UNIVERSITY OF MARY WASHINGTON

Microsoft Excel Manual

Purpose and Overview

The purpose of this manual is to provide an overview of Microsoft Excel tools and functions which are most useful to improve daily operational efficiency.

Version 1

10/20/2015

Training, Evaluation & System Support

www.umw.edu/tess

Companion Manuals:

Commerce Manager Manual

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SECTION I: What is Excel?

Microsoft Excel is a spreadsheet application that is commonly used for a variety of uses. At its core, Excel is a table consisting of rows and columns. Excel is composed of rows and columns and uses a spreadsheet to display data. Features include: calculation, graphing tools, pivot tables, and a macro programming language called Visual Basic for Applications.

What can I do with this?

The data within a table can be sorted by any column, which means that the rows can be ordered by last name or first name alphabetically, by the ID number ascending or descending, by the amount paid ascending or descending, or by the date. You can also filter the data in the table to have only specific values show.

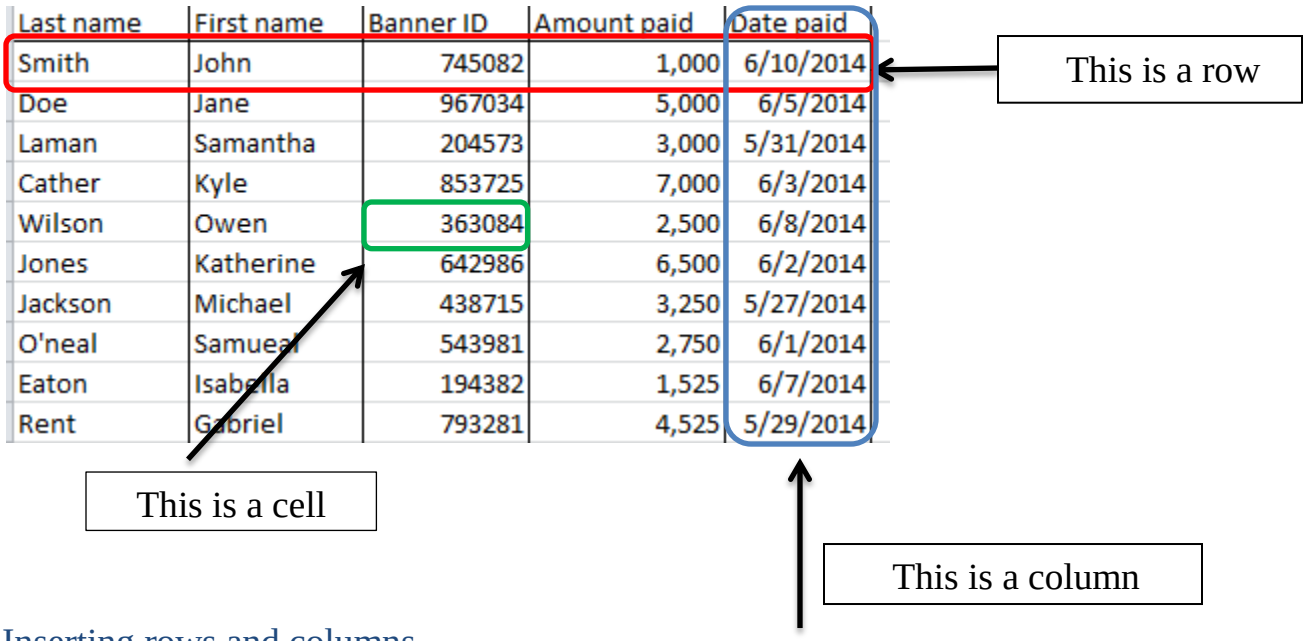
SECTION II: Cells, Rows, and Columns

What is a cell?

A cell, outlined in green below, is an individual block within a table in which you can enter values, such as words or numbers.

What are rows and columns?

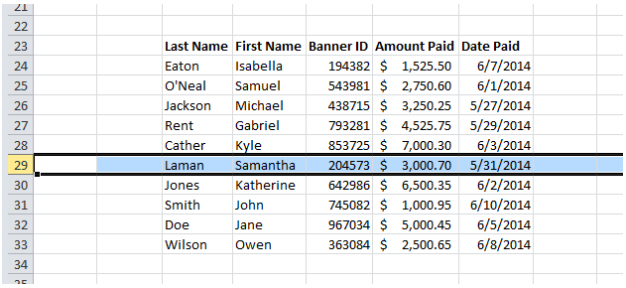
Rows, outlined in red below, are a horizontal group of cells. Columns, outlined in blue below, are a vertical group of cells.



Inserting rows and columns

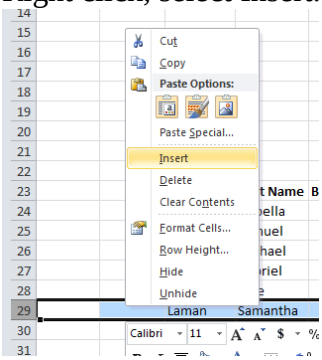
To Add a Row:

1. Select the entire row below where you want to add the new row.



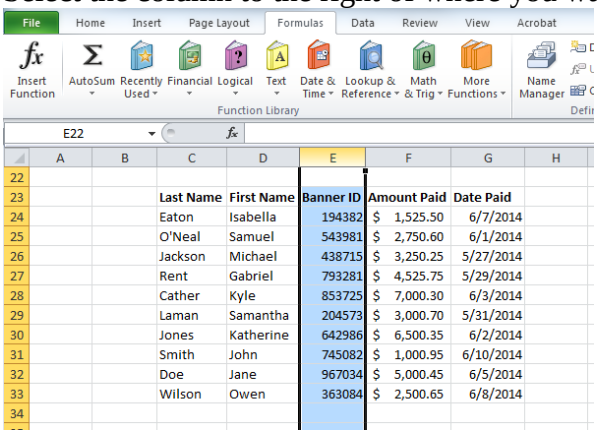
Last Name	First Name	Banner ID	Amount Paid	Date Paid
Eaton	Isabella	194382	$ 1,525.50	6/7/2014
O'Neal	Samuel	543981	$ 2,750.60	6/1/2014
Jackson	Michael	438715	$ 3,250.25	5/27/2014
Rent	Gabriel	793281	$ 4,525.75	5/29/2014
Cather	Kyle	853725	$ 7,000.30	6/3/2014
Laman	Samantha	204573	$ 3,000.70	5/31/2014
Jones	Katherine	642986	$ 6,500.35	6/2/2014
Smith	John	745082	$ 1,000.95	6/10/2014
Doe	Jane	967034	$ 5,000.45	6/5/2014
Wilson	Owen	363084	$ 2,500.65	6/8/2014

2. Right click, select Insert.



To Add a Column

1. Select the column to the right of where you want to add the new column



Last Name	First Name	Banner ID	Amount Paid	Date Paid
Eaton	Isabella	194382	$ 1,525.50	6/7/2014
O'Neal	Samuel	543981	$ 2,750.60	6/1/2014
Jackson	Michael	438715	$ 3,250.25	5/27/2014
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Laman	Samantha	204573	$ 3,000.70	5/31/2014
Jones	Katherine	642986	$ 6,500.35	6/2/2014
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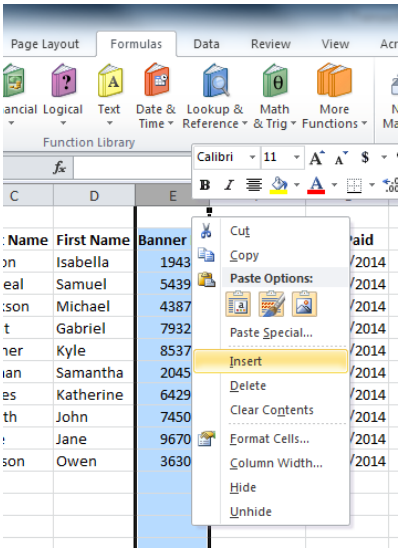
Doe	Jane	967034	$ 5,000.45	6/5/2014
Wilson	Owen	363084	$ 2,500.65	6/8/2014

2. Right click, select Insert.



Section III: Navigation

Navigating through your spreadsheet doesn't have to be difficult. Using some very simple keystrokes, you can move from one end of your spreadsheet to the other faster than using the scroll bar.

Moving Between Cells

Use the arrow keys on your keyboard to move from one cell to another

Use the Tab key to move horizontally to the right. Hold the Shift key and press the Tab key to move horizontally to the left.

Use the Enter key to move vertically downward. Hold the Shift key and press the Enter key to move vertically upwards.

Selecting Multiple Cells

To select a range of data:

1. Select the first cell in the data range.
2. Hold the Shift key.
3. Select the last cell in the data range.
   OR

Select the beginning range of data, drag the cursor to select the range of data

Selecting Entire Rows and Columns

Excel organizes a data sheet by numbering the rows and lettering the columns.
To select an entire row:

Select the number of the row

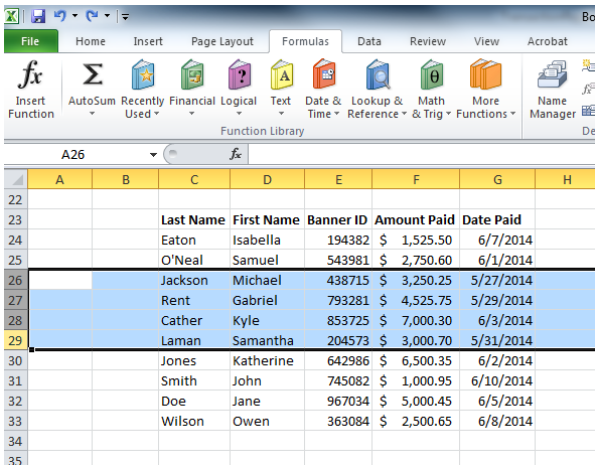
To select an entire column:

Select the letter of the column.

Selecting Multiple Rows and Columns

To select multiple rows or columns

1. Select the entire first row
2. Hold the Shift Key
3. Select the entire last row of the range of data



	A	B	C	D	E	F	G	H
22								
23			Last Name	First Name	Banner ID	Amount Paid	Date Paid	
24			Eaton	Isabella	194382	$ 1,525.50	6/7/2014	
25			O'Neal	Samuel	543981	$ 2,750.60	6/1/2014	
26			Jackson	Michael	438715	$ 3,250.25	5/27/2014	
27			Rent	Gabriel	793281	$ 4,525.75	5/29/2014	
28			Cather	Kyle	853725	$ 7,000.30	6/3/2014	
29			Laman	Samantha	204573	$ 3,000.70	5/31/2014	
30			Jones	Katherine	642986	$ 6,500.35	6/2/2014	
31			Smith	John	745082	$ 1,000.95	6/10/2014	
32			Doe	Jane	967034	$ 5,000.45	6/5/2014	
33			Wilson	Owen	363084	$ 2,500.65	6/8/2014	
34								
35								

SECTION IV: Formatting

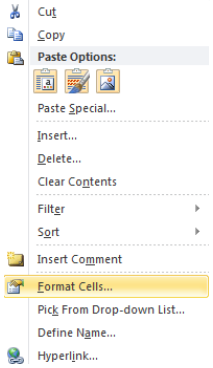
Formatting in Excel allows you to change the appearance of cells or the appearance of the spreadsheet as a whole.

Cells

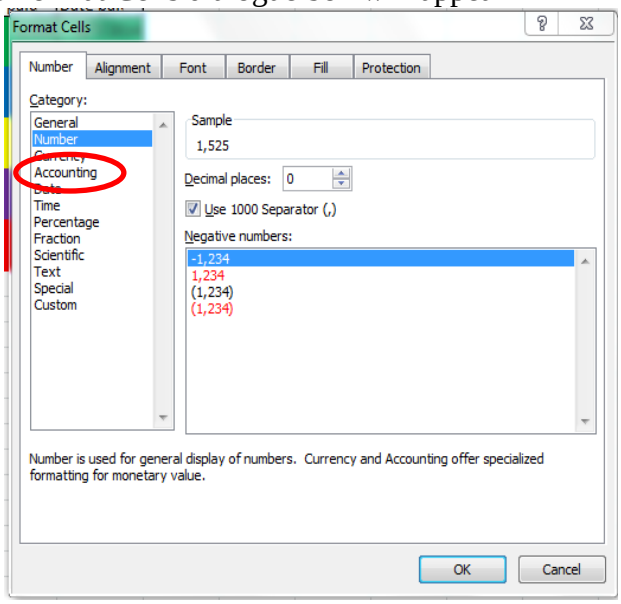
Formatting cells allow you to change the appearance of the value within the cell without changing the value, such as converting number into a currency or percentage value.

To Format a Cell:

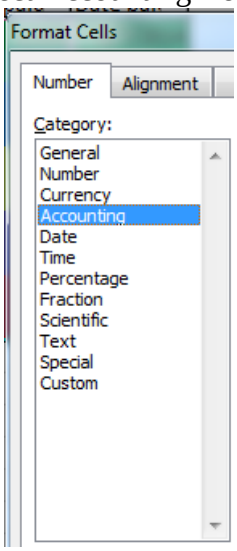
1. Select the cell or cells to format
2. Right click and select *Format Cells*.



The Format Cells dialogue box will appear



To convert a numeric value into an accounting value:
Select Accounting from the list of Categories.



Click Ok.

