

Excel 2: Adventures in Data Crunching

Importing Data from Text or .CSV Files

What kinds of files can I import?

Delimited text files (.txt) and Comma Separated Values (.csv) files.

A “Delimited” file uses a special designated character to tell excel where to start a new column or row. Files can be tab delimited, space delimited, comma delimited, etc.

- Data Menu > Get External Data > Import Text File
- Find your file and click “get data”, then...

Step 1: Choose what kind of file you have.

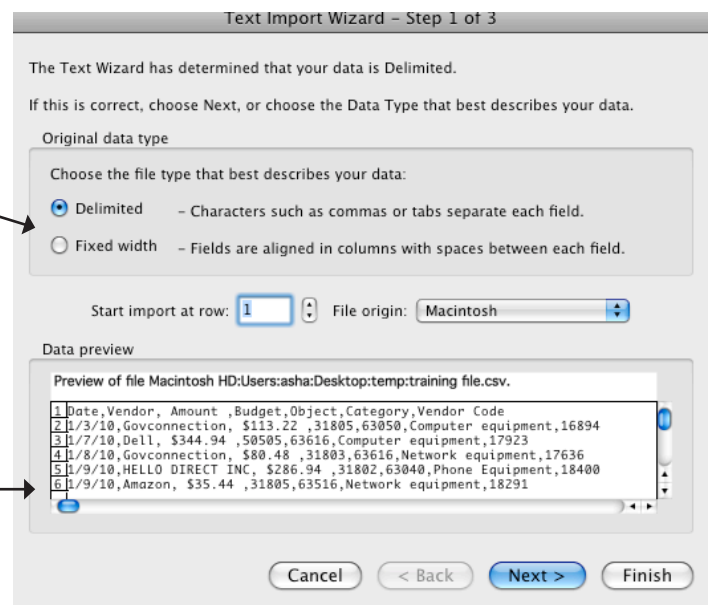
“Delimited” - that there is a special character separating each field

-OR-

“Fixed Width” - that you want to create a new column every x-number of characters or spaces.

In this example we’re going to choose “delimited”.

This screen will give you a preview of how your file will look once imported.



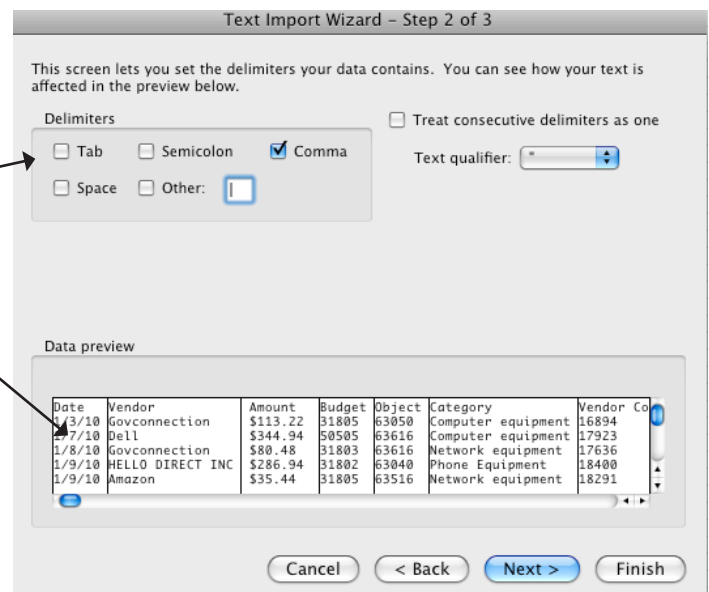
Click “Next”.

Step 2: Tell Excel how that file is delimited.

Check off which delimiter your file uses.

If you’re not sure, check and un-check things until the columns look right in the preview window.

Click “Next”



Step 3: Tell Excel what kind of data each column contains.

To do this, click a column or columns (shift-click to select multiple columns). Selected columns appear black.

