

Excel Lists 2007

| | A | B | C | D | E | F | G | H | I | J | K |
|---|-----------|----------|------------|--------|-------|-------|--------------|--|----------|-----------|-------|
| 1 | Firstname | Lastname | Street | City | State | Zip | Phone | Email | Birthday | Startdate | Years |
| 2 | Andy | Black | 345 Oak | Topeka | KS | 66602 | 555- 5678 | ablack@xyz.com | Feb 1 | 3/6/2002 | 7 |
| 3 | | | | | | | | | | | |



COMPUTER TRAINING CENTER

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Excel's primary claim to fame 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.

The diagram shows an Excel worksheet with a data list. Callouts indicate: '1 is a Row header' pointing to row 1, 'A is a Column header' pointing to column A, and 'State is a Field name' pointing to cell E2.

| | A | B | C | D | E | F | G | H | I | J | K |
|---|------------------|-----------------|---------------|-------------|--------------|------------|--------------|--|------------------|------------------|--------------|
| 1 | Firstname | Lastname | Street | City | State | Zip | Phone | Email | Birthdate | Startdate | Years |
| 2 | Andy | Black | 345 Oak | Topeka | KS | 66602 | 234-5678 | ablack@xyz.com | Feb 1 | 3/6/2002 | 7 |
| 3 | | | | | | | | | | | |


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. Don't worry if this formula doesn't make sense to you, yet. We just want to show you some of the fantastic things you can do with Excel.

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 

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.

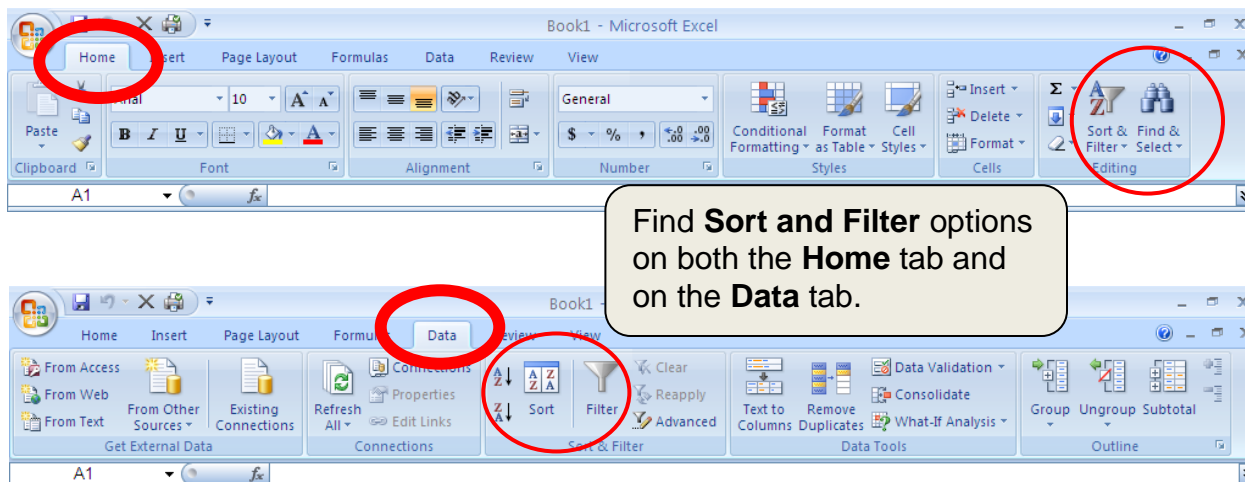
Delete Data

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

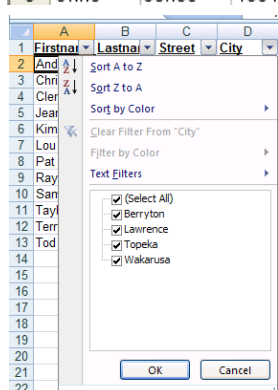
There are 3 major ways to find data in a list.

- **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.



