Excel: Lists

Familiarity with basic Excel is required for this class. Learn to create field names, sort lists, and link worksheets. You'll learn lists that can also be used in our Word: Mail Merge class.

Excel's primary purpose is performing mathematical calculations, but it can do more. You can use Excel as a database (also called a data list or a data table) program to organize, sort, filter and analyze a collection of related information. For example, an address book is a database list of names and addresses. A database uses **field names** or **labels** at the top of each column to identify different kinds of information in the list. Each row in the database contains all the information about an item in the list (also called a *record*).

Design a List

- Type the names of the fields in the first row of the worksheet. This is the **header row**. Each field name must be unique. It doesn't matter what order you put the field names.
- Enter the first record below the field names. Remember, do not skip any rows. You cannot have any **empty rows** between the header row and the records that follow.

Row 1 is called the **header row** which contains all the field names. **Records** start in row 2.

After starting the list, you may decide to add or delete some fields. To insert a column, click on the column header to the right of where you want to put a new column. Remember that column headers are the letters of the alphabet. **Right click** on the selected column header then **click on *Insert***. To delete a column, **right click** on the column header then **click on *Delete***.

Click on cell **I2**. It is a date with no year. If you type *Feb 1*, Excel will automatically add the current year to the date. To type a partial date, type a single quote 'before the date to make it a text field and not a date field.

Click on cell **K2**. Notice that there is a number in the cell but look at the formula bar to see the true content. **K2** has a formula in the cell: **=YEAR(TODAY())-YEAR(J2)** *(There are no spaces or zeros in this formula*. Use left and right parentheses). This is a nested formula that is easiest to see in parts. If you type the function =TODAY() you would get today's date. Basically, the formula in K2 says to take the year of today and subtract from it the year of the start date which is the date in cell J2.

Enter or Add Data

To add to a data list, click in the first empty cell below the header row. In the example above, that would be cell **A3**. To move to the cell to the right, press the **Tab** key or the right arrow key

To Add Data using FORM

First, make sure you've selected any cell with data within your spreadsheet. Click the tiny down arrow at the end of the Quick Access Tool Bar. At the bottom of the menu select More Commands. This opens the Excel Options dialogue box.
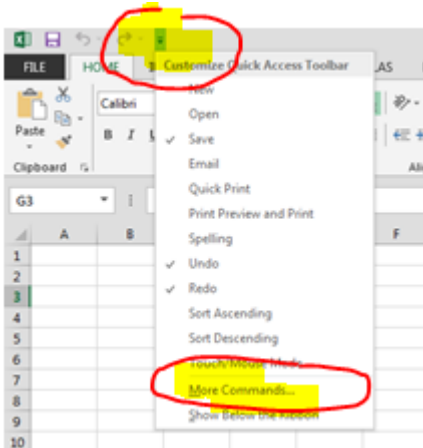
In the Excel Options dialogue box, select the drop-down menu that says Popular Commands and choose instead **All Comands**. Scroll down in the alphabetical list and click on **Form**.