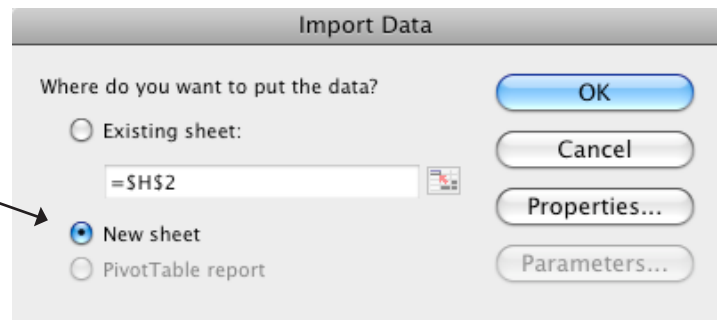
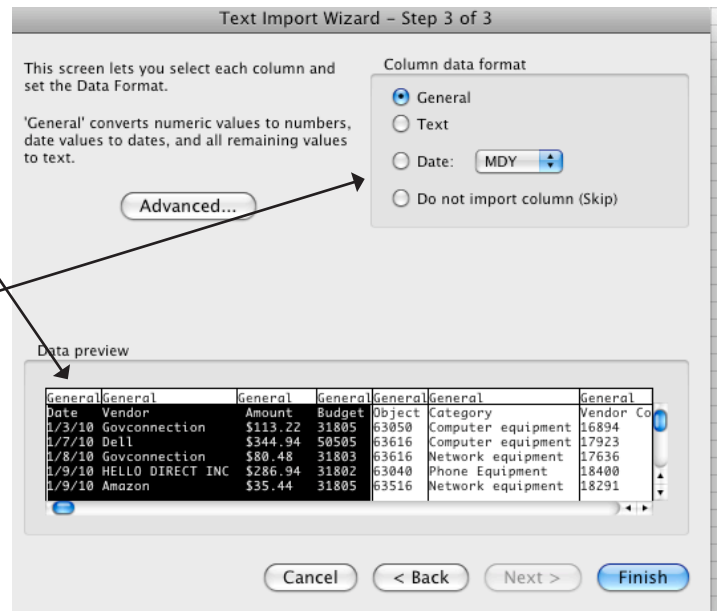
Use the radio buttons to choose a data format. “General” will import text as text and numbers as numbers. “Text” will import everything as... text. You can also specify date, and specific date formatting.

Tip: If you have a field of Zip codes, make sure to set this field as “text” so you don’t lose zeros off the beginning of the zip codes.

Click “next”.

Final Step: Tell Excel if you want your data in the current spreadsheet, or if you want it to create a new one in your workbook. Have it create a new one unless you’re currently on a blank sheet.

Click “OK” and you’re done!



Using Filters

The “Autofilter” command allows you to quickly sort your data or limit your view to just a certain criteria.

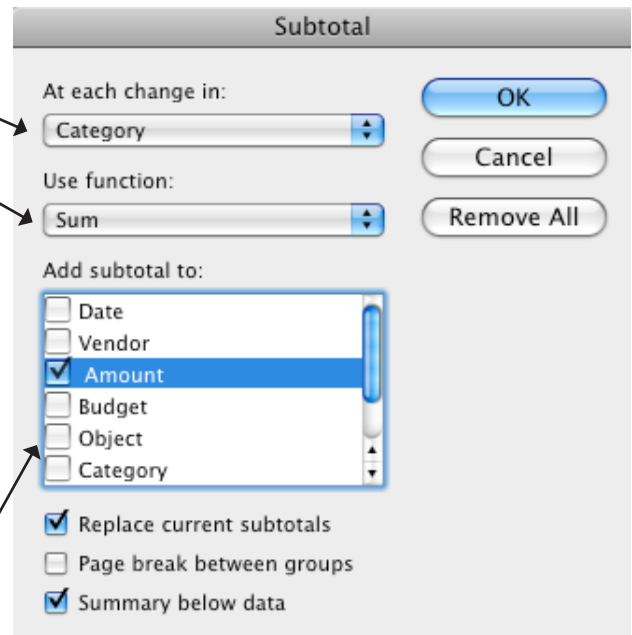
1. Make sure your spreadsheet has a header row with column titles.
2. Select your entire spreadsheet (this is so no columns get left out accidentally).
3. Data Menu > Filter > Autofilter. This is a check/uncheck control that you can turn on/off.
4. You will see small arrows in the cells of your header row. Click these for a filter menu for that column. You can:
 - “Sort Ascending” or “Descending” to sort the spreadsheet by that field (column).
 - The bottom section is a list of all the different entries in that column. Choose a criteria from the list to filter by that criteria - ie show ONLY records (rows) that match that criteria.
 - Use the middle section to “Show All” - remove any filters for that field. You can also show the 10 most common, or create a custom filter of your own.