Last Name	First Name	Banner ID	Amount Paid	Date Paid
Eaton	Isabella	194382	$ 1,525.50	6/7/2014
O'Neal	Samuel	543981	$ 2,750.60	6/1/2014
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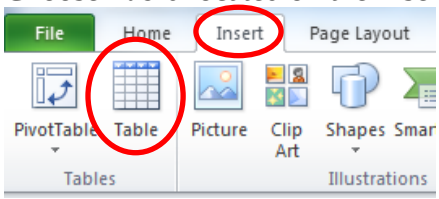
Tables

A table is a way of formatting data so that data may be sorted. Tables also display rows in alternating colors to make the data easier to read.

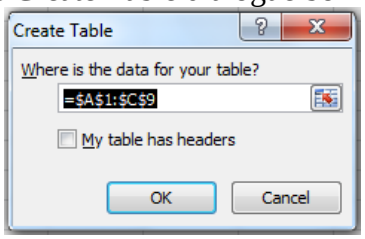
Choosing a Table Style to Create a Table

To Choose a Table Style:

1. Select the range of cells to include in the table.
2. Choose *Table* located on the Insert tab.



The Create Table dialogue box will appear.



If you selected a range of data to include in the table, the table contents will already be populated in the *Where is the data for you table* field.

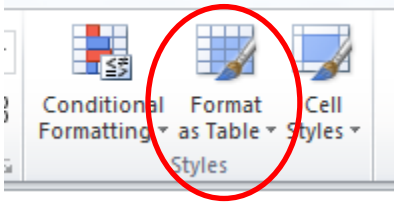
To include headers in the table, select the *My Table has Headers* checkbox.

To Create a Table from the Home Tab:

1. Select the range of cells to include in the table.

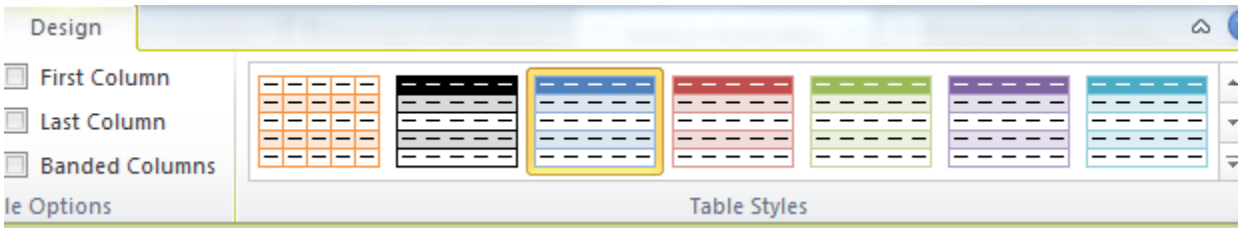
2. Select *Format as Table*.

3. Follow the steps listed above to create a table.



Adjust the Table Style

Select the table, and choose the *Table Style* located on the Design tab.

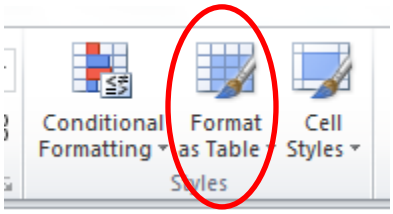


Creating or Deleting a Custom Table Style

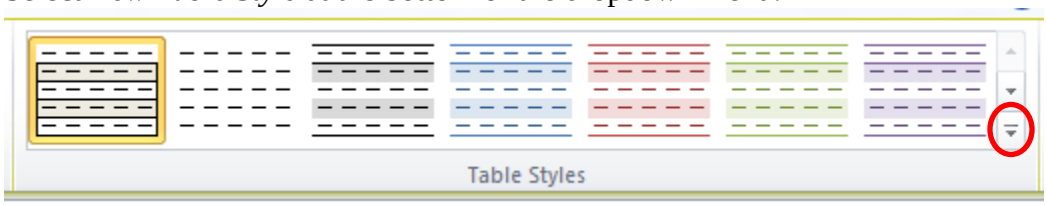
To Create a Custom Table:

1. Select your data

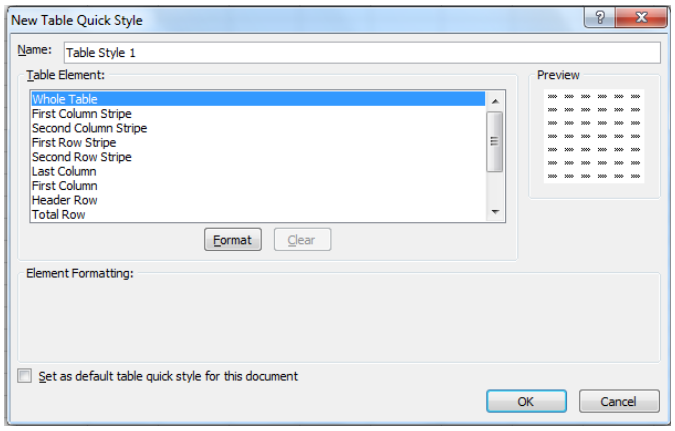
2. Choose *Format as Table*.



3. Select *New Table Style* at the bottom of the dropdown menu.



The New Table Quick Style dialogue box will appear.



4. Select any of the table elements to format the table as desired.

The Preview box allows you to view the table before completing formatting changes. Select OK to apply the table to your data.

To Set this Table as a Default Table:

1. Select the *Set as default table quick style for this document* option

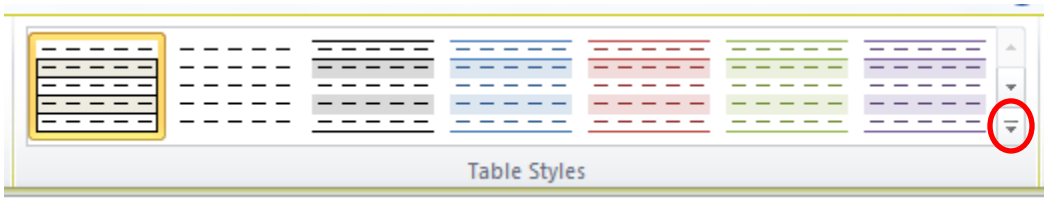
To Delete a Custom Style:

1. Select *Format as Table.*
2. Find the custom style located within the *Custom* section
3. Right click on the style, select *Delete.*

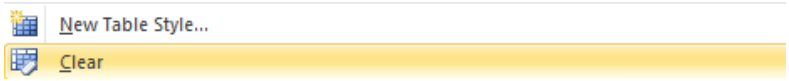
Removing a Table Style

To Remove a Table Style from and Existing Table:

1. Select the contents of the table.
2. Choose the *More* button.



3. Choose *Clear*.

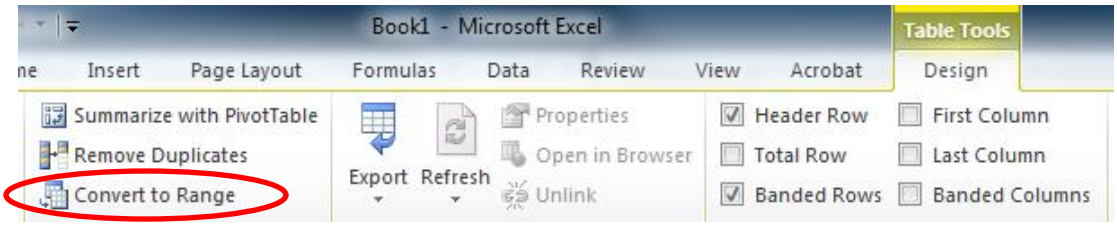


This will clear the table style but the data will still remain in a table format.

Converting a Table to a Range of Data

To Convert an Existing Table to a Range of Data:

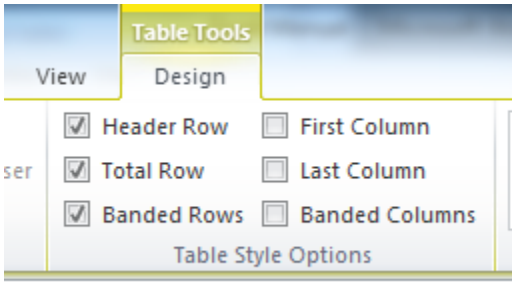
1. Select the table.
2. Select *Convert to Range*.
3. Select *Yes*.



Formatting Table Elements

To Format the Elements of a Table Style:

1. Select the contents of the table.
2. *Table Style Options* contains various table formatting options.



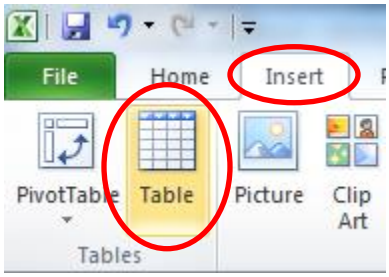
3. Select the desired checkboxes to change the format of the table.

Header Row – Creates a row at the top of the table for headers.
Total Row – Creates a row at the bottom of the table populates a total sum for each column.
Banded Rows – Shades every other row in the table.
First Column – Shades the entire first column the same color as the header row.
Last Column – Shades the entire last column the same color as the header row.
Banded Columns – Shades every other column in the table.

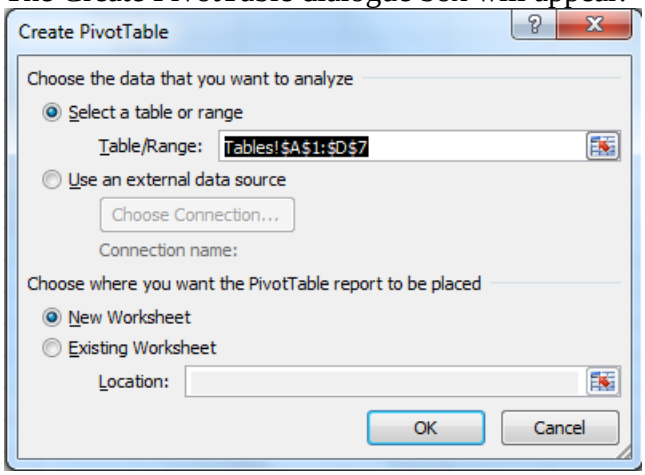
Pivot Tables

A pivot table is a data summarization tool within Excel. A pivot table can sort, count, total and average the data within a table or spreadsheet.

To Insert a Pivot Table:
1. Select any cell in your data range.
2. Select Pivot Table located on the Insert tab.



The Create PivotTable dialogue box will appear.

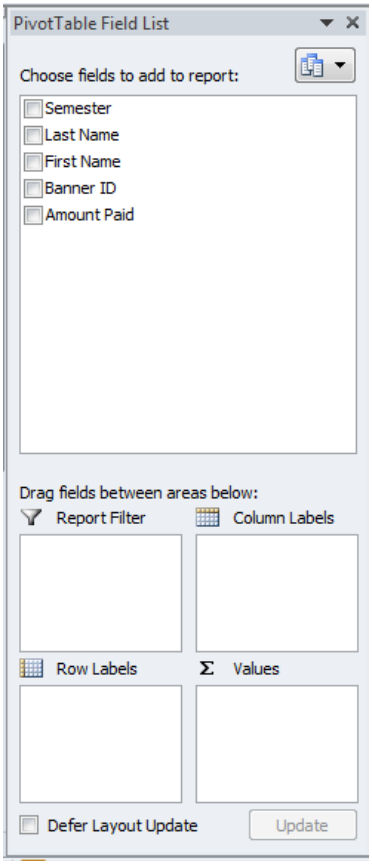


Excel will automatically select the data for the pivot table.
Excel will also automatically select New Worksheet as the destination for the pivot table.

3. Click *Ok*.
   A new worksheet will be added for the pivot table.

   Initially, the spreadsheet will appear blank.

   The PivotTable Field List is located to the right.



4. Choose the fields to see by selecting column headers within *Choose Field to Add to Report*.

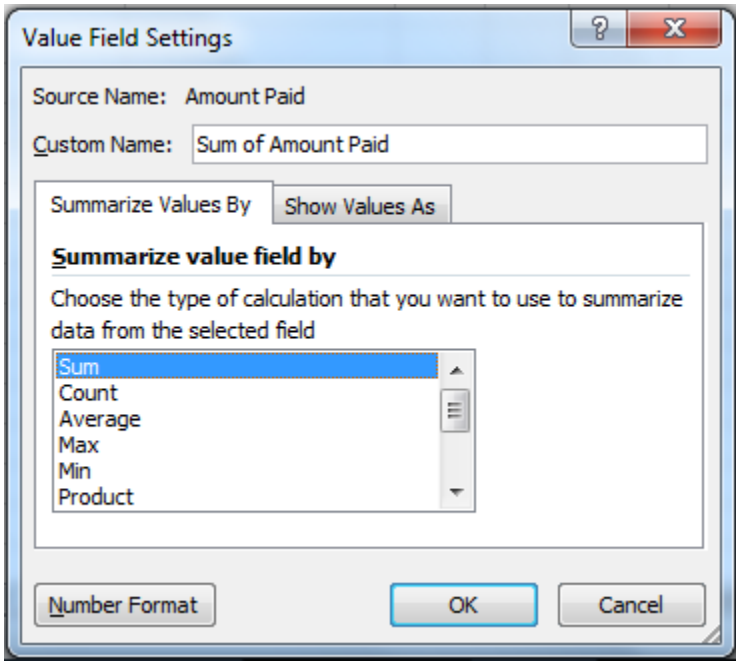
   You can also drag and drop a field into a Pivot table Area within the dialogue box.