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 | Startdate | 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 | | |



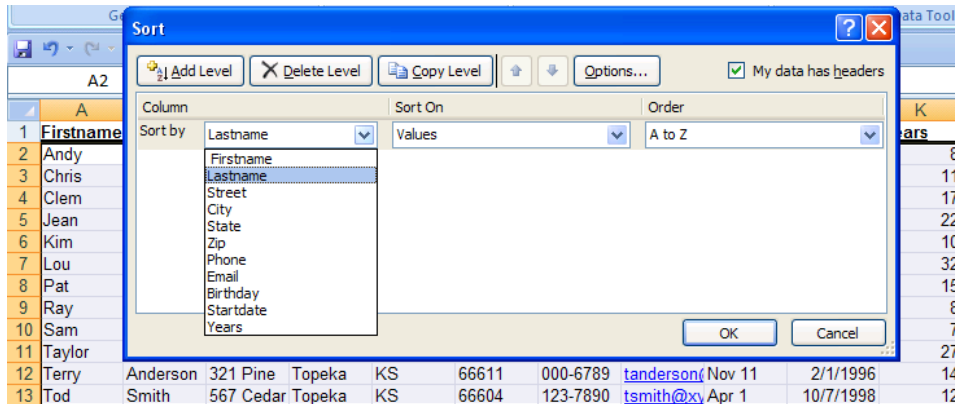
Click on the down arrow by City in cell D1. Un-check the **Select all** box. Click in the check box by one of the cities in the list. Click OK. See a list of the records that have that city.

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.

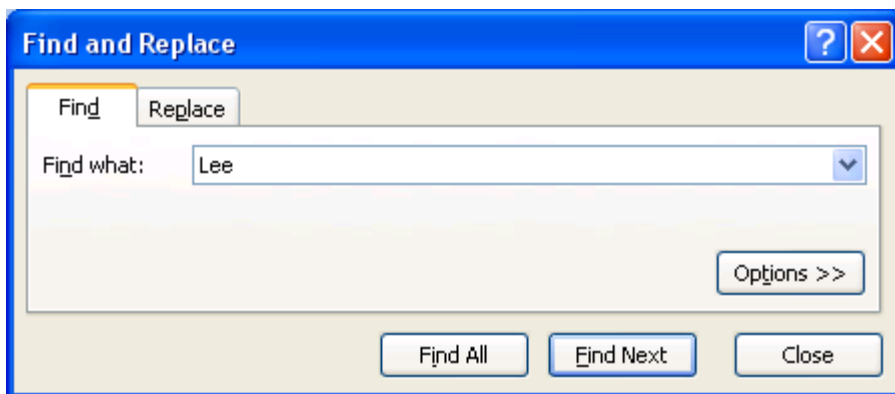
Click on the **Add Level** box to see a secondary sort. Click on the down arrow in the **Then by** box and click on Firstname. Then click OK. You can have up to 64 levels of sort. Just click on the **Add Level** box to add another level. To delete a level, click on **Delete Level**.

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 3 **worksheets** named Sheet1, Sheet2 and Sheet3. See the worksheet tabs in the bottom left of the active worksheet. You can rename the worksheets and color code them.

| 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 Spruce | 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 Walnut | 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@x | 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):

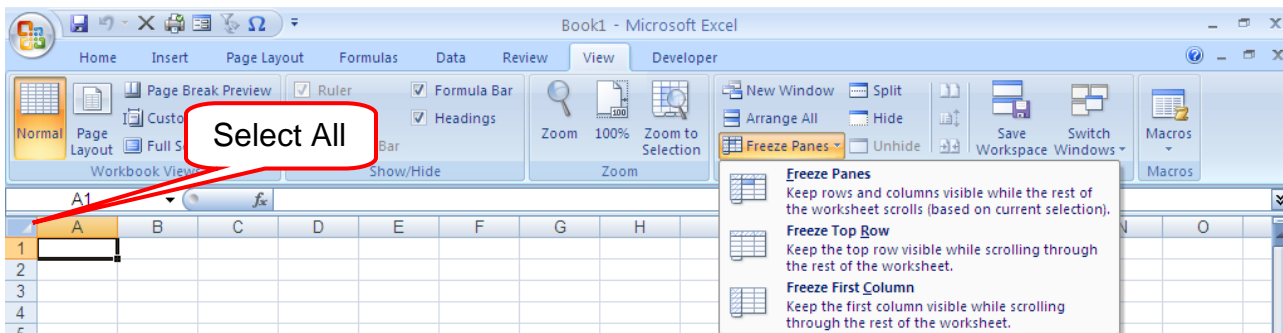
- In the source file, select the data you want to link.
- From the Home tab, click **Copy**.
- Open the destination worksheet or file and click where you want to insert the data.
- From the Home tab, click on the **down arrow** under **Paste**. Click **Paste Link**.

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

| | | |
|------------|---|-----------------------------------|
| COUNT | Number of cells with numbers in a range | <u>Examples</u> =COUNT(R6:R25) |
| COUNTA | Number of non-blank cells in a range | =COUNTA(R6:R25) |
| COUNTBLANK | Number of blank cells in a range | =COUNTBLANK(A2:A50) |
| COUNTIF | Number 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 **\$A\$2** If that cell reference is copied to another cell, it will not change.