Subtotals

Excel can automatically subtotal your data for you.

1. Sort your data by the field you want subtotals for.
2. Data Menu > Subtotals
3. From the first drop-down menu, tell it which field you want subtotals for.
4. In the next menu, tell it what kind of subtotals you want. Your main choices are:
 - Sum- adds all the entries up (this is probably what you'll use most of the time).
 - Count- counts the number of non-blank cells
 - Average- averages all the entries
 - Max- the highest # of all the entries
 - Min- the lowest
 - Product- multiplies all the entries.
5. Tell it which column contains the info you actually want to add (or count, or etc). Check off as many as you want.
6. Click "OK".
7. Click "Remove all" to get rid of existing subtotals.



Once you have subtotals, applied, you will see an **outline view** pane to the left of your data:

The top row shows three outline levels: 1, 2, and 3.

Level 1 is the grand total.

Level 2 is the subtotals.

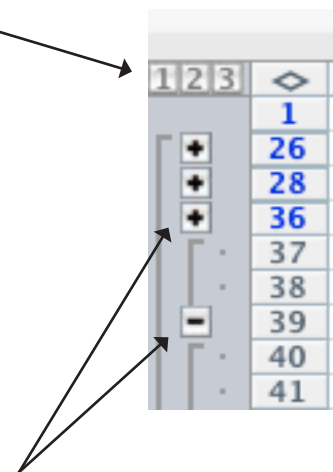
Level 3 is each individual transaction.

You can double click on these numbers to snap to a view of only the information for that outline level.

- If you want to see only the grand total, double click the "1".
- If you want to see only the subtotals, double click the "2".
- If you want to see everything again, double click the "3".

Each individual area in the outline can be expanded for viewing, or collapsed for hiding. Click the plus to expand an area, click the minus to collapse it.

When an area is collapsed the row numbers surrounding it will appear blue and bold, so you can tell something's hidden in between them.



Formulas: Copying & Using Autofill

If you have a formula you want to copy and use again, either:

1. Copy & Paste the cell that contains the formula.
2. Use the Autofill cursor to drag the formula across the cells that you want.
 - Put the cursor in the bottom right-hand corner, exactly on the outline of the cell.
 - It will turn to a dark + sign.
 - Click, hold, and drag down to highlight as many cells as you want the formula entered into.
 - Let go.

Relative vs. Absolute Cell References

Excel's default is to use "relative" cell references, meaning that when you move or copy a formula, it adjusts the formula to refer to new cells in relation to its new location. You can create an absolute reference if you don't want it to adjust automatically.

Relative References:

- In the example at left, there is a formula adding cells A1 & A2.
- When we copied that formula to cell B3, it adjusted to add cells B1 & B2 instead.

	A	B
1	2	3
2	2	3
3	=SUM(A1:A2)	=SUM(B1:B2)

Absolute References

- If you DON'T want excel to do this, you can tell it to use an "absolute" reference, which always refers to the same cell(s) no matter where you move that formula.
- Typing a \$ in front of the letter or number of a cell reference it turns it into an "absolute" reference. You can type the \$ in front of the only the row number, only the column letter, or both. Whatever reference has the \$ in front of it will always stay the same no matter where you copy the formula.
- Let's say we want to copy our formula again, but time we want to keep the A1 reference "absolute" - ie ALWAYS add A1, but let the rest of the formula adjust for its new location.
- We type =SUM(\$A\$1:A2). When we copy that formula to cell B3, notice that the A1 remained but the B2 is the new, adjusted relative reference. (The result here would be "5".)