   Pivot Table Areas:
   Report Filter – Filters the entire pivot table based on fields in that area
   Column Labels – Adds columns to the table based on fields in that area;
   Row Labels – Adds rows to the table based on fields in that area;
   Values – Performs an Auto Sum action in the table based on the fields in that area.

In a pivot table, you can sort and filter like you can with any other data range.

To Change the Summary Calculation Value:
1. Click on any cell in the *Grand Total* row
2. Select *Value Field Settings* from the menu.

This will open the Value Field Settings dialogue box:



3. Choose the calculation you want to summarize.
4. Click *Ok*.

The *Values* field will change to the selected calculation.

Conditional Formatting

Conditional formatting allows you to change the appearance of a cell, based on criteria that you define, using predetermined rules in Excel.

Highlight Cells Rules

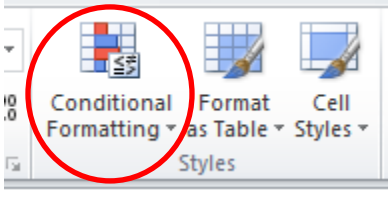
Using the highlight cells rules, you can highlight cells in your data that are greater or less than a value, between or equal to a value or contain a specified or duplicate value.

Greater Than

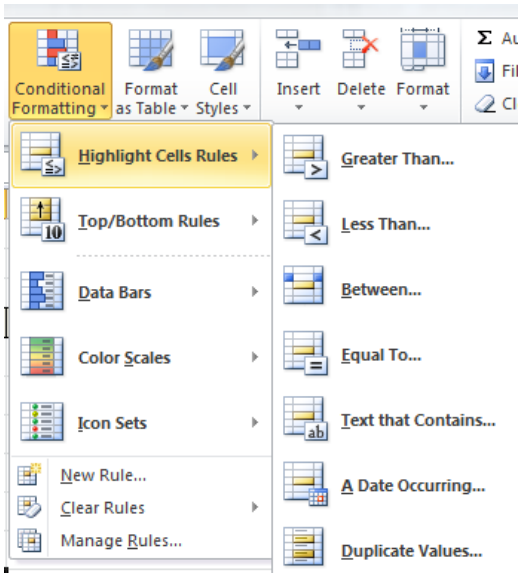
To highlight cells which contain data greater than a specific value:

1. Highlight the data range.

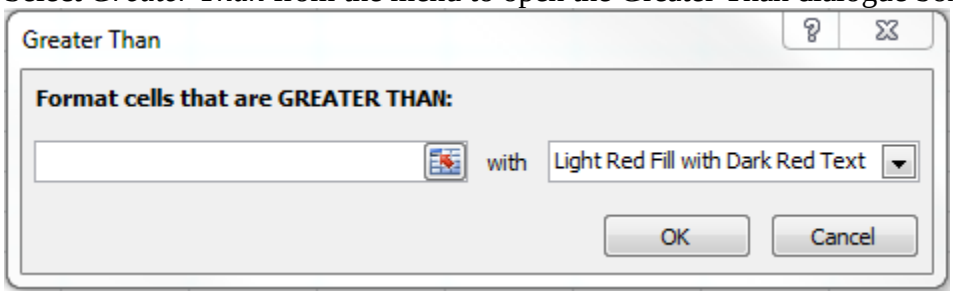
2. Select the *Conditional Formatting* tool



3. Hover over *Highlight Cells Rules* to reveal the menu of different rules.



4. Select *Greater Than* from the menu to open the Greater Than dialogue box:



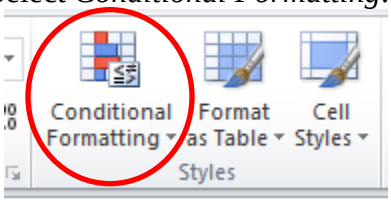
5. Enter the value that you want to set as your lower limit for the Greater Than condition.
6. Select the type of formatting from the dropdown menu.
7. Select Ok.

The cells which contain a value greater than the value you specified will now appear with the cell formatting which you selected.

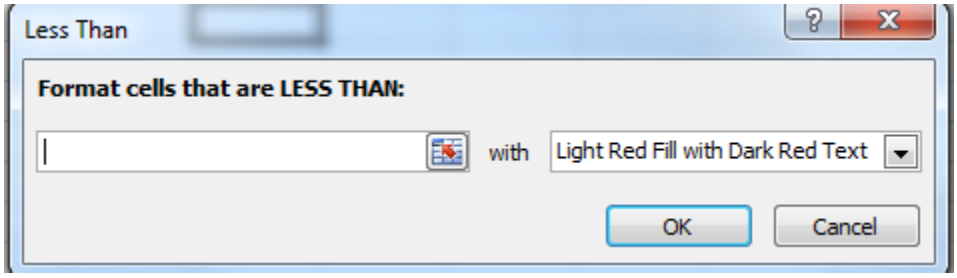
Less Than

To highlight cells that contain data less than a specific value:

1. Highlight the data range.
2. Select *Conditional Formatting*.



3. Hover over *Highlight Cell Rules*.
4. Select *Less Than* to open the Less Than dialogue box.



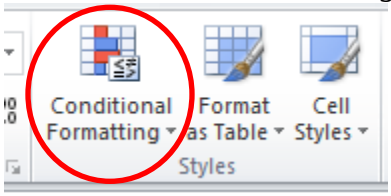
5. Enter the value that you want to set as your upper limit for the Less Than condition
6. Select *Ok*.

The cells which contain a value less than the value you specified will now appear with the cell formatting which you selected.

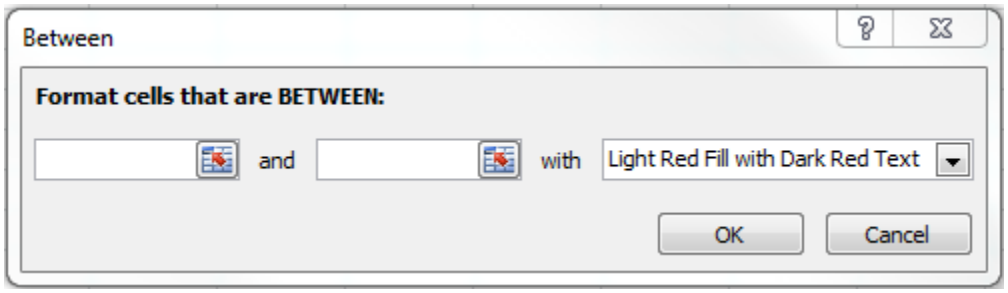
Between

To highlight cells between two specific values:

1. Highlight the data range.
2. Select *Conditional Formatting*.



3. Hover over *Highlight Cells Rules* to reveal the menu of different rules.
4. Select *Between* to open the Between dialogue box.



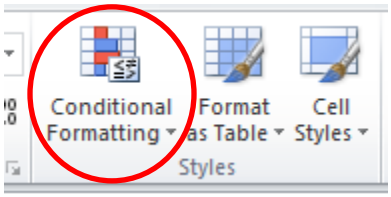
5. Enter the lower limit in the first box and the upper limit in the second box.
6. Select the cell formatting.
7. Select *Ok*.

The cells which contain a value between the two specified values will now appear with the cell formatting which you selected.

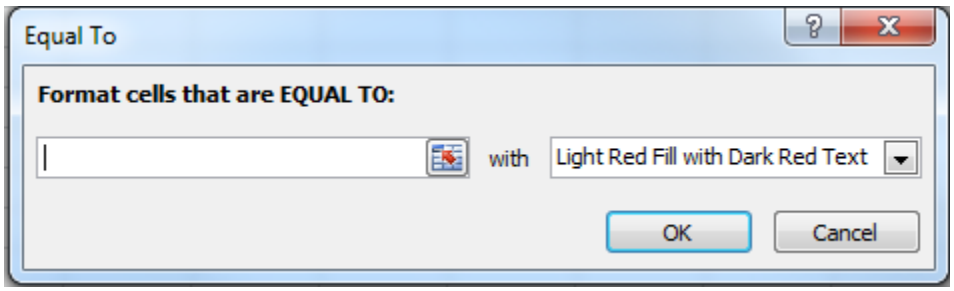
Equal To

To highlight cells equal to a specific value:

1. Highlight the data range.
2. Select *Conditional Formatting*.



3. Hover over *Highlight Cells Rules*.
4. Select *Equal To* to open the Equal To dialogue box.



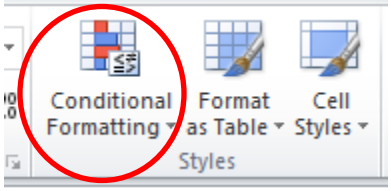
5. Enter the value that you're looking for.
6. Select the type of cell formatting you wish to use.
7. Select *Ok*.

The cells which contain the specified value will now appear with the cell formatting which you selected.

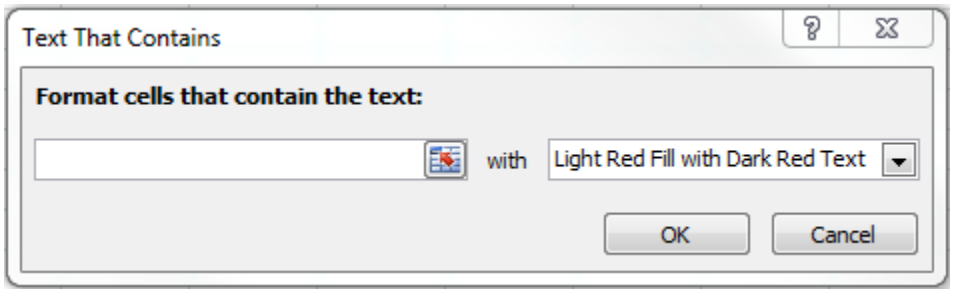
Text That Contains

To highlight cells that contain a certain character(s):

1. Highlight the data range.
2. Select *Conditional Formatting*.



3. Hover over the *Highlight Cells Rules*.
4. Select *Text That Contains* to open the Text That Contains dialogue box.



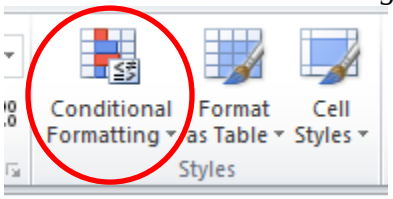
5. Enter the character(s) you're looking for.
6. Select the type of cell formatting you wish to use.
7. Select *Ok*.

The cells which contain the specified character(s) will now appear with the cell formatting which you selected.

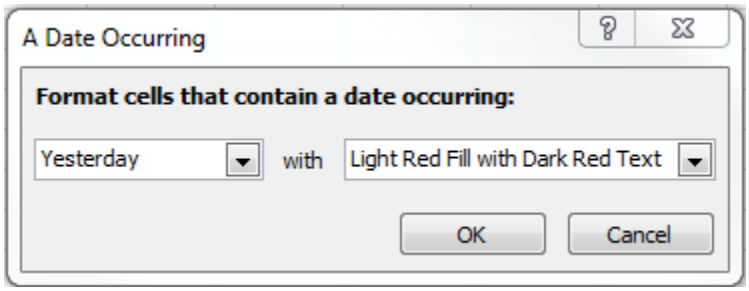
A Date Occurring

To highlight cells that contain a certain date or date range:

1. Highlight the data range.
2. Select *Conditional Formatting*.



3. Hover over the *Highlight Cells Rules*.
4. Select *A Date Occurring* to open the Date Occurring dialogue box.



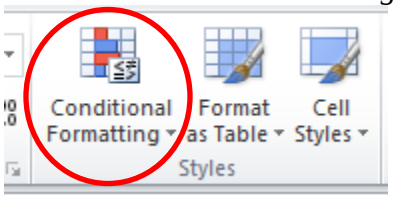
5. Select the date or date range that you're looking for.
6. Select the type of cell formatting.
7. Select *Ok*.

The cells which contain the specified date or date range will now appear with the cell formatting which you selected.

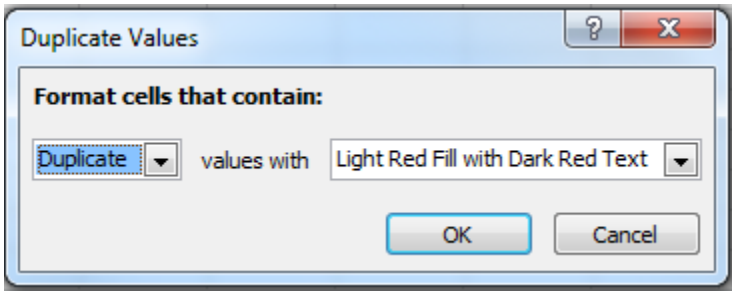
Duplicate Values

To highlight cells that contain either duplicate or unique values:

1. Highlight the data range.
2. Select *Conditional Formatting*.



3. Hover over *Highlight Cells Rules*.
4. Select *Duplicate Values* to open the Duplicate Values dialogue box.



5. Select either *Duplicate* or *Unique* from the drop down menu.
6. Select the type of cell formatting you wish to use.
7. Select *Ok*.

The cells which contain either duplicate or unique values will now appear with the cell formatting which you selected.

