundred using BA through BZ, CA through CZ and so on.

Labels & values

Each entry you put into a cell can be a label or a value. Labels are generally words or phrases, used for column headings, row headings or special comments - labels are generally considered “cosmetic.” In contrast, values include numbers, functions and formulas. Try typing a word or a number into a cell and watch how it automatically jumps to the left or right of that cell. Words - i.e. labels - are automatically left justified while numbers - i.e. Values - are automatically right justified.

	A	B	C	D	E
1	First Name	Test 1	Test 2	Test 3	Average
2	Tom	91	95	94	93.333333333
3	Rob	62	65	61	62.666666667
4	Aaron	71	84	68	74.333333333
5	Wes	84	83	88	85
6	Jerod	76	84	95	85
7	Danny	74	77	76	75.666666667
8	Deion	88	71	84	81

System formulas

Each spreadsheet software package comes with a number of built-in formulas such as Sum and Average. These are called System formulas. Each formula begins with the = symbol and is followed by the appropriate code and the specified cells in parentheses. Although we present below a summary of examples, note that many spreadsheet users get by using just 1 or 2 of these formulas. Do not feel overwhelmed by the variety of formulas. Like learning to program in Logo and learning to speak English, we have a language here with no threshold and no ceiling! Start with just one or two, please, and learn to use those formulas skillfully!

=AVERAGE(B1:B12)	Averages the 12 cells
=SUM(C5:C9)	Finds the sum of the numbers in these 5 cells
=SQRT(D7)	Finds the square root of the number in this cell
=MIN(B3:B100)	Finds the minimum value in these 98 cells
=MAX(B3:B20)	Finds the maximum value in these 18 cells
=COUNT(A1:A10)	Counts how many non-blank numerical entries are here
=IF(D3>90,5,0)	Checks the value of D3 to see if it is bigger than 90. If so, put a 5 into the current cell. If not, put in a 0. Very useful for converting data.
=LOOKUP(D3,B20:B30)	Looks up the value of D3 amongst the “LOOKUP TABLE” that has B20-B30 for a left edge; returns with the corresponding value from this table. On some SS programs, you must provide both ranges e.g. =LOOKUP(D3,B20:B30,C20:C30).

Creating formulas

Additionally, you create your own formulas by starting the entry with a = sign. Your own formula will look algebraic, containing numbers and variables. The variables will not be X, Y and Z but instead will be other cells on the spreadsheet, such as A3, B4 or C6. You will use parentheses around certain expressions when the order of operations is significant, just as we learn in ninth grade algebra.

The four operations symbols are

+ ADD - SUBTRACT * MULTIPLY / DIVIDE

Here are some examples:

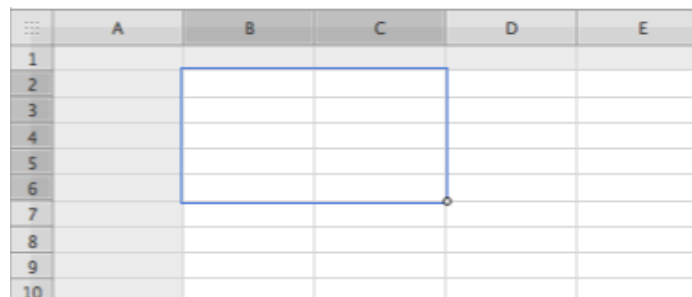
=C5-B4	Computes difference of two cells
=B3+(B3*.12)	Computes 12 percent increase from B3
=B3*1.12	Another way to calculate 12 % increase
=(B3*12/100)	And still another way
=(C3*.1)+(D3*.5)+(E3*.4)	Computes weighted average of C3,D3 & E3
=(C3+(D3*5)+(E3*4))/10	Computer weighted average another way
=B3*1.07	Finding 7% population increase
=C3-B3	Finding \$ salary increase from B3 to C3
=100*(C3-B3)/B3	Finding % salary increase from B3 to C3
=B3+1	Adds 1 to B3; very useful for generating 50 to 100 integers or years quickly

Using a spreadsheet, you can lay out a small or huge chart of words and numbers. Columns can be made the desired width. You can insert or delete rows or columns. Each spreadsheet package comes with many built-in formulas for finding SUMS, AVERAGES and other computations; you can enter your own custom formulas as well to accomplish almost any specific task.

In summary, you might say that a spreadsheet is to a calculator what a word processor is to a typewriter. To quote one 4 year old named Sam who spotted an old Olivetti typewriter in the basement one day, “Hey, Daddy, look, I just found one of those old computers.”

Basic Skills & Concepts

After Rows and Columns, the next spreadsheet words to use are Entry and Range. An Entry is sometimes used instead of the word Cell to refer to one location. Frequently, we refer to a Cell or an Entry as we might refer to a location on a bingo board: A2 or B3 or D44. We always refer to it by naming it with the letter first. A Range is a rectangular block of cells on the spreadsheet. In the example, the Range consists of 4 rows down and 2 columns across. We refer to this range as B2:C6. Note that a Range can be just 1 column across or 1 row down.