	A	B
1	2	3
2	2	3
3	=SUM(\$A\$1:A2)	=SUM(\$A\$1:B2)

Conditional Formatting

You can tell Excel to format certain values a certain way- thus giving you an immediate at-a-glance sense of the information and trends your data contains.

1. Select the cells/rows/columns you want this formatting to apply to.

2. Formatting Menu> Conditional Formatting

3. Specify which criteria you want formatted. Choose one of the options from the second drop-down menu. It can be a value between two numbers, if can be a value “equal to” (useful for text values), greater than, less than, etc.

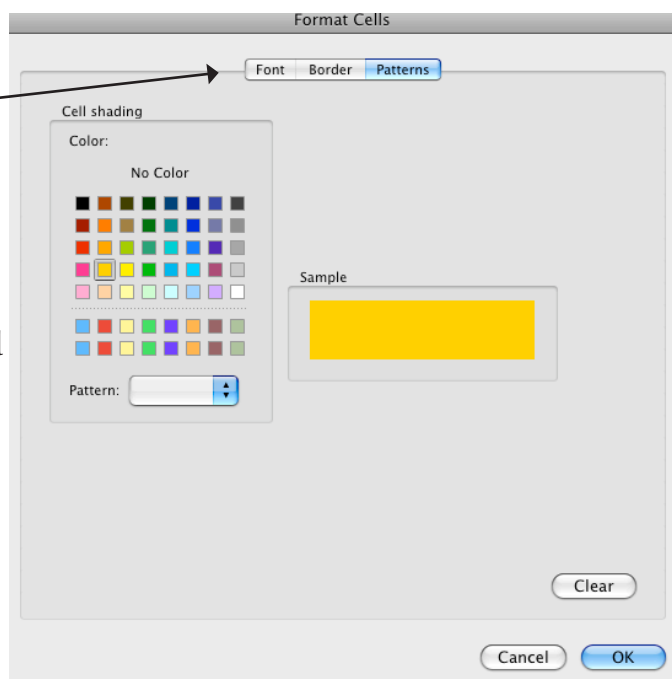
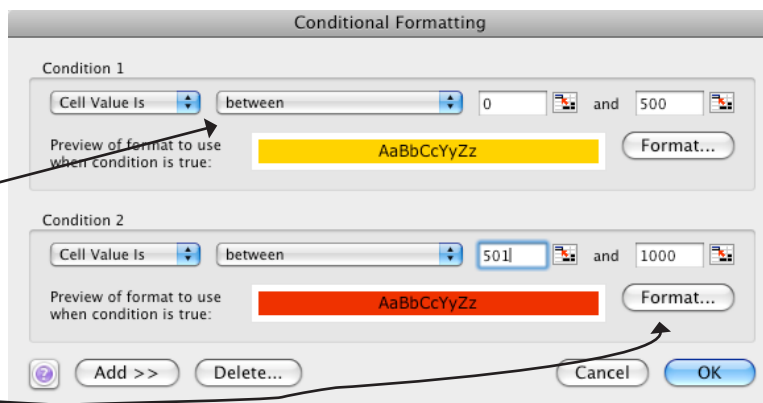
4. You can add a criteria by clicking “Add>>”.

5. Then click the “Format...” button for the criteria.

6. On the next screen you can choose what font you want to use, what kind of a border you want the cells to have, and what color you want them to be (“Pattern”).

