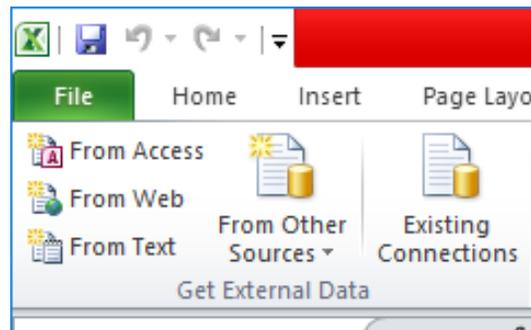


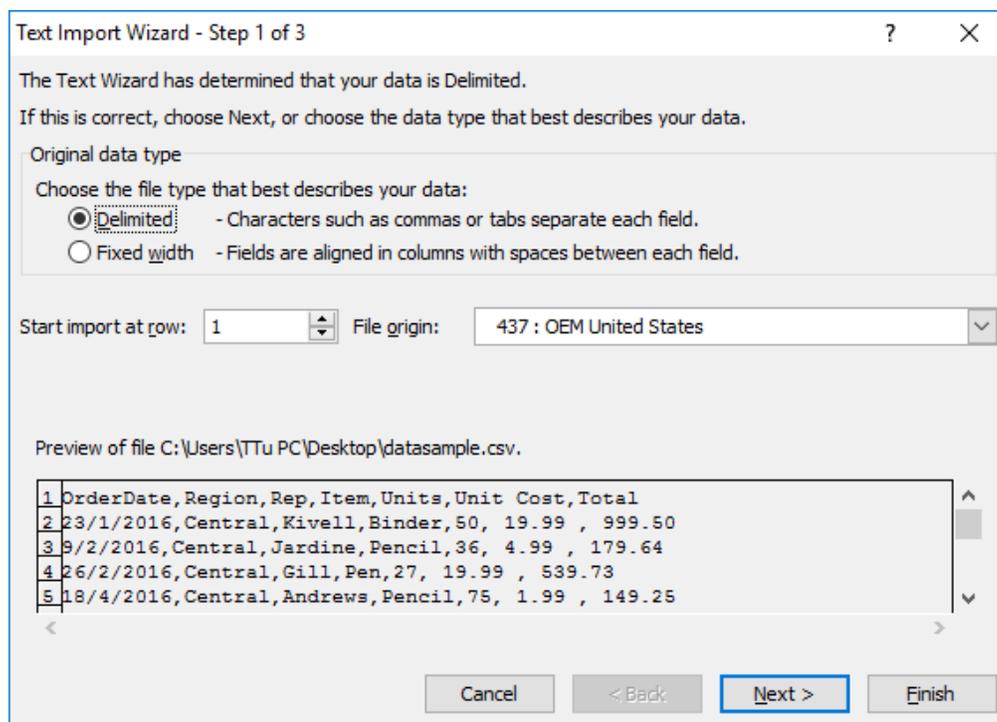
Lab 2: Data Analysis in Excel

1. Import data

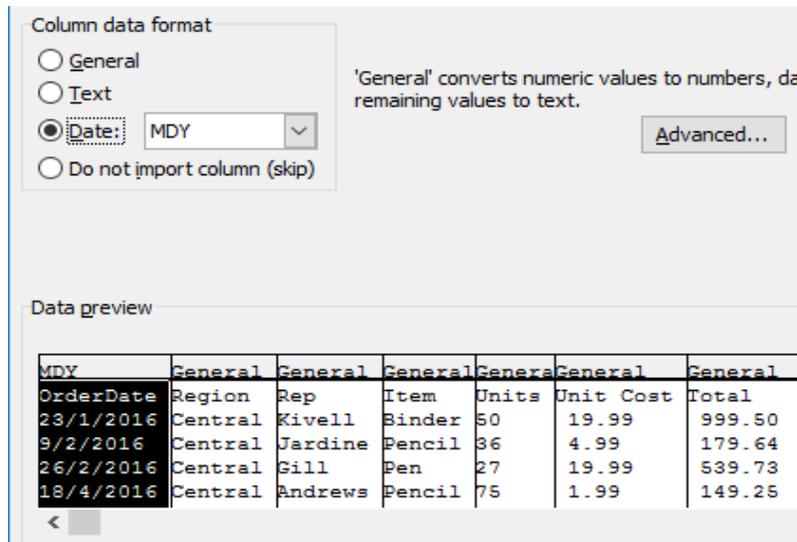
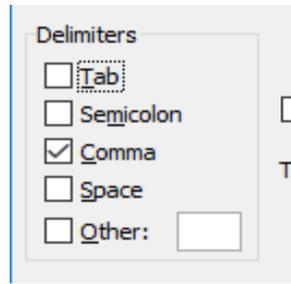
- To import data from external source, click Data tab. We have several source types as follows.