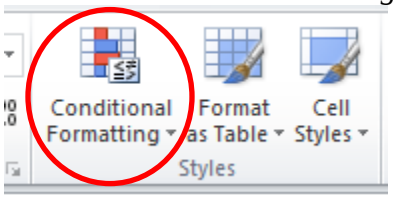
Top/Bottom Rules

Top and bottom rules can be used to highlight cells that are the top or bottom ten items or the top or bottom ten percent. They can also be used to identify items above or below the average.

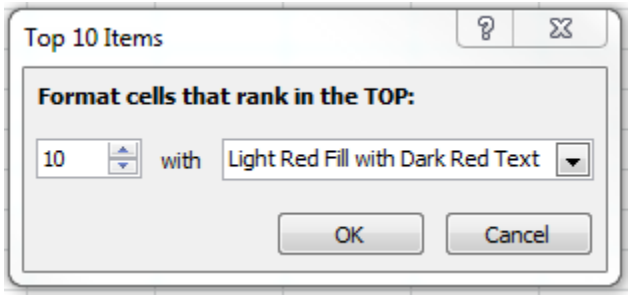
Top 10 Items

To highlight cells that are the top 10 items in your data:

1. Highlight your entire data range.
2. Select *Conditional Formatting*.

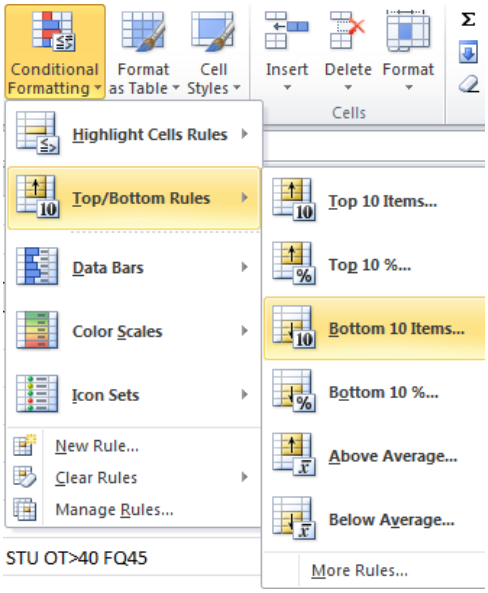


3. Hover over *Top/Bottom Rules*.
4. Select *Top 10 Items* to open the Top 10 Items dialogue box.



5. Enter the number of items to identify.
6. Select the type of cell formatting you wish to use.
7. Select *Ok*.

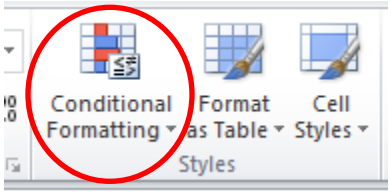
The cells which are in the top selected number will now appear with the cell formatting which you selected.
To identify the bottom 10 items select *Bottom 10 Items* instead of Top 10 Items.



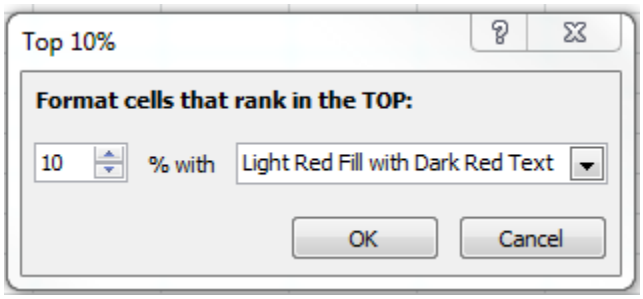
Top 10%

To highlight cells that are in the top percentage of items in your data:

1. Highlight the data range.
2. Select *Conditional Formatting*.



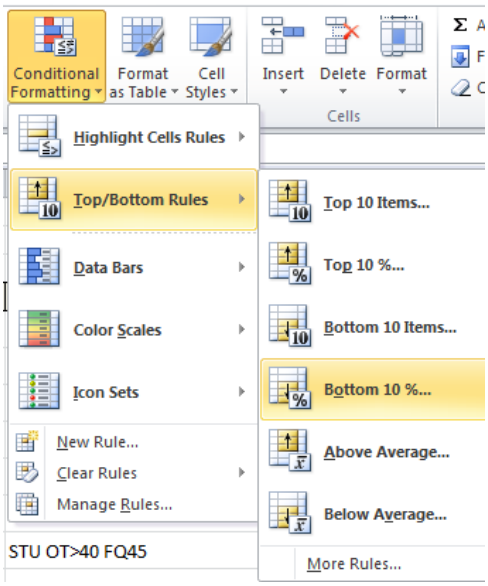
3. Hover over *Top/Bottom Rules*.
4. Select *Top 10%* to open the Top 10% dialogue box.



5. Enter the number of items to identify.
6. Select the type of cell formatting you wish to use.
7. Select *Ok*.

The cells which are in the top selected percentage will now appear with the cell formatting which you selected.

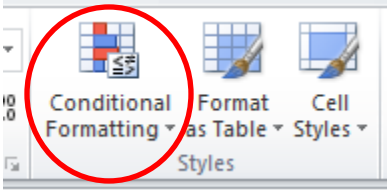
To identify the bottom 10 percent select *Bottom 10 Percent* instead of Top 10 Percent.



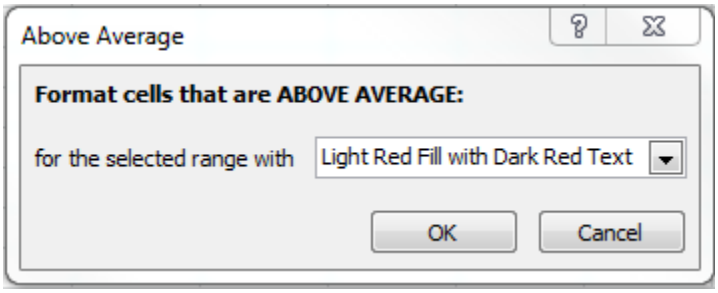
Above Average

To highlight cells that are above the average value of your data:

1. Highlight the data range.
2. Select *Conditional Formatting*.

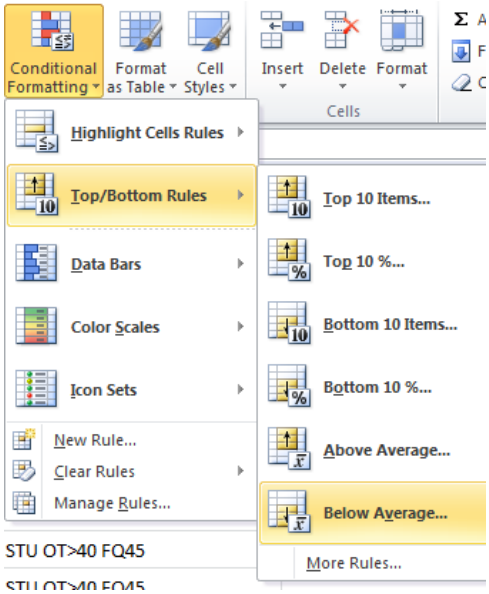


3. Hover over *Top/Bottom Rules*.
4. Select *Above Average* to open the Above Average dialogue box:



Select the type of cell formatting you wish to use. Select *Ok*. The cells which are above the average value of your data will now appear with the cell formatting which you selected.

To identify items below the average value select *Below Average* instead of Above Average.

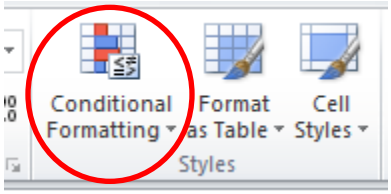


Data Bars

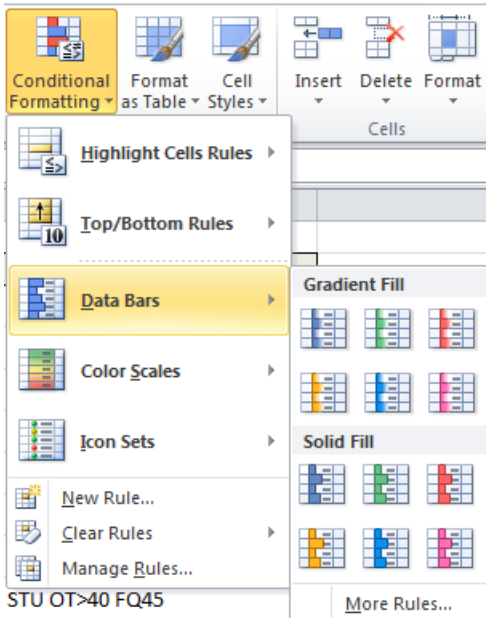
Conditional formatting in Excel can be used to convert cells with numeric data into a bar graph. Two bar graph options are gradient and solid filled graphs.

To convert data into a bar graph:

1. Highlight your entire data range.
2. Select *Conditional Formatting*.

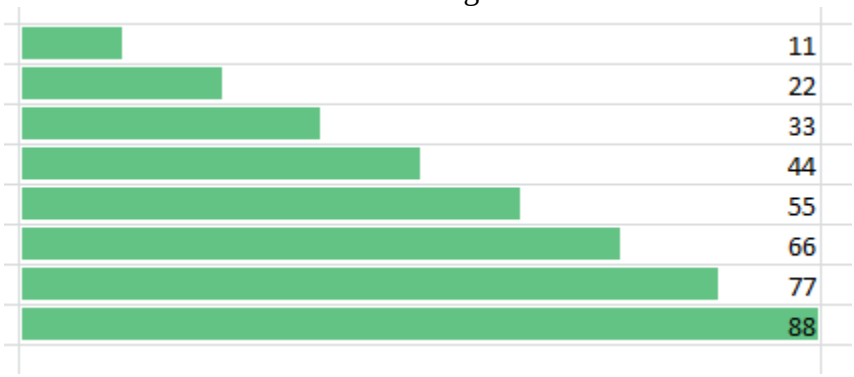


3. Hover over *Data Bars*.



4. Choose either Gradient or Solid and select a color for the bar graph.

The data cells will now be filled with a gradient color based on the value in the cell.

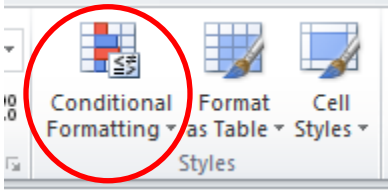


Color Scales

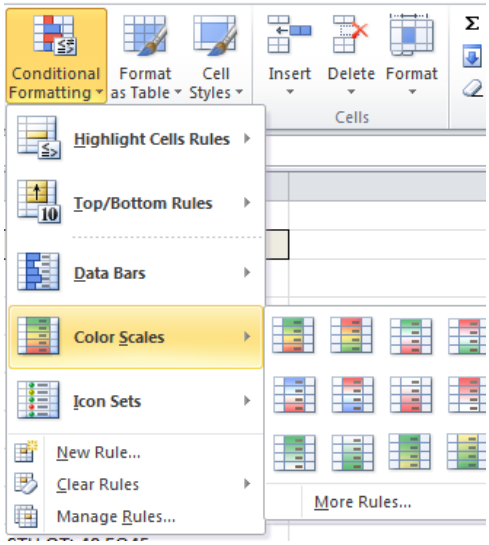
You can use the Color Scales rules to color the cells in your data based on their numerical value. Color Scales makes it easier to visualize the data.

To add a color scale to data:

1. Highlight the data range.
2. Select *Conditional Formatting*.

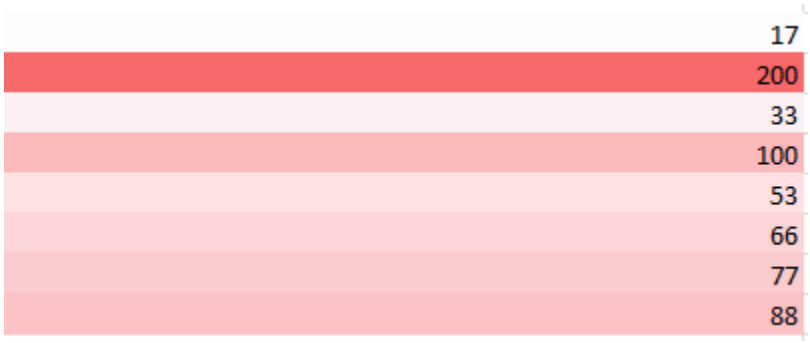


3. Hover over *Color Scales*.



4. Select a color scale.

The data cells will now be displayed as a color scale based on the value of the cell.

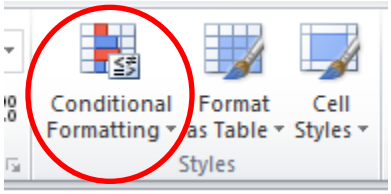


New Rule

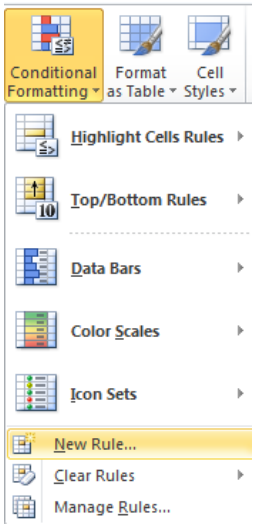
If the rules outlined above do not cover what you need, you can create your own rule.