Click the Add button in the Center

Select OK in the lower right of the dialogue box.
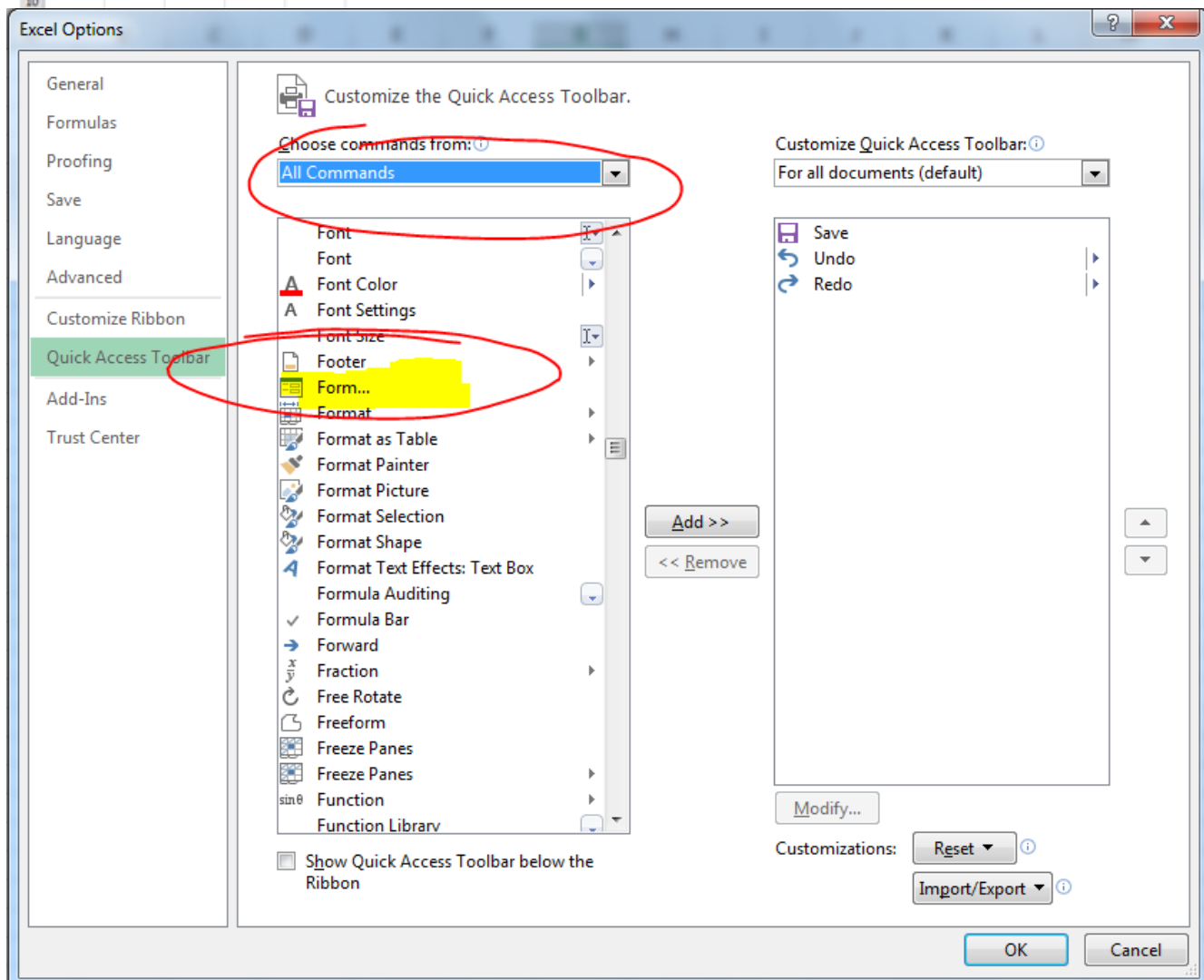
Auto Complete will complete your typing if you've typed the same word in that column previously. For example, in cell **D3** in the City column, if you type a *t*, Excel will finish typing *Topeka* because it appears in the cell above (**D2**). However, if you want Tecumseh instead, keep typing. The next time you type a city that starts with T, Excel will not know which city you want until you type the second letter. If you type *to*, it will complete Topeka. If the second letter is an *e*, it will complete Tecumseh.

Delete Data
To delete typing in a single cell, click on the cell and press the **Delete** key on the keyboard. To delete an entire row, click on the row header of the row you want to delete. **Right click** on the row header, then **click on Delete**. Remember, do not leave empty rows in a list. To delete an entire column, click on the column header of the column you want to delete. **Right click** on the column header, then **click on Delete**.

Find Data
There are 3 major ways to find data in a list.
- **Auto Filter**—use to find a group of similar data. Find it on the Home & Data tabs.
- **Sort**—sort the data alphabetically or numerically. Home & Data tabs.
- **Find**—use to find specific words in a list. Home tab.