- To import from text file (*.txt, *.csv, ...), click "From text", then select your data file.



- Click "Next" and choose Delimited is "Comma". Click Next and choose format for each column. Here we only choose format for the first column (i.e., OrderData), choose Date and select DMY. Then Finish.



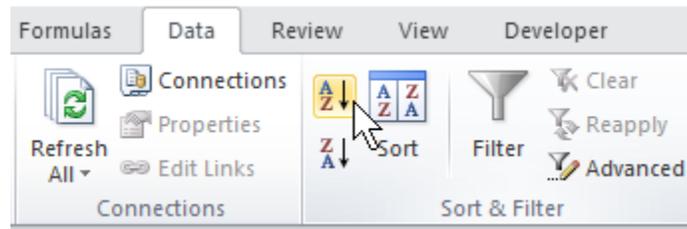
- Select the first cell that you want to put your data, e.g., A1

2. Sort

- You can sort your Excel data on one column or multiple columns. You can sort in ascending or descending order.
- To sort on one column, execute the following steps.
 1. Click any cell in the column you want to sort.

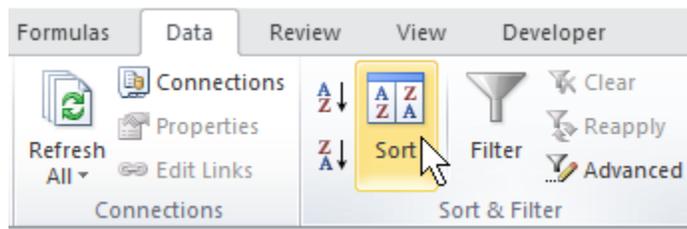
	A	B	C	D	E	F	G	H
1	OrderDate	Region	Rep	Item	Units	Unit Cost	Total	
2	1/23/2016	Central	Kivell	Binder	50	19.99	999.5	
3	2/9/2016	Central	Jardine	Pencil	36	4.99	179.64	
4	2/26/2016	Central	Gill	Pen	27	19.99	539.73	
5	4/18/2016	Central	Andrews	Pencil	75	1.99	149.25	
6	5/5/2016	Central	Jardine	Pencil	90	4.99	449.1	
7	6/25/2016	Central	Morgan	Pencil	90	4.99	449.1	
8	9/1/2016	Central	Smith	Desk	2	125	250	
9	10/5/2016	Central	Morgan	Binder	28	8.99	251.72	
10	11/25/2016	Central	Kivell	Pen Set	96	4.99	479.04	
11	12/12/2016	Central	Smith	Pencil	67	1.29	86.43	