To create your own rule:

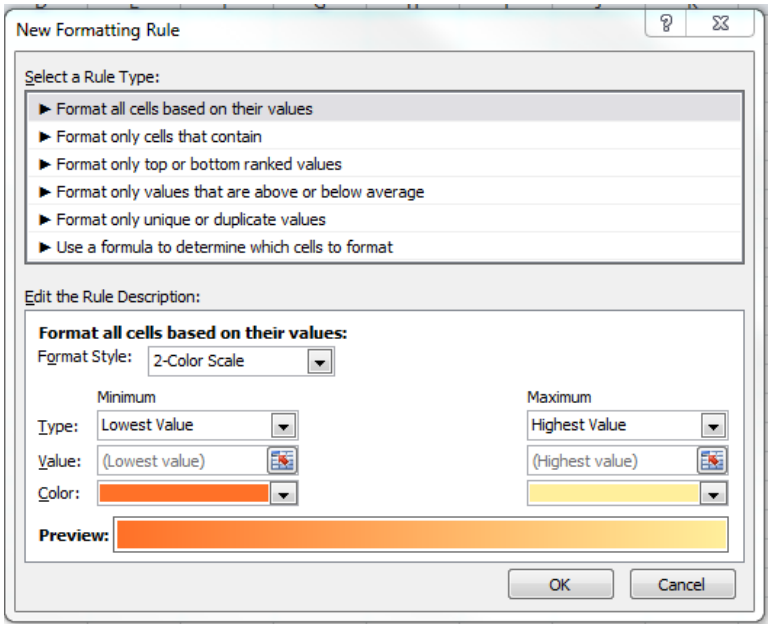
1. Highlight the cells in your data range.
2. Select the *Conditional Formatting* tool.



3. Select *New Rule*.



The New Rule dialogue box will open.



4. Select the Rule Type.

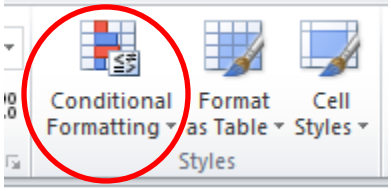
Each rule type will change the appearance of the dialogue box, as it changes the rule description.

Clear Rules

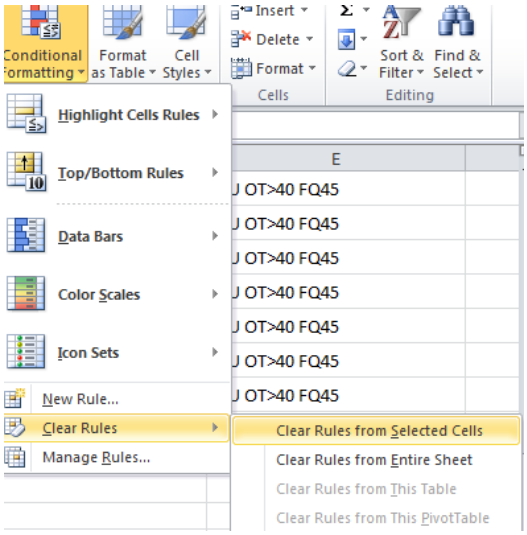
Clear Rules clears any conditional formatting rules from the selected cells, the entire spreadsheet, the table, or the pivot table.

To clear conditional formatting:

8. Select *Conditional Formatting*.



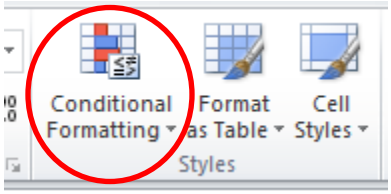
1. Hover over *Clear Rules*.
2. Select the range for which to clear conditional formatting.



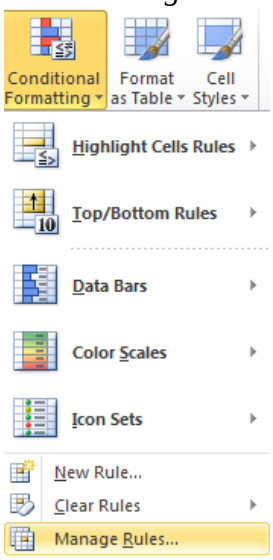
Manage Rules

Manage Rules allows you to view, edit, delete, and add rules.
To manage conditional formatting rules:

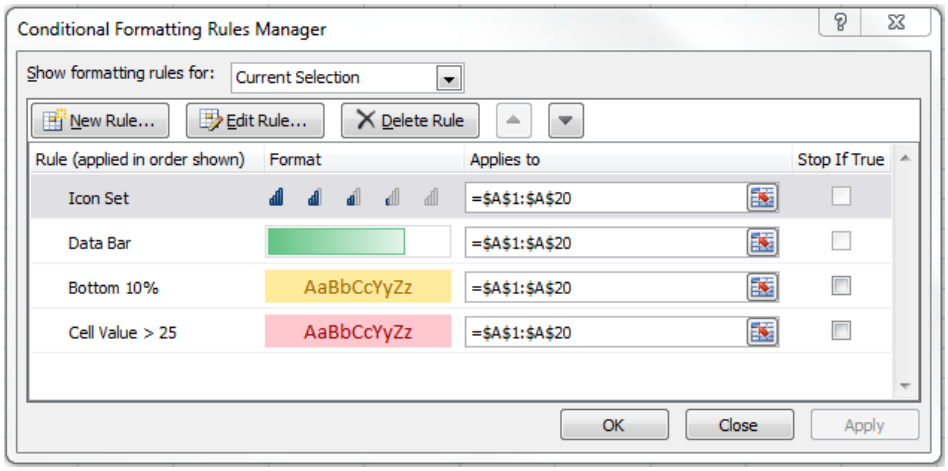
1. Select *Conditional Formatting*.



2. Select *Manage Rules*.



This will open the Conditional Formatting Rules Manager dialogue box:



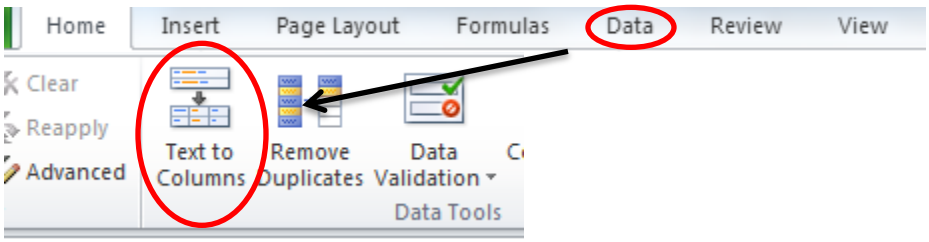
Select the formatting rules for dropdown to view rules for the current selection or any other worksheet or table within the workbook. You may add, edit or delete a rule from the Conditional Formatting Rules Manager.

SECTION V: Separating Text within a Cell

When data is combined within a cell, such as a first and last name, Excel is able to separate this data into two cells.

To separate data within a cell:

1. Insert a blank column to the right of the column containing the merged data.
2. Highlight the column of full names.
3. Select the *Data* tab.
4. Select *Text to Columns*.

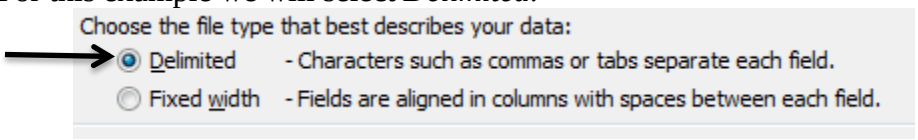


The Convert Text to Columns Wizard dialogue box will.

5. Choose the appropriate data type.

To separate a column based on punctuation characters, select *Delimited*.
To separate a column based on spaces between each field, select *Fixed Width*.

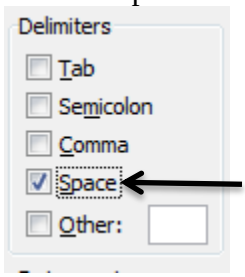
For this example we will select *Delimited*.



6. Select *Next*.

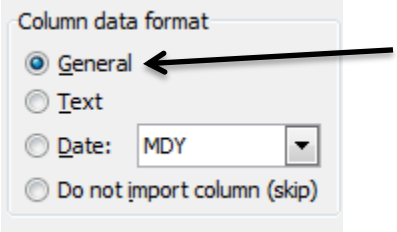
7. Choose your delimiters for the text separation.

For this example select *Space*.



8. Select *Next*.

9. Select the data format for each column.
For this example select *General*.



10. Select *Finish*.

Data will be displayed as separate columns.

Sallie Shaffer
Joseph Garcia
Sallie Shaffer
Surhid Gautam
Charles Dennis
Yasmine Johnson
Kathleen Chilton
Kathleen Chilton
Helen Martin
Helen Sue Martin
Joseph Garcia
Sallie Shaffer
Mark Abraham
Mark Abraham
Surhid Gautam
Carmen Roberts

Sallie	Shaffer
Joseph	Garcia
Sallie	Shaffer
Surhid	Gautam
Charles	Dennis
Yasmine	Johnson
Kathleen	Chilton
Kathleen	Chilton
Helen	Martin
Helen	Martin
Joseph	Garcia
Sallie	Shaffer
Mark	Abraham
Mark	Abraham
Surhid	Gautam
Carmen	Roberts

SECTION VI: Sorting

Sorting allows for alphabetic, numeric, color and even multi-level organization.

Alphabetical

To sort the data alphabetically:
1. Select the column to sort.

For this example we will sort by last name.

2. Highlight the column.

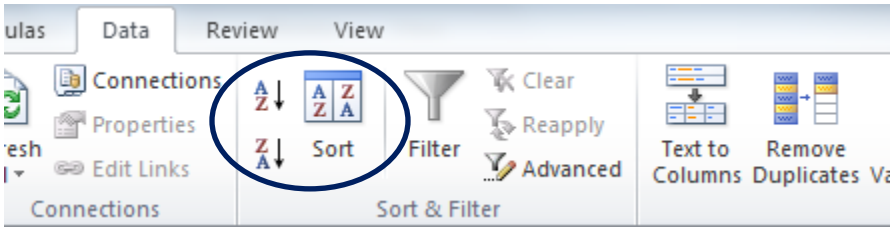
3. Select the *Data* tab.

Sorting options are located in the *Sort & Filter* section.

The Sort action, circled in blue below is used to alphabetically organize data.

The A-Z descending button is used to sort data from the lowest to highest values.

The Z-A descending button is used to sort data from the highest to lowest values.



4. Select the *A-Z* to alphabetize the data within the column.

A Sort Warning dialogue box will appear. This will ask if you want to expand the selection or continue with the current selection.

5. Select *Expand the Selection*. This will sort the entire data sheet based on the column instead of just sorting the column selected.

The data will be displayed alphabetically.

Last name	First name	Banner ID	Amount paid	Date paid
Cather	Kyle	853725	7,000	6/3/2014
Doe	Jane	967034	5,000	6/5/2014
Eaton	Isabella	194382	1,525	6/7/2014
Jackson	Michael	438715	3,250	5/27/2014
Jones	Katherine	642986	6,500	6/2/2014
Laman	Samantha	204573	3,000	5/31/2014
O'neal	Samueal	543981	2,750	6/1/2014
Rent	Gabriel	793281	4,525	5/29/2014
Smith	John	745082	1,000	6/10/2014
Wilson	Owen	363084	2,500	6/8/2014

Numerically

To numerically sort data from lowest to highest values:
1. Select the column
2. Select the *A-Z* sort button to sort data from smallest to largest quantity.

Select the Z-A sort button to sort data from largest to smallest quantity.

Multi-level Sorting

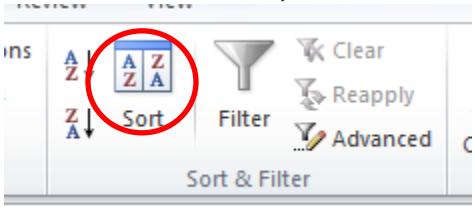
A data table may also be sorted by using multiple criteria.