Find **Sort and Filter** options on both the **Home** tab and on the **Data** tab.
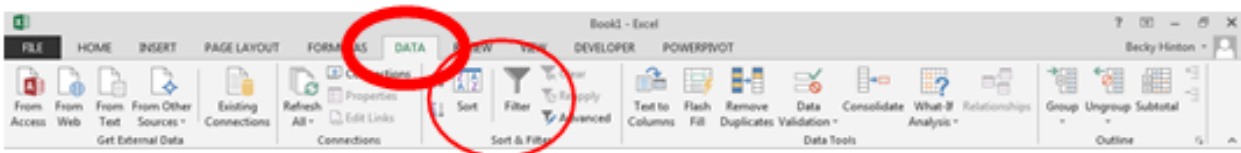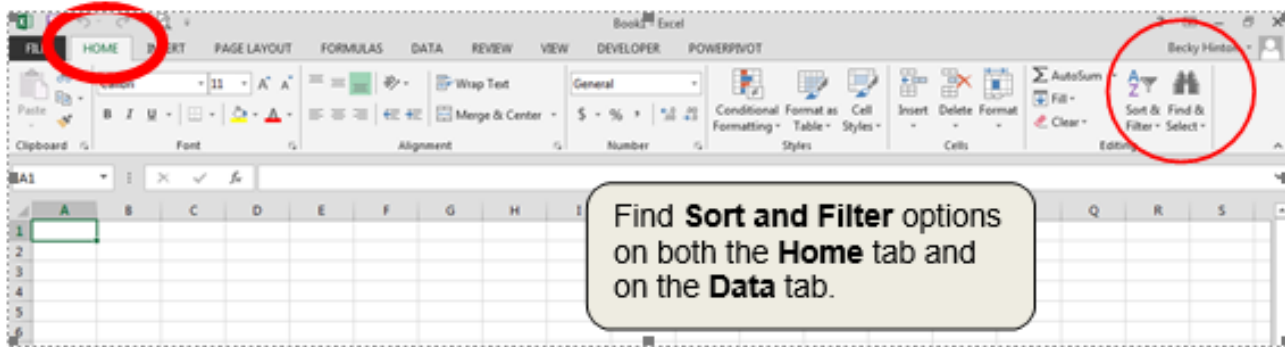
From the Data ribbon, click on **Filter**. Notice little down arrows by each field name in row 1.

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Firstna	Lastna	Street	City	Stat	Zip	Phone	Email	Birthda	Startdat	Yea		
2	Andy	Black	345 Oak	Topeka	KS	66602-1234	123-5678	ablack@x	Feb 1	3/6/2002	1		
3	Chris	Jones	456 Maple	Berryton	KS	66409-1234	123-6789	cjones@x	Mar 15	9/15/1999	4		
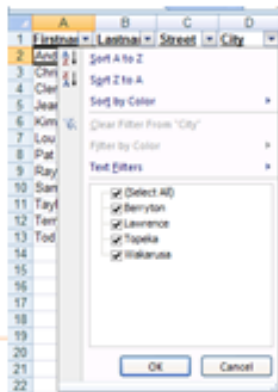
Click on the down arrow by City in cell D1.
Un-check the **Select all** box. Click in the check box by one of the cities in the list. Click OK. See a list of the records that have that city.

Notice the little filter icon by City which indicates that a filter has been applied to that field.

To get all the cities back, click on the filter icon. Check **Select all**. OK.

To remove the down arrows. click on Filter in the ribbon.