2. To sort in ascending order, on the Data tab, click AZ.



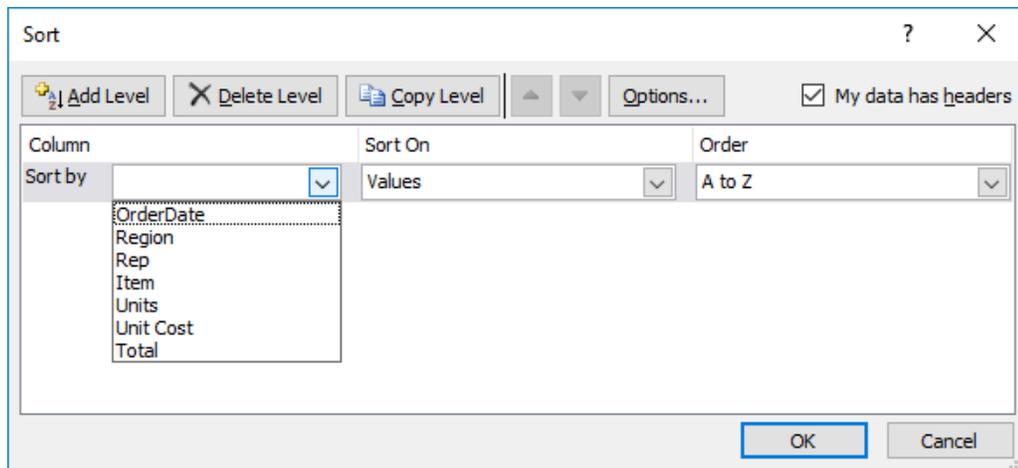
- To sort on multiple columns, execute the following steps.

1. On the Data tab, click Sort.

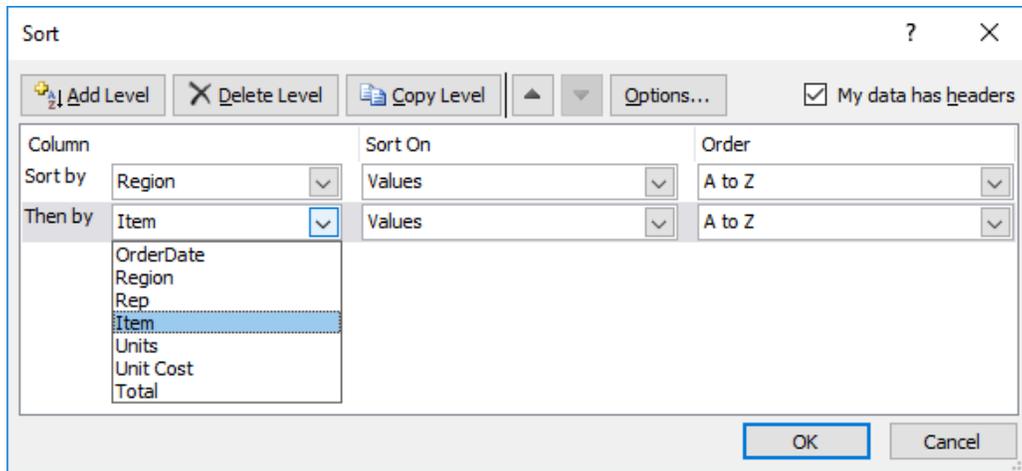


The Sort dialog box appears.

2. Select Region from the 'Sort by' drop-down list.

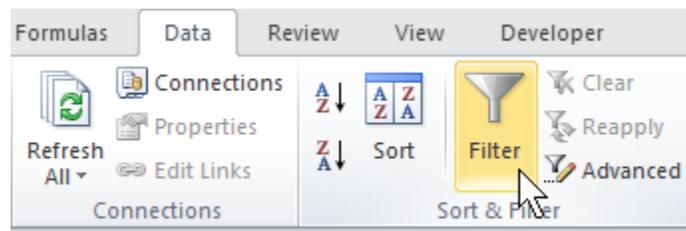


3. Click on Add Level.
4. Select Item from the 'Then by' drop-down list.



3. Filter

- Filter your Excel data if you only want to display records that meet certain criteria.
 1. Click any single cell inside a data set.
 2. On the Data tab, click Filter.



Arrows in the column headers appear.

	A	B	C	D	E	F	G	H
1	OrderDate	Region	Rep	Item	Units	Unit Cost	Total	
2	1/23/2016	Central	Kivell	Binder	50	19.99	999.5	
3	10/5/2016	Central	Morgan	Binder	28	8.99	251.72	
4	1/15/2017	Central	Gill	Binder	46	8.99	413.54	
5	2/1/2017	Central	Smith	Binder	87	15	1,305.00	

3. Click the arrow next to "Rep".
4. Click on Select All to clear all the check boxes, and click the check box next to USA.