For this example we will sort by Semester and then by Last Name using the following table:

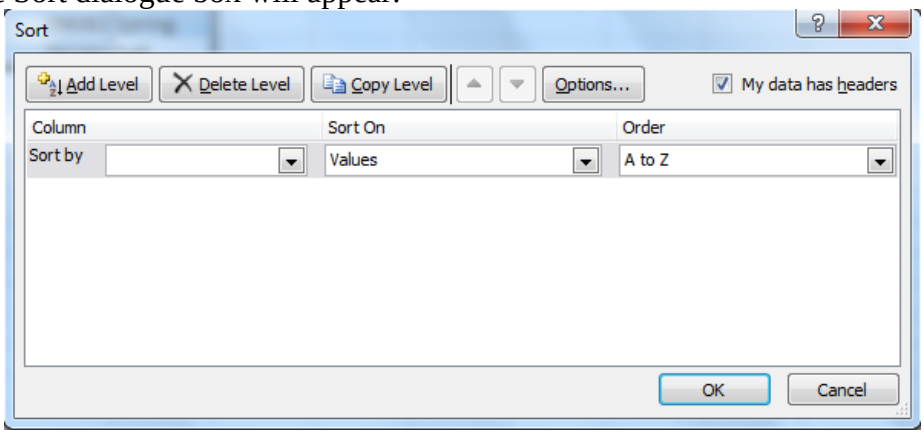
Last Name	First Name	Banner ID	Semester
Smith	John	745082	Fall
Doe	Jane	967034	Fall
Laman	Samantha	204573	Spring
Cather	Kyle	853725	Fall
Wilson	Owne	363084	Spring
Jones	Katherine	642986	Spring
Jackson	Michael	438715	Fall
O'neal	Samuel	543981	Spring
Eaton	Isabella	194382	Spring
Rent	Gabriel	793281	Fall

1. Select the first column to sort.

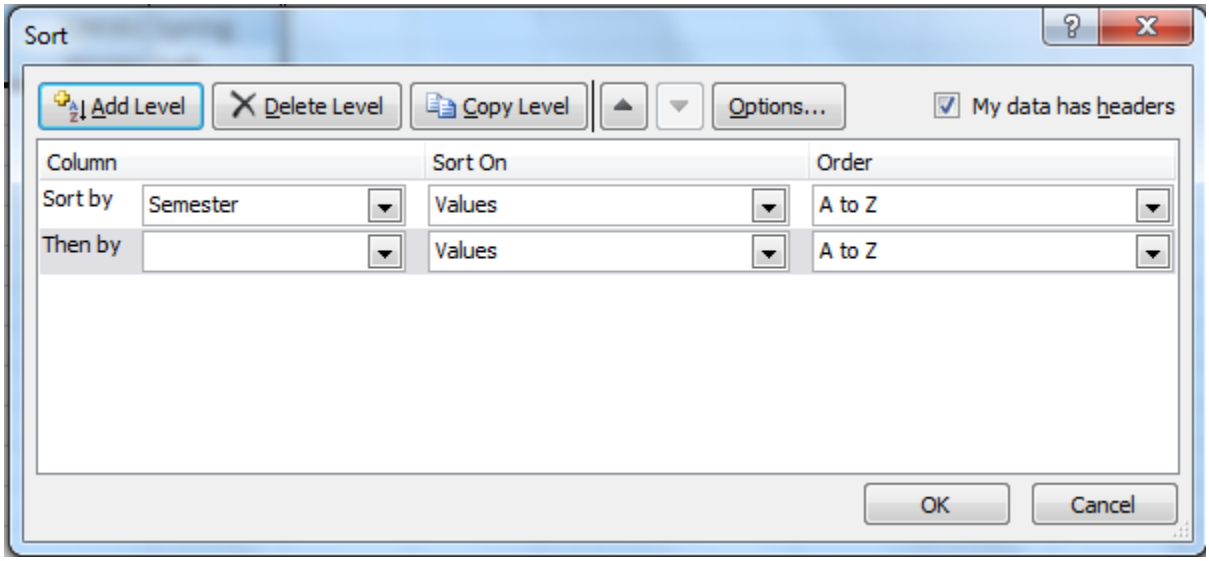
2. Select the *Sort* button, circled in red.



The Sort dialogue box will appear:



3. Open the *Sort By* dropdown.
4. Select the appropriate name of the column to sort first. For this example we will use *Semester*.
5. The *Sort On* dropdown should remain as *Values*.
6. To alphabetically sort data, select *A-Z*.
7. Ensure the *My Data Has Headers* option is selected to differentiate between column headers and data.
8. Select *Add Level* to add additional criteria to sort by.
   The *Then By* criteria will appear.



9. Select *Last Name* from the *Then By* dropdown box.

10. The *Sort On* dropdown should remain as *Values*.

11. The Order dropdown should be *A-Z*.

12. Click *Ok*.
The table will now be sorted alphabetically by semester and then by last name.

Last Name	First Name	Banner ID	Semester
Cather	Kyle	853725	Fall
Doe	Jane	967034	Fall
Jackson	Michael	438715	Fall
Rent	Gabriel	793281	Fall
Smith	John	745082	Fall
Eaton	Isabella	194382	Spring
Jones	Katherine	642986	Spring
Laman	Samantha	204573	Spring
O'neal	Samuel	543981	Spring
Wilson	Owne	363084	Spring

Sorting by Cell Color

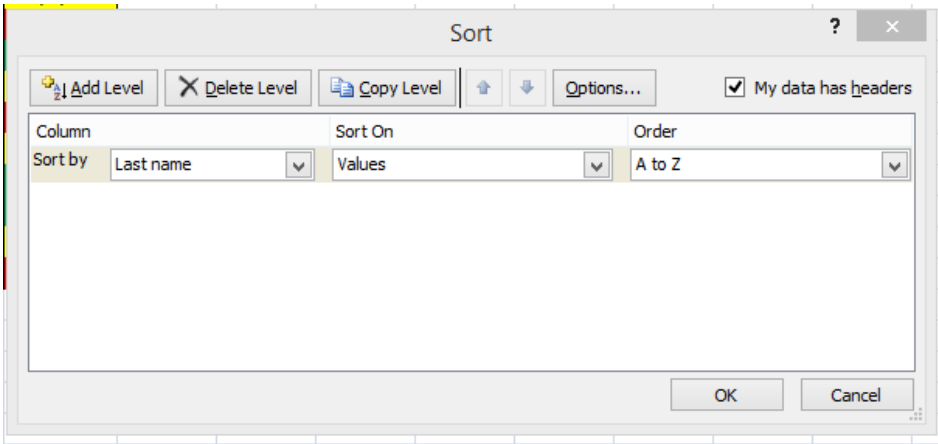
To sort a color coded data table:

Last name	First name	Banner ID	Amount paid	Date paid
Cather	Kyle	853725	7,000	6/3/2014
Doe	Jane	967034	5,000	6/5/2014
Eaton	Isabella	194382	1,525	6/7/2014
Jackson	Michael	438715	3,250	5/27/2014
Jones	Katherine	642986	6,500	6/2/2014
Laman	Samantha	204573	3,000	5/31/2014
O'neal	Samueal	543981	2,750	6/1/2014
Rent	Gabriel	793281	4,525	5/29/2014
Smith	John	745082	1,000	6/10/2014
Wilson	Owen	363084	2,500	6/8/2014

For this example we will organize the table with green at the top, yellow in the middle, and red on the bottom.

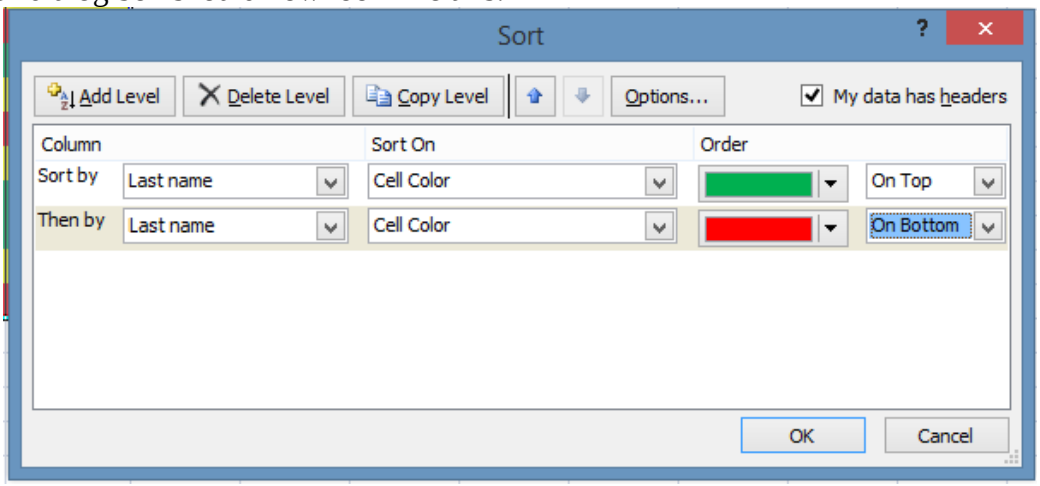
1. Highlight the column of cells to sort.
2. Select *Sort*.

The Sort dialogue box will appear.



1. Open the *Sort By* dropdown.
2. Select the name of the column to sort.
3. Select *Cell Color* from the *Sort On* dropdown.
4. Select the color to be displayed at the top of the data sheet from the *Order* dropdown.
5. Ensure *On Top* is selected.
6. Select *Add Level* to add another sort criteria.
7. Select the same column from the *Then By* dropdown.
8. Select *Cell Color* from the *Sort On* dropdown
9. Select the color to be displayed at the bottom of the data sheet.
   For this example we will use the color red.

Your dialog box should now look like this:



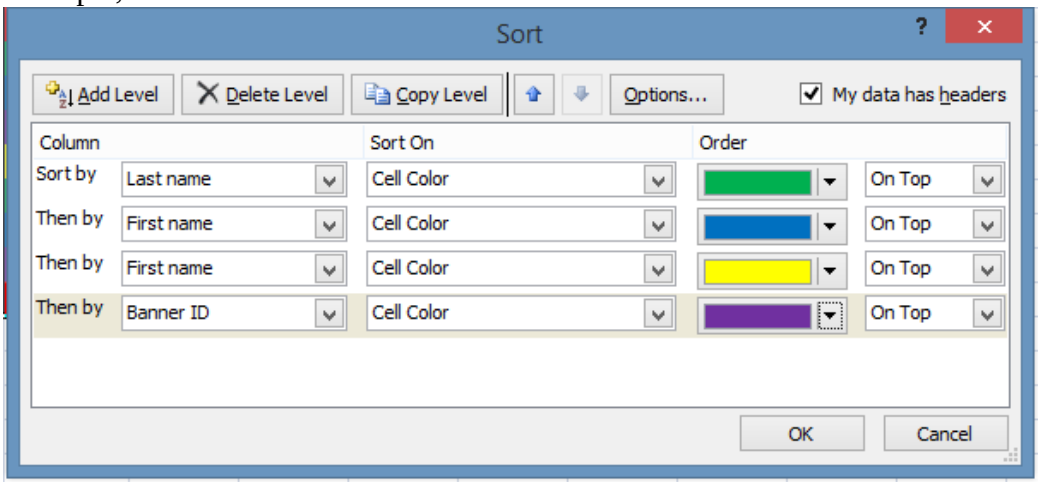
10. Select *Ok.*

The data table will now be sorted by color.

Last name	First name	Banner ID	Amount paid	Date paid
Eaton	Isabella	194382	1,525	6/7/2014
O'neal	Samueal	543981	2,750	6/1/2014
Rent	Gabriel	793281	4,525	5/29/2014
Cather	Kyle	853725	7,000	6/3/2014
Jackson	Michael	438715	3,250	5/27/2014
Laman	Samantha	204573	3,000	5/31/2014
Smith	John	745082	1,000	6/10/2014
Doe	Jane	967034	5,000	6/5/2014
Jones	Katherine	642986	6,500	6/2/2014
Wilson	Owen	363084	2,500	6/8/2014

If there are more than three colors in the data sheet:
Follow the same process, but for each additional sort level added in the Sort dialogue box, select for each color to be displayed on top.

For example, data that contains five different colors would look like this:



Once sorted, the data table will appear like this:

Last name	First name	Banner ID	Amount paid	Date paid
Eaton	Isabella	194382	1,525	6/7/2014
O'neal	Samueal	543981	2,750	6/1/2014
Jackson	Michael	438715	3,250	5/27/2014
Rent	Gabriel	793281	4,525	5/29/2014
Cather	Kyle	853725	7,000	6/3/2014
Laman	Samantha	204573	3,000	5/31/2014
Jones	Katherine	642986	6,500	6/2/2014
Smith	John	745082	1,000	6/10/2014
Doe	Jane	967034	5,000	6/5/2014
Wilson	Owen	363084	2,500	6/8/2014

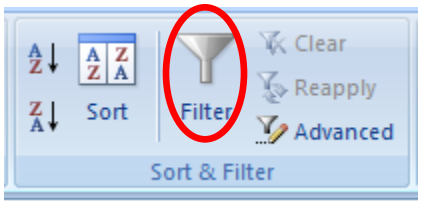
SECTION VII: Filters

Filters allow data to be limited to only display data which meets the criteria of the filter. Data which does not meet the criteria of the filter is hidden.

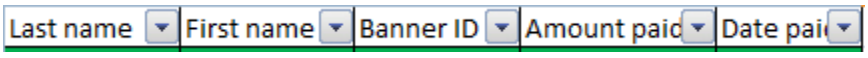
To apply a filter:
1. Select the range of data to filter

2. Highlight the headers of each column of data to filter.
   To highlight all header columns select the entire first row.

3. Select *Filter*.



A dropdown arrow will appear to the right of each column header.

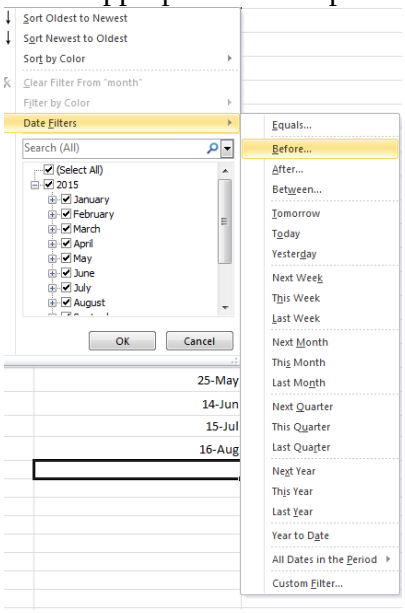


Filters may be applied to each column of data. To apply a filter, open the dropdown menu and select the criteria to display.

For example: to view all items that were paid in May:
1. Select the arrow to open the dropdown menu to filter.
2. Unselect the *Select All* checkbox.
3. Select the checkboxes you wish to display.