From the Data ribbon, click on **Sort**. The **Sort** dialog box appears.
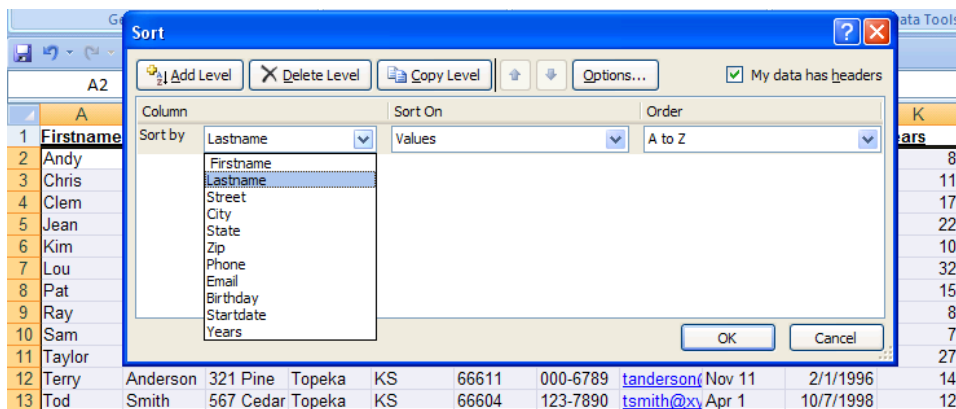
Click on the down arrow in the **Sort by** box. Click on Lastname.
Click on the **Add Level** box to see a secondary sort. Click on the down arrow in the **Then by** box and click on Firstname. Then click OK. You can have up to 64 levels of sort. Just click on the **Add Level** box to add another level. To delete a level, click on **Delete Level**.

Now, the list will be sorted by last name and within that by first name. In our example, Andy Black will appear before Jean Black.

The Order may be listed as:
A to Z or *Smallest to Largest*
Z to A or *Largest to Smallest*

To sort numbers so that the largest number is at the top of the list, choose **Z to A** or *Largest to Smallest*.

From the Home ribbon, click on **Find**.
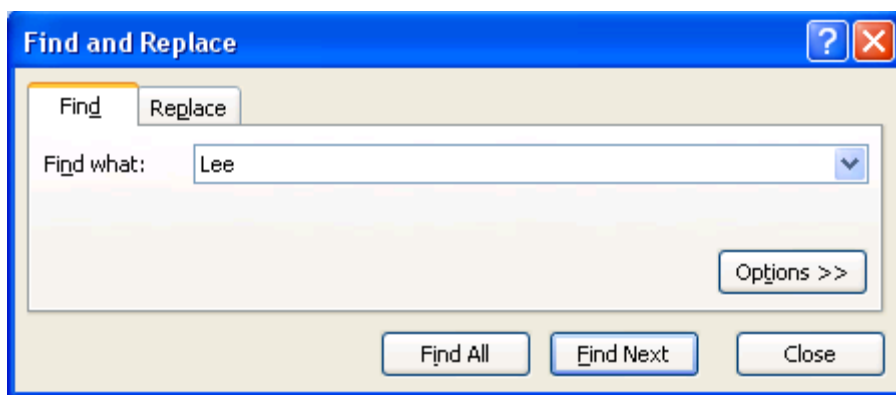
In the **Find what**: box, type the word that you want to find in the spreadsheet. Click on **Find Next** to see the results.

Every Excel **Workbook** has 1 **worksheet** named Sheet1. Add worksheets by clicking on the + to the right of Sheet 1.