	A	B	C	D	E	F	G
1	OrderDat	Region	Rep	Item	Uni	Unit Cc	Total
	Sort A to Z			Binder	50	19.99	999.5
	Sort Z to A			Binder	28	8.99	251.72
	Sort by Color			Binder	46	8.99	413.54
	Clear Filter From "Rep"			Binder	87	15	1,305.00
	Filter by Color			Binder	80	8.99	719.2
	Text Filters			Binder	11	4.99	54.89
	Search			Binder	94	19.99	1,879.06
	(Select All)			Binder	28	4.99	139.72
	Andrews			Desk	2	125	250
	Gill			Desk	5	125	625
	Howard			Pen	27	19.99	539.73
	Jardine			Pen Set	96	4.99	479.04
	Jones			Pen Set	50	4.99	249.5
	Kivell			Pen Set	55	12.49	686.95
	Morgan			Pen Set	42	23.95	1,005.90
	Parent			Pencil	36	4.99	179.64
	Smith			Pencil	75	1.99	149.25
				Pencil	90	4.99	449.1

5. Click OK.

Result. Excel only displays the sales of "Gill".

	A	B	C	D	E	F	G
1	OrderDat	Region	Rep	Item	Uni	Unit Cc	Total
4	1/15/2017	Central	Gill	Binder	46	8.99	413.54
6	5/31/2017	Central	Gill	Binder	80	8.99	719.2
12	2/26/2016	Central	Gill	Pen	27	19.99	539.73
23	5/14/2017	Central	Gill	Pencil	53	1.29	68.37
24	9/10/2017	Central	Gill	Pencil	7	1.29	9.03
45							

6. You can continue to filter other fields based on this result.

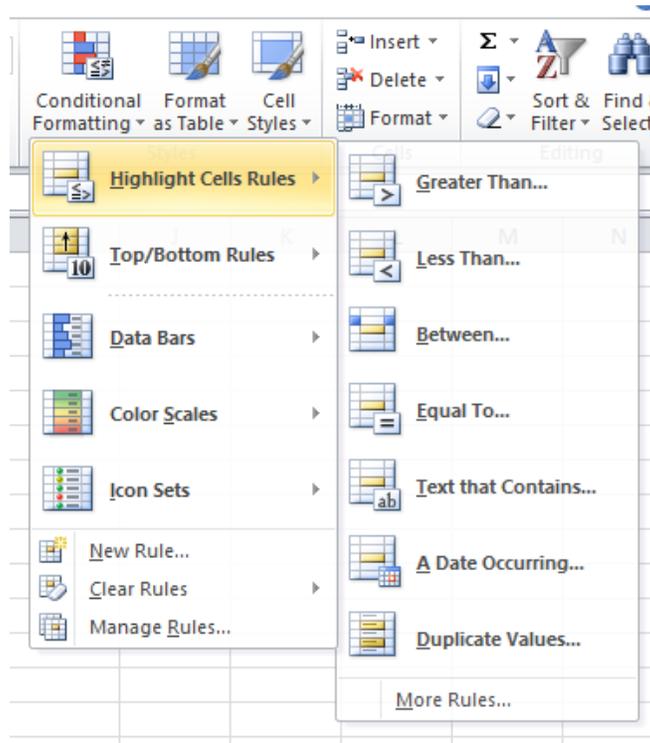
4. Condition format

Conditional formatting in Excel enables you to highlight cells with a certain color, depending on the cell's value.

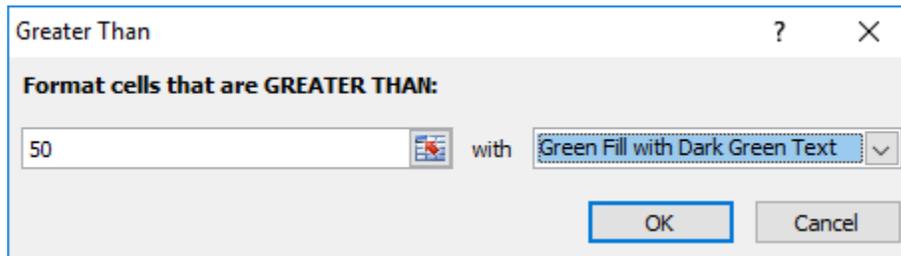
Highlight Cells Rules

To highlight cells that are greater than a value, execute the following steps.