7. Click “OK” and “OK” again to apply the formatting.

8. To remove formatting, click the “Delete” button and check off which format(s) you want to get rid of.

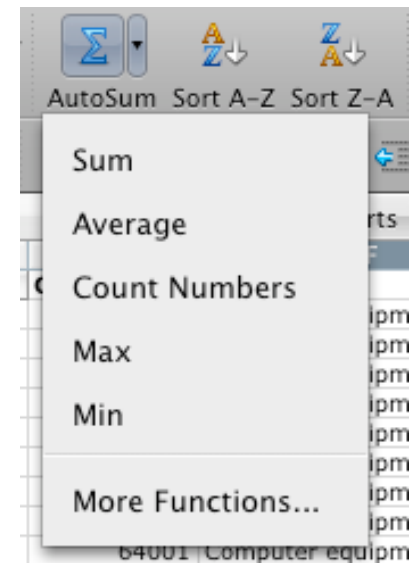


Functions

Functions are special commands, used in a formula, that tell Excel to calculate certain things in a certain way.

There is a drop-down menu in your standard toolbar that contains the most popular. They are:

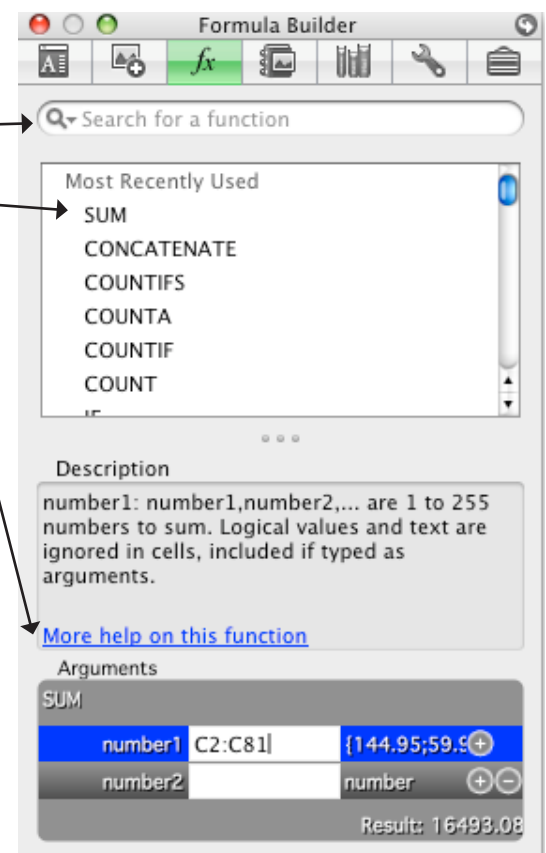
- Sum: Adds numbers together
- Average: Averages numbers
- Count Numbers: Counts how many numbers there are
- Max: Returns the highest value
- Min: Returns the lowest value
- Click “More Functions” to go to the Formula Builder



You can also get the formula builder by going to the Insert Menu > Function

To use a function:

1. Select the cell you want your formula/function to be in.
2. Search for your function.
3. Double click it to get the entry boxes at the bottom.
4. Click “more help on this function” to learn more about it or see examples.



Useful Functions

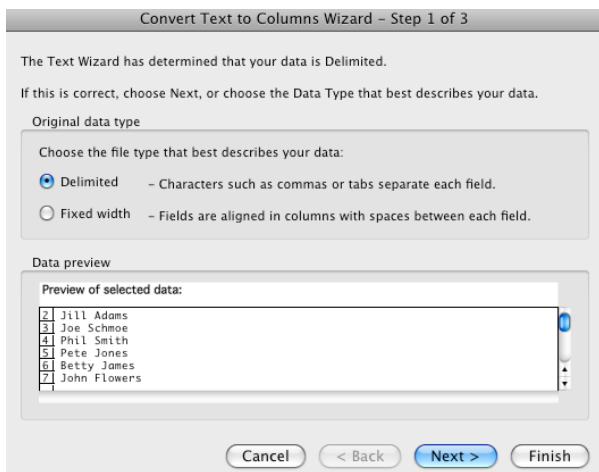
- **COUNTA**- This will simply count how many non-blank cells you have in your selected range. Unlike the regular “Count” function this includes text entries.
- **COUNTIF**- Counts non-blank cells that match a certain criteria. (15 records match “Apples” in the “Fruit Type” field)
- **COUNTIFS**- Counts non-blank cells that meet multiple criteria. (12 records match “Apples” in Fruit Type AND “Atkins” in Vendor field)
- **SUMIF**- Adds values if the records match a certain criteria. (We spent \$100 on Fruit Type: “Apples”)
- **SUMIFS**- Adds values if the records match multiple criteria. (We spent \$80 on Fruit Type: “Apples” from Vendor: “Atkins”)
- **CONCATENATE**- Takes data living in separate cells and combines it into one cell, plus any added text or punctuation you enter. Handy for combining first and last names, etc.