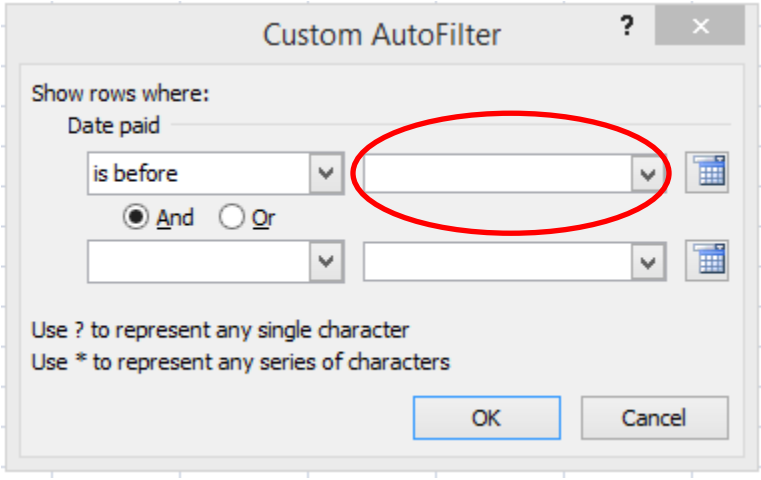
To filter further than the options that are made available:

1. Hover over the *Date Filters* option. (This may also be displayed as column, text or number filters, depending on the contents of the column).
4. Select the appropriate filter option to filter the data.



In this example, we will select *Before*.

A dialog box titled *Custom AutoFilter* will open.



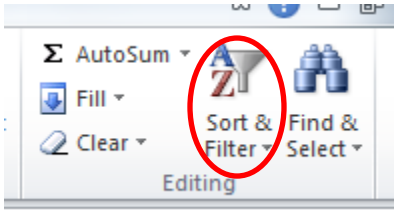
Enter the parameters for the filter in the Custom AutoFilter dialog box.
Select 6/1/2014 from the calendar dropdown menu to the right of the *Is Before* dropdown.
Click *Ok*.

The result will look like this:

Last name	First name	Banner ID	Amount paid	Date paid
Jackson	Michael	438715	3,250	5/27/2014
Rent	Gabriel	793281	4,525	5/29/2014
Laman	Samantha	204573	3,000	5/31/2014

This process may be used to filter any column.

*All sort and filter functions can also be found from the dropdown *Sort & Filter* menu in the *Editing* section



Section VIII: Functions and Formulas

Basic Functions/Formulas

Excel has many different functions and formulas which can be used to manipulate data in a variety of ways, such as sums, subtotals, averages, number counts, maximums, and minimums.

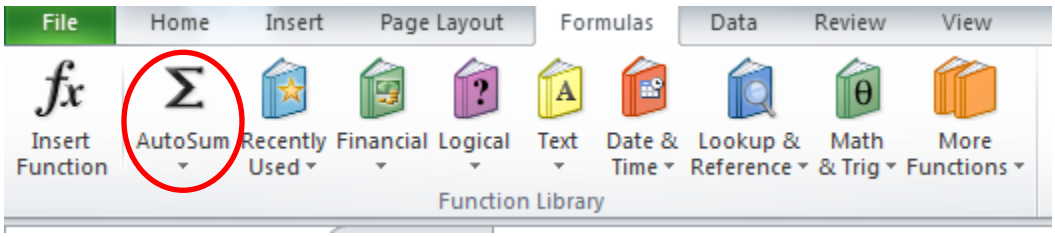
Sums

One of the most commonly used functions of Excel is summation. If you have a data table for a single student with amounts and dates of payment, to find the sum of all payments, you would use the summation function.

Last Name	First Name	Banner ID	Amount Paid	Date Paid
Smith	John	745082	3,000	9/8/2013
			2,500	10/12/2013
			1,500	12/10/2013
			2,000	3/15/2014
			1,000	6/10/2014

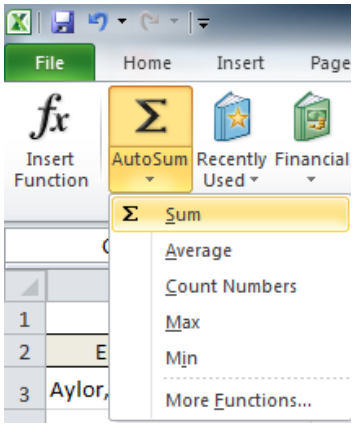
To add numbers in a column:

1. Select the cell directly beneath the last entry.
2. Select *Auto Sum* located on the *Formulas* tab.



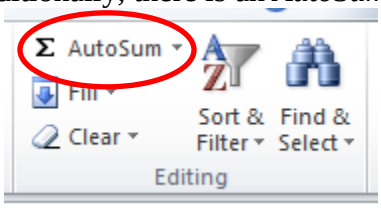
3. Select the *AutoSum* button
4. This will select all items within the column
5. Click the *Enter* key on your keyboard to calculate the sum of all fields.

Other functions are available by selecting the AutoSum dropdown



Other functions include: averaging the numbers in a column, counting the numbers in a column and finding the minimum and/or maximum numbers in the column.

Additionally, there is an *AutoSum* button and dropdown menu also located on the Home toolbar.



Subtotaling

The Subtotal tool is used sum data by group. Subtotaling data eliminates the need to manually insert a row and perform a summation.

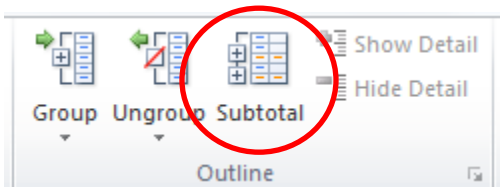
Below is a sample data sheet for which we need to calculate the total amount paid for each semester.

Last Name	First Name	Banner ID	Amount Paid	Semester
Smith	John	745082	$ 3,000.00	Fall
			$ 2,500.00	Fall
			$ 1,500.00	Fall
			$ 2,000.00	Spring
			$ 1,000.00	Spring

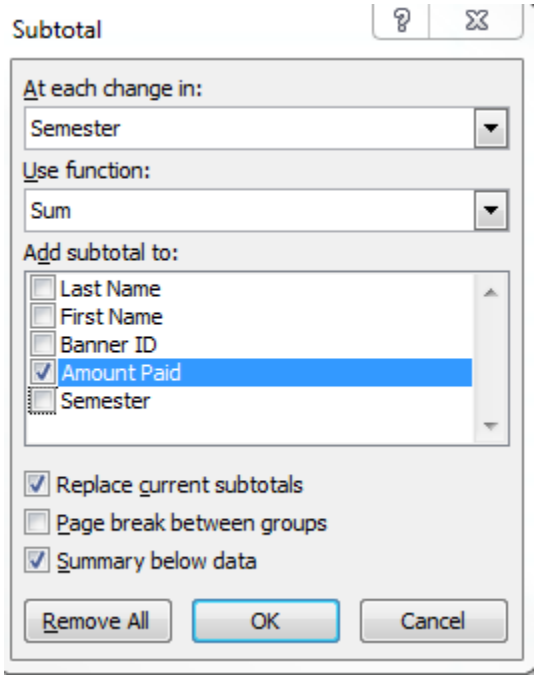
One Level Subtotals

To Subtotal a data sheet:

1. Select the *Subtotal* button located on the Data toolbar.



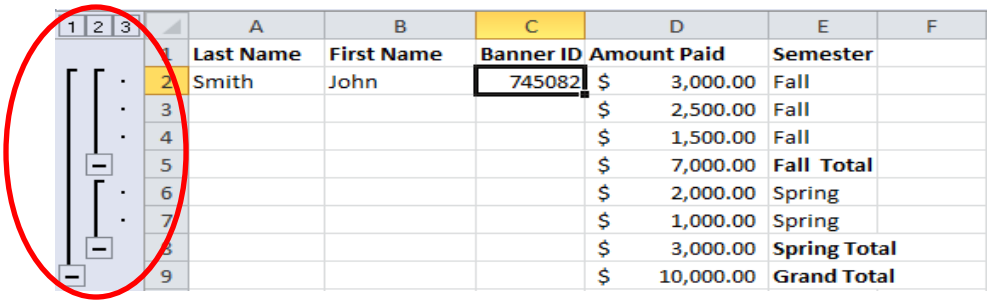
The Subtotal dialogue box will open



To subtotal this data sheet by semester:

1. Choose *Semester* for the *At Each Change* In dropdown.
2. Select *Sum* for the *Use Function* dropdown.
3. Choose *Amount Paid* for the *Add Subtotal To* field.
4. Click *Ok*.

Subtotals will automatically be added to your data.



	A	B	C	D	E	F
1	**Last Name**	**First Name**	**Banner ID**	**Amount Paid**	**Semester**	
2	Smith	John	745082	$ 3,000.00	Fall	
3				$ 2,500.00	Fall	
4				$ 1,500.00	Fall	
5				$ 7,000.00	**Fall Total**	
6				$ 2,000.00	Spring	
7				$ 1,000.00	Spring	
8				$ 3,000.00	**Spring Total**	
9				$ 10,000.00	**Grand Total**	

The subtotal hierarchy located to the left of the spreadsheet can be used to hide some of the data within the spreadsheet.

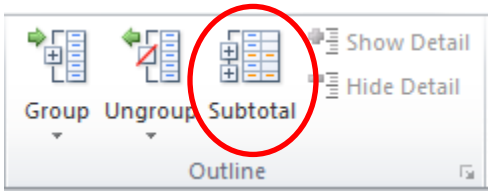
To view only the grand total, select column 1
To view the total for each subsection, select column 2
To view all data, select column 3.

Nested Level Subtotals

Nested Level Subtotals are used to subtotal more than one level of data.
For this example our list of data contains individual payers and semesters

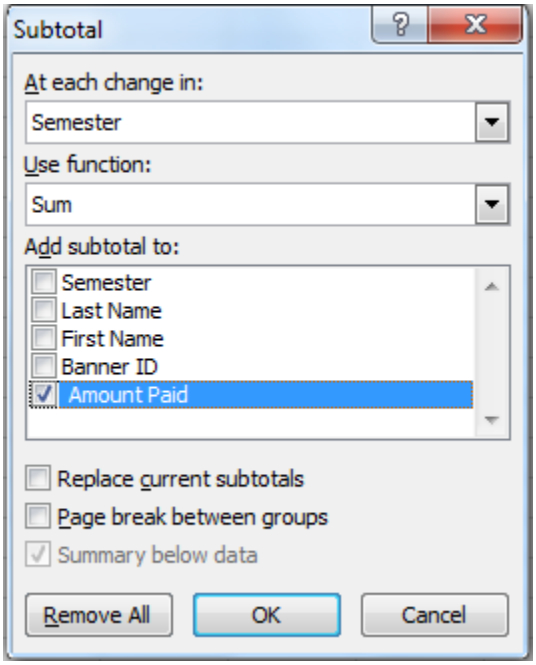
Semester	Last Name	First Name	Banner ID	Amount Paid
Fall 2013	Smith	John	745082	$ 3,000.00
Fall 2013	Smith	John	745082	$ 2,500.00
Fall 2013	Smith	John	745082	$ 1,500.00
Fall 2013	Jones	Katherine	642986	$ 1,500.00
Fall 2013	Jones	Katherine	642986	$ 2,000.00
Fall 2013	Jones	Katherine	642986	$ 3,250.00
Spring 2014	Smith	John	745082	$ 2,000.00
Spring 2014	Smith	John	745082	$ 1,000.00
Spring 2014	Jones	Katherine	642986	$ 3,000.00
Spring 2014	Jones	Katherine	642986	$ 2,750.00
Fall 2014	Smith	John	745082	$ 2,750.00
Fall 2014	Smith	John	745082	$ 3,250.00
Fall 2014	Jones	Katherine	642986	$ 1,750.00
Fall 2014	Jones	Katherine	642986	$ 2,000.00
Spring 2015	Smith	John	745082	$ 1,750.00
Spring 2015	Smith	John	745082	$ 2,250.00
Spring 2015	Smith	John	745082	$ 2,000.00
Spring 2015	Jones	Katherine	642986	$ 2,250.00
Spring 2015	Jones	Katherine	642986	$ 2,500.00
Spring 2015	Jones	Katherine	642986	$ 3,000.00

1. Select any cell within your range of data
2. Select *Subtotal* on the Data tab.



The Subtotal dialogue box will open.

3. For the *At Each Change* in dropdown menu, select *Semester*.
4. Choose to *Use Function*, *Sum*.
5. Choose to *Add Subtotal To*, *Amount Paid*.



6. Click *Ok*.

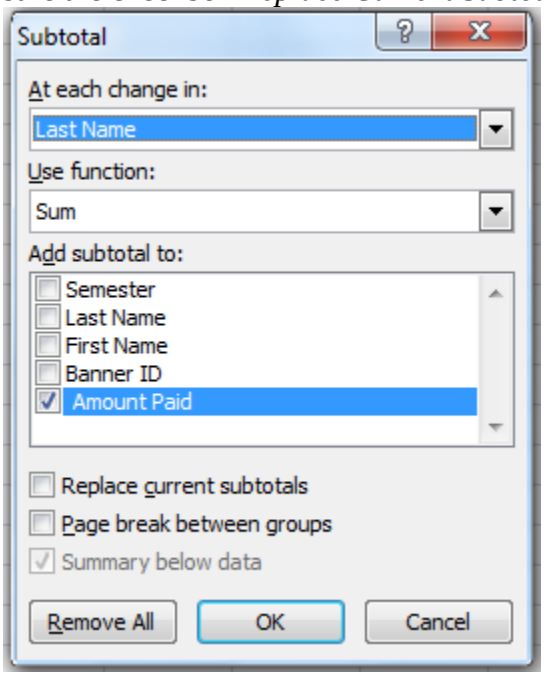
The first level of subtotal will be added to the data.