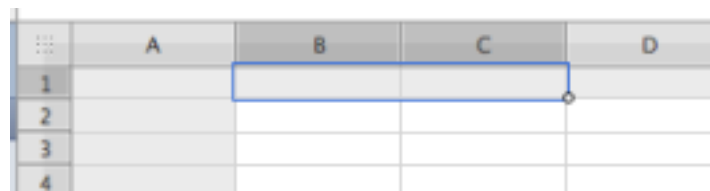


	A	B	C	D	E
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

Column width

With most spreadsheet packages, you can customize your spreadsheet to make each column a desired width. Or you can set all the columns in your sheet to a specified number. This gives you flexibility in designing your own customized ledger paper.

You change the size of a column by going to the heading section where the columns are labeled with A, B, C. Move the mouse to the VERTICAL divider between 2 column headings; when it becomes a double headed arrow, click and drag. The column will become smaller or wider as the mouse moves. You can also change the row height using the same technique by placing the cursor on the line that separates the rows and then clicking and dragging.



	A	B	C	D
1				
2				
3				
4				

Caution: When the symbols ##### appear in a column then that column is too narrow for that particular entry and needs to be widened in order to show the numbers. You can experiment with this by narrowing a column with large numbers and watching the ### signs appear. Then fix the column by widening it and the data will reappear.

Common Mistakes and Warnings

- Reserve column A for names or titles and row 1 for headings.
- Don't double space your rows. Each row should be 1 set of information. Do not use 2 rows of information to store info on 1 person, place or thing.
- Don't try to make headings too lengthy or descriptive; keep them short!
- Push Return after completing each cell entry to lock in the data.
- To replace a cell entry, just move to that location and retype it.

If you start spilling over from 1 column to the next, you might wish to widen the column before going any further. Even better, avoid long entries.

- Don't forget to start system formulas with = sign
- Avoid "mixed" entries such as 87 TOTAL or 78R until you get more sophisticated. Make each entry either a number or a word.
- Each column should contain a different type of information. For example, use different columns for first name, last name, city, state and zip code. Avoid putting a mixture of information into one column.
- On some spreadsheets, if you go one row up from the top row, you end up at the bottom row of the spreadsheet, perhaps row 9999. Watch out for this; when this happens, move down one row from this location with down arrow and you will get back to the top of the spreadsheet.
- On some spreadsheets, if you go one column to the left of column 1, you end up on the far right column of the spreadsheet, perhaps column IV. Watch out for this; when this happens, move right one column from this location with right arrow and you will get back to the left of the spreadsheet.

Tips and Tricks for Intermediate Users

- Although humans read from left to right, computers do not. Therefore it is more sensible to have a Current average located in a column on the left side, even though the data might reside in columns 3 to 20. In other words, the cell in column 2 might be defined to be the student's average, using =AVERAGE(B3:B20).
- Formulas can be set up before you enter the data; they will work fine even when only a few items of data are entered; as you enter more columns, the average will be continually updated.
- You can avoid some frustration by leaving a blank line or dotted line above the data and below the data. Then make your formulas be tabulated from dotted line to dotted line. This solves some quirks that would otherwise arise when sorting data or inserting rows.
- Inserting a blank column and making it very narrow (i.e. 1 or 2 characters wide) can serve as a visual separator, especially when placed between a column of numbers to the left and a column of labels on the right, which would otherwise be touching.
- Usually, it is best to right justify the labels at the top of each column in order so they correspond to the right justified numbers below.
- For generating consecutive integers, there is a very straightforward trick. Type the number 1 into a cell such as A1. Then put the formula =A1+1 or +A1+1 into cell A2 and copy it down for 50-100 cells.
- The same trick is used for generating 20 year projections. Type the year 1989 into a cell such as C1. Then in cell D1 put the formula =C1+1 or +C1+1 and copy it to the right for 19 cells.

I look forward to our first conversation,

Steve



phone = 781-953-9699
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INDEX of HIGHLIGHTS can be found on the last page

HW1A (page 4) Create a spreadsheet (or use an existing one you created and modify it) that has examples of all of these variations of style. Send me the attached file. Watch instructional video (page 4)

HW1B (page 5) Create a spreadsheet (or use an existing one you created and modify it) that has examples of all of these formula variations. Send me the attached file. Watch instructional video (page 5)

HW1C (page 6) Using the attached file on US Presidents demonstrate that you can produce a printout ("via PDF") that has these 3 specified characteristics

OPTIONAL SUMMARY of Excel basics (pages 8-11)

Sample of HW1A from someone who took this course previously.