Text to Columns

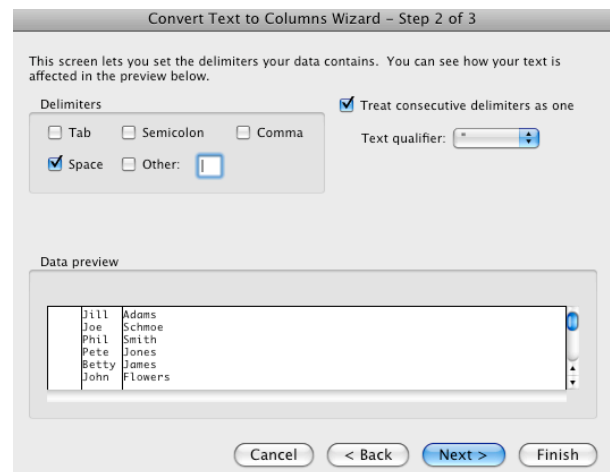
This command will take data living in one cell and separate it out to multiple cells, either by delimiter or set # of characters. This process is somewhat similar to importing data.

J	
Jill Adams	
Joe Schmoe	
Phil Smith	
Pete Jones	
Betty James	
John Flowers	
Jill Adams	
Joe Schmoe	
Phil Smith	

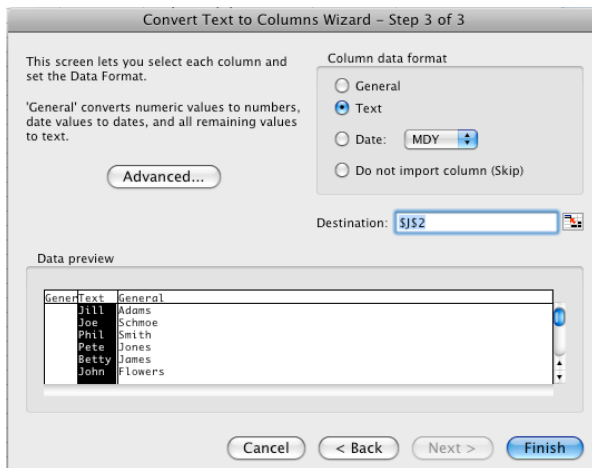
1. Make sure you have blank columns to the right of your data for the separated-out data to live in.
2. Select the cells you want to split up.
3. Data Menu > Text to Columns



4. Choose if you want your data split up by a delimiter- comma, space, etc, or if you just want to split it by a set # of spaces.



5. If you choose delimited, choose your delimiter. Check the preview pane below to make sure it looks right.



6. Specify what kind of data each column contains. Select the column(s) and choose from the radio buttons.

J	K	L
	Jill	Adams
	Joe	Schmoe
	Phil	Smith
	Pete	Jones
	Betty	James
	John	Flowers
	Jill	Adams
	Joe	Schmoe
	Phil	Smith

7. The finished product.

For More Help:

Microsoft's Office Help Pages-

Step-by-step instructions, videos, and courses
on lots of Excel functions and features.

<http://www.microsoft.com/mac/help.msp>

Visit training.hampshire.edu for online tutorials & tips.

Borrow a copy of "Excel for Dummies" from Asha.