	A	B	C	D	E
1	**Semester**	**Last Name**	**First Name**	**Banner ID**	**Amount Paid**
2	Fall 2013	Smith	John	745082	$ 3,000.00
3	Fall 2013	Smith	John	745082	$ 2,500.00
4	Fall 2013	Smith	John	745082	$ 1,500.00
5	Fall 2013	Jones	Katherine	642986	$ 1,500.00
6	Fall 2013	Jones	Katherine	642986	$ 2,000.00
7	Fall 2013	Jones	Katherine	642986	$ 3,250.00
8	**Fall 2013 Total**				$ 13,750.00
9	Spring 2014	Smith	John	745082	$ 2,000.00
10	Spring 2014	Smith	John	745082	$ 1,000.00
11	Spring 2014	Jones	Katherine	642986	$ 3,000.00
12	Spring 2014	Jones	Katherine	642986	$ 2,750.00
13	**Spring 2014 Total**				$ 8,750.00
14	Fall 2014	Smith	John	745082	$ 2,750.00
15	Fall 2014	Smith	John	745082	$ 3,250.00
16	Fall 2014	Jones	Katherine	642986	$ 1,750.00
17	Fall 2014	Jones	Katherine	642986	$ 2,000.00
18	**Fall 2014 Total**				$ 9,750.00
19	Spring 2015	Smith	John	745082	$ 1,750.00
20	Spring 2015	Smith	John	745082	$ 2,250.00
21	Spring 2015	Smith	John	745082	$ 2,000.00
22	Spring 2015	Jones	Katherine	642986	$ 2,250.00
23	Spring 2015	Jones	Katherine	642986	$ 2,500.00
24	Spring 2015	Jones	Katherine	642986	$ 3,000.00
25	**Spring 2015 Total**				$ 13,750.00
26	**Grand Total**				$ 46,000.00

To add an additional level of subtotals:

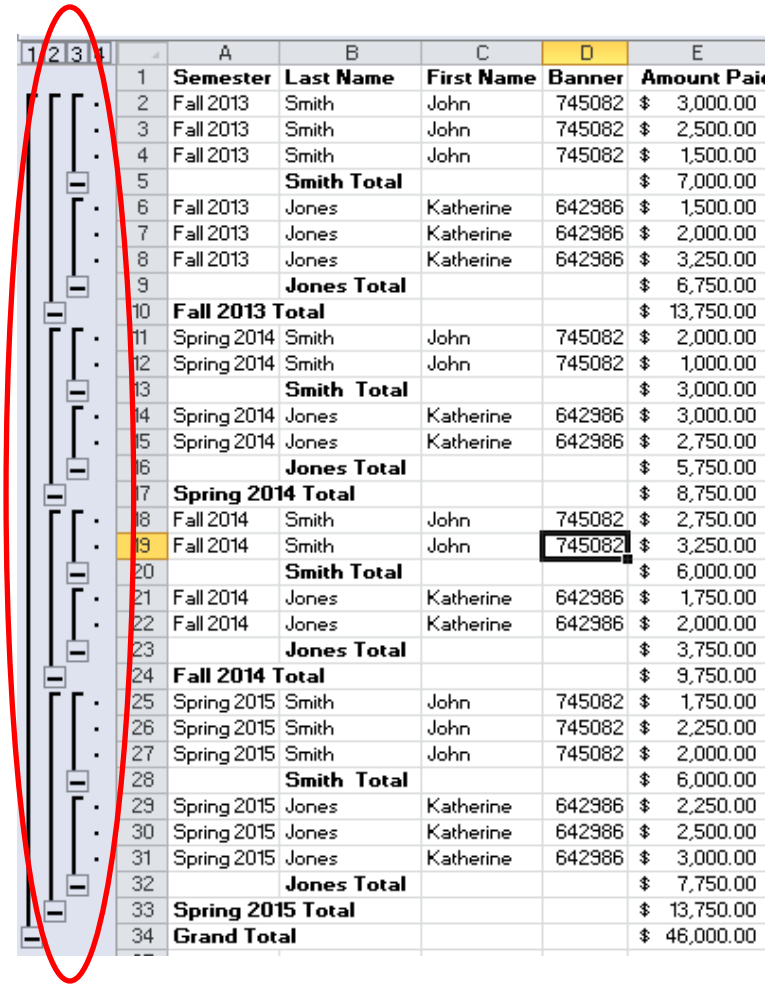
1. Select *Subtotal*
2. For the *At Each Change* in dropdown menu, select *Last Name*.
3. Choose to *Use Function, Sum*.
4. Choose to *Add Subtotal To, Amount Paid*.

5. Ensure the checkbox *Replace Current Subtotals* is unchecked.



6. Click *Ok.*

The second level of subtotals will be added to the data range:



	A	B	C	D	E
1	**Semester**	**Last Name**	**First Name**	**Banner**	**Amount Pai**
2	Fall 2013	Smith	John	745082	$ 3,000.00
3	Fall 2013	Smith	John	745082	$ 2,500.00
4	Fall 2013	Smith	John	745082	$ 1,500.00
5		**Smith Total**			$ 7,000.00
6	Fall 2013	Jones	Katherine	642986	$ 1,500.00
7	Fall 2013	Jones	Katherine	642986	$ 2,000.00
8	Fall 2013	Jones	Katherine	642986	$ 3,250.00
9		**Jones Total**			$ 6,750.00
10	**Fall 2013 Total**				$ 13,750.00
11	Spring 2014	Smith	John	745082	$ 2,000.00
12	Spring 2014	Smith	John	745082	$ 1,000.00
13		**Smith Total**			$ 3,000.00
14	Spring 2014	Jones	Katherine	642986	$ 3,000.00
15	Spring 2014	Jones	Katherine	642986	$ 2,750.00
16		**Jones Total**			$ 5,750.00
17	**Spring 2014 Total**				$ 8,750.00
18	Fall 2014	Smith	John	745082	$ 2,750.00
19	Fall 2014	Smith	John	745082	$ 3,250.00
20		**Smith Total**			$ 6,000.00
21	Fall 2014	Jones	Katherine	642986	$ 1,750.00
22	Fall 2014	Jones	Katherine	642986	$ 2,000.00
23		**Jones Total**			$ 3,750.00
24	**Fall 2014 Total**				$ 9,750.00
25	Spring 2015	Smith	John	745082	$ 1,750.00
26	Spring 2015	Smith	John	745082	$ 2,250.00
27	Spring 2015	Smith	John	745082	$ 2,000.00
28		**Smith Total**			$ 6,000.00
29	Spring 2015	Jones	Katherine	642986	$ 2,250.00
30	Spring 2015	Jones	Katherine	642986	$ 2,500.00
31	Spring 2015	Jones	Katherine	642986	$ 3,000.00
32		**Jones Total**			$ 7,750.00
33	**Spring 2015 Total**				$ 13,750.00
34	**Grand Total**				$ 46,000.00

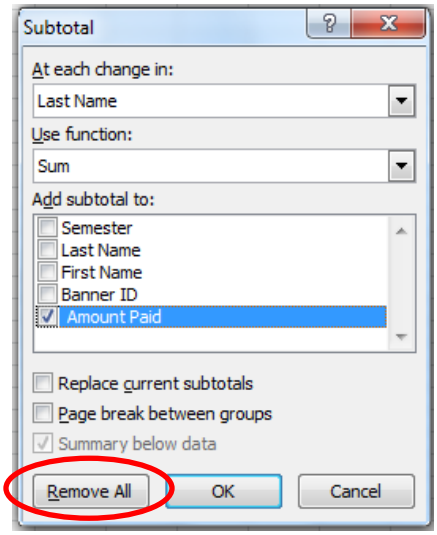
Removing Subtotals

To remove subtotals from a data sheet:

1. Select the *Subtotal* tool

The Subtotal Dialogue box will appear.

2. Select *Remove All* to remove all subtotals.



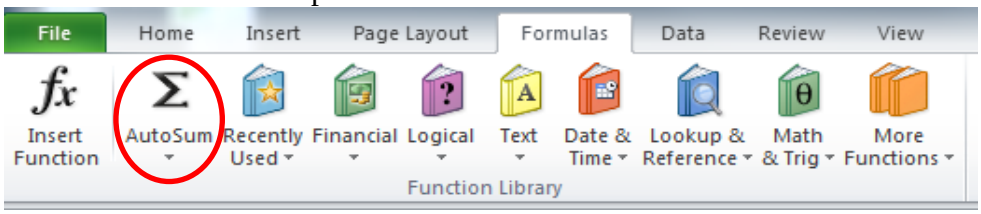
Average

To find the average of a select range of data:

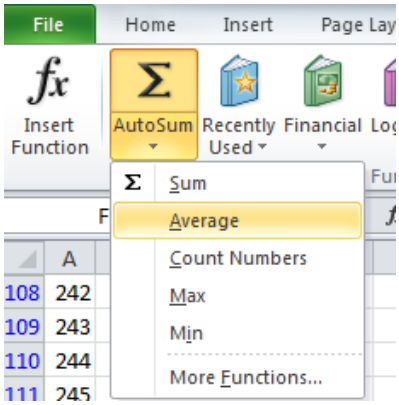
1. Select the cell directly beneath the range of data

Last Name	First Name	Banner ID	Amount Paid	Date Paid
Smith	John	745082	3000	9/8/2013
			2500	10/12/2013
			1500	12/10/2013
			2000	3/15/2015
			1000	6/10/2015

2. Select the *Auto Sum* dropdown on the Formulas tab.



3. Choose *Average* from the Auto Sum dropdown



4. Select the range of cells to calculate
5. Click *Enter* on your keyboard

Last Name	First Name	Banner ID	Amount Paid	Date Paid
Smith	John	745082	$3,000	9/8/2013
			$2,500	10/12/2013
			$1,500	12/10/2013
			$2,000	3/15/2015
			$1,000	6/10/2015
			$2,000	

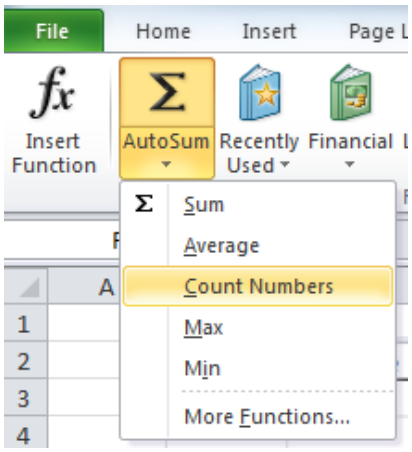
Count Numbers

To count the number of items in a range of data:

1. Select the cell directly beneath the range of data.

Last Name	First Name	Banner ID	Amount Paid	Date Paid
Smith	John	745082	3000	9/8/2013
			2500	10/12/2013
			1500	12/10/2013
			2000	3/15/2015
			1000	6/10/2015

2. Select the *Auto Sum* dropdown.
3. Select *Count Numbers*.



4. Select the range of cells to calculate.
5. Click *Enter* on your keyboard.

Last Name	First Name	Banner ID	Amount Paid	Date Paid
Smith	John	745082	3000	9/8/2013
			2500	10/12/2013
			1500	12/10/2013
			2000	3/15/2015
			1000	6/10/2015
			5	

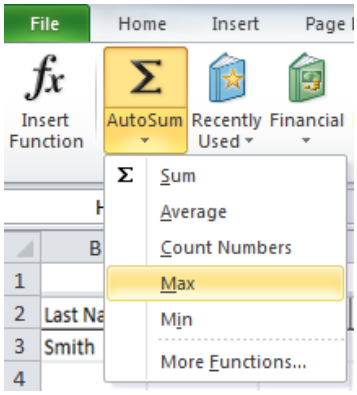
Maximum and Minimum

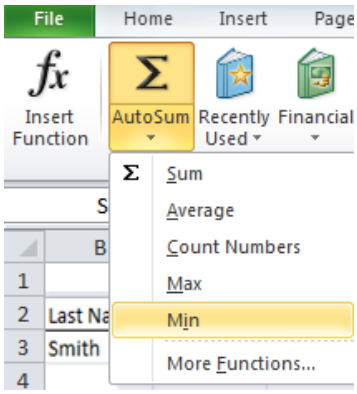
To calculate the Maximum or Minimum for a range of data:

1. Select the cell directly beneath the range of data.

Last Name	First Name	Banner ID	Amount Paid	Date Paid
Smith	John	745082	3000	9/8/2013
			2500	10/12/2013
			1500	12/10/2013
			2000	3/15/2015
			1000	6/10/2015

2. Select the *Auto Sum* dropdown.
3. Select *Max* or *Min* to calculate the maximum or minimum values





6. Select the range of cells to calculate.
7. Click *Enter* on your keyboard to calculate the value.