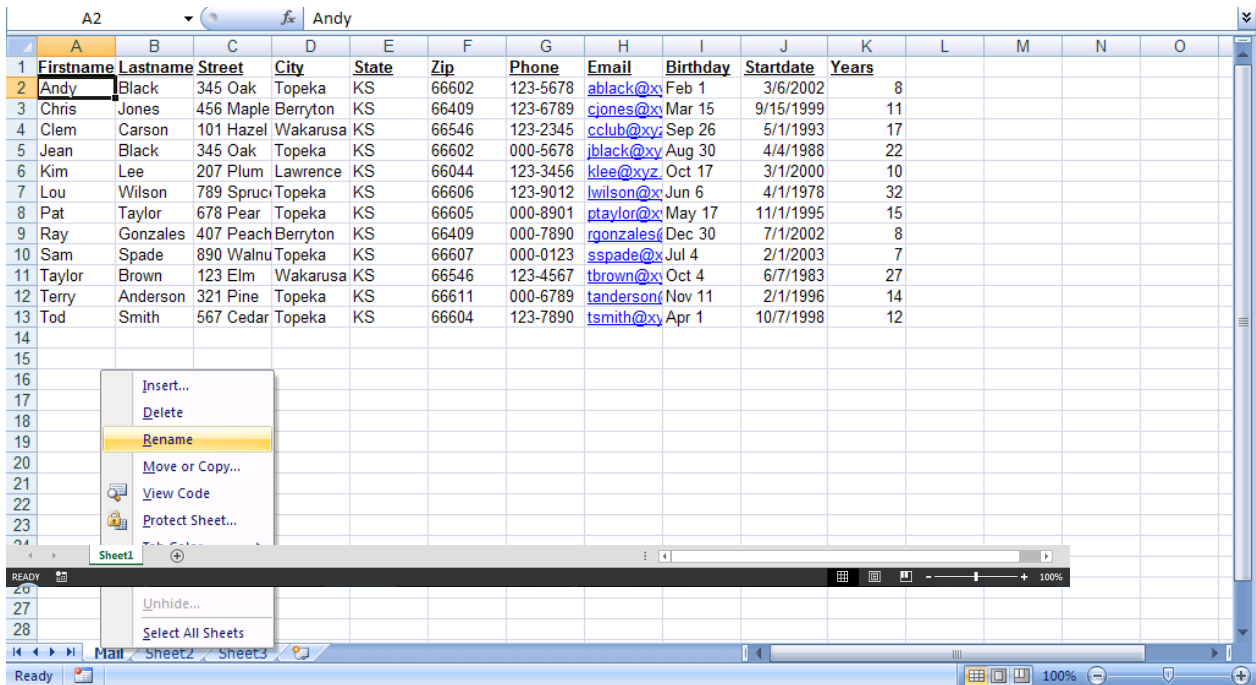|	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Firstname	Lastname	Street	City	State	Zip	Phone	Email	Birthday	Startdate	Years				
2	Andy	Black	345 Oak	Topeka	KS	66602	123-5678	ablack@x	Feb 1	3/6/2002	8				
3	Chris	Jones	456 Maple	Berryton	KS	66409	123-6789	cjones@x	Mar 15	9/15/1999	11				
4	Clem	Carson	101 Hazel	Wakarusa	KS	66546	123-2345	cclub@xy	Sep 26	5/1/1993	17				
5	Jean	Black	345 Oak	Topeka	KS	66602	000-5678	jblack@xy	Aug 30	4/4/1988	22				
6	Kim	Lee	207 Plum	Lawrence	KS	66044	123-3456	klee@xyz.	Oct 17	3/1/2000	10				
7	Lou	Wilson	789 Spruc	Topeka	KS	66606	123-9012	lwilson@x	Jun 6	4/1/1978	32				
8	Pat	Taylor	678 Pear	Topeka	KS	66605	000-8901	ptaylor@x	May 17	11/1/1995	15				
9	Ray	Gonzales	407 Peach	Berryton	KS	66409	000-7890	rgonzales	Dec 30	7/1/2002	8				
10	Sam	Spade	890 Walnu	Topeka	KS	66607	000-0123	sspade@x	Jul 4	2/1/2003	7				
11	Taylor	Brown	123 Elm	Wakarusa	KS	66546	123-4567	tbrown@x	Oct 4	6/7/1983	27				
12	Terry	Anderson	321 Pine	Topeka	KS	66611	000-6789	tanderson	Nov 11	2/1/1996	14				
13	Tod	Smith	567 Cedar	Topeka	KS	66604	123-7890	tsmith@xy	Apr 1	10/7/1998	12				

Right click on a worksheet tab. Click on **Rename** to give the sheet a different name. Press the Enter key when finished typing. Right click again on the tab and choose **Tab Color** to add color. Another way to rename a worksheet is to double-click on the worksheet tab. Type the new name and press Enter.

Link data to another worksheet or workbook
Use the same data in more than one worksheet without retyping. If you make changes or additions to the original or source worksheet, those changes will appear automatically in the linked worksheets.

To link data from the same workbook, first click in the cell where you want the data to appear. Type an equal sign =. Type the source worksheet name followed by an exclamation point **!**. The ! tells Excel that you typed a worksheet name. Then type the cell reference where the data already exists. Example: **=Mail!A2**

To link data from a different workbook, first click in the cell where you want the data to appear. Type an equal sign =.Type the source workbook or file name surrounded by **square** brackets. Type the source worksheet name followed by an exclamation point **!**. The ! tells Excel that you typed a worksheet name. Then type the cell reference where the data already exists. Example: **=[ExcelLists.xlsx]Mail!A2**

Another way to link data (this is much easier)**:**
- In the source file, select the data you want to link.
- From the Home tab, click **Copy**.
- Open the destination worksheet or file and click where you want to insert the data.
- From the Home tab, click on the **down arrow** under **Paste**. Click **Paste Link**.

Hide & Unhide columns or rows

Select the columns or rows you want to hide by clicking on the column header or the row header. Right click to see a menu. Click on **Hide**. To unhide columns or rows, select the columns to the left and right or the rows above and below. Right click to see a menu. Click on **Unhide**. If you want to unhide many columns or rows at the same time, select the entire worksheet. A quick way to select the entire worksheet is to click on the shaded box to the left of the **A** in the column headers.

Freezing the Panes
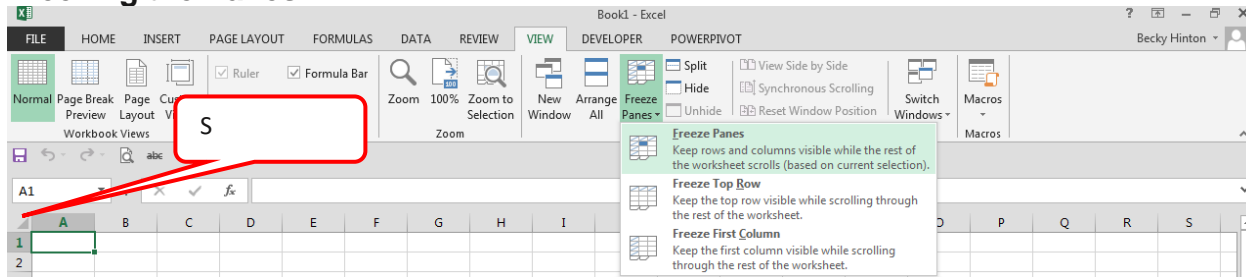
Click to the right of the column or below the row you want to freeze. Click on the **View** tab and click on **Freeze Panes**. Click on **Freeze Panes** in the menu that appears.

You can freeze columns or rows to keep the labels in view as you scroll through larger worksheets. The area you freeze will not scroll. To Unfreeze, click on the **View** tab and click **Freeze Panes**. Click **Unfreeze Panes**.

COUNT Functions
Examples

COUNTNumber of cells with **numbers** in a range	=COUNT(R6:R25)
COUNTANumber of non-blank cells in a range	=COUNTA(R6:R25)

COUNTBLANK Number of **blank** cells in a range
=COUNTBLANK(A2:A50)
COUNTIFNumber of cells in a range that meet a certain criteria
=COUNTIF(B2:B13,"Black")

SUM Function
Use SUM to **add** a range of cells that have numbers. Example: =SUM(R6:R25)

Absolute Cell Reference
By default, Excel treats the cells you include in formulas as relative locations rather than set locations. When you copy formulas, the cell references adjust with the rows or columns. To make a cell reference stick so that it will not adjust, use the **$** to indicate an **absolute** cell reference. Example **A2**   If that cell reference is copied to another cell, it will not change.