1. Select the range E2:E44.
2. On the Home tab, click Conditional Formatting, Highlight Cells Rules, Greater Than...



3. Enter the value 50 and select a formatting style.



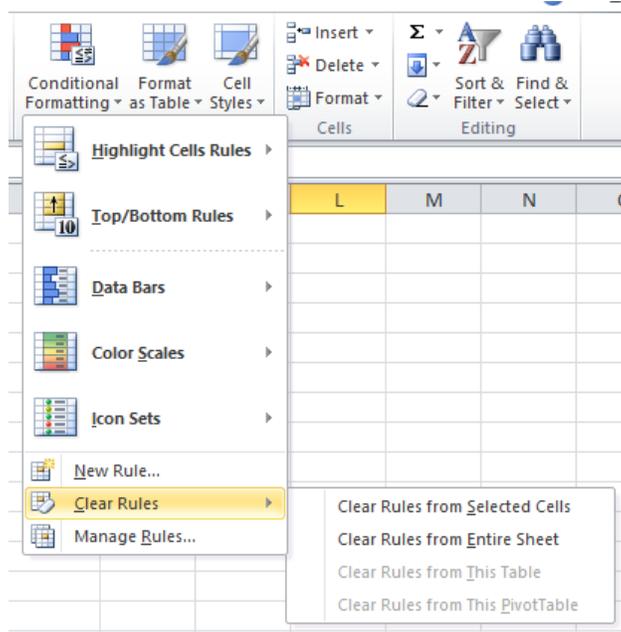
4. Click OK.

Result. Excel highlights the cells that are greater than 50.

	A	B	C	D	E	F	G	H
1	OrderDate	Region	Rep	Item	Units	Unit Cost	Total	
2	1/23/2016	Central	Kivell	Binder	50	19.99	999.5	
3	10/5/2016	Central	Morgan	Binder	28	8.99	251.72	
4	1/15/2017	Central	Gill	Binder	46	8.99	413.54	
5	2/1/2017	Central	Smith	Binder	87	15	1,305.00	
6	5/31/2017	Central	Gill	Binder	80	8.99	719.2	
7	11/17/2017	Central	Jardine	Binder	11	4.99	54.89	
8	12/4/2017	Central	Jardine	Binder	94	19.99	1,879.06	
9	12/21/2017	Central	Andrews	Binder	28	4.99	139.72	
10	9/1/2016	Central	Smith	Desk	2	125	250	
11	6/17/2017	Central	Kivell	Desk	5	125	625	
12	2/26/2016	Central	Gill	Pen	27	19.99	539.73	
13	11/25/2016	Central	Kivell	Pen Set	96	4.99	479.04	
14	3/24/2017	Central	Jardine	Pen Set	50	4.99	249.5	
15	7/21/2017	Central	Morgan	Pen Set	55	12.49	686.95	
16	8/7/2017	Central	Kivell	Pen Set	42	23.95	1,005.90	
17	2/9/2016	Central	Jardine	Pencil	36	4.99	179.64	
18	4/18/2016	Central	Andrews	Pencil	75	1.99	149.25	
19	5/5/2016	Central	Jardine	Pencil	90	4.99	449.1	
20	6/25/2016	Central	Morgan	Pencil	90	4.99	449.1	
21	12/12/2016	Central	Smith	Pencil	67	1.29	86.43	
22	4/10/2017	Central	Andrews	Pencil	66	1.99	131.34	
23	5/14/2017	Central	Gill	Pencil	53	1.29	68.37	
24	9/10/2017	Central	Gill	Pencil	7	1.29	9.03	
25	10/31/2017	Central	Andrews	Pencil	14	1.29	18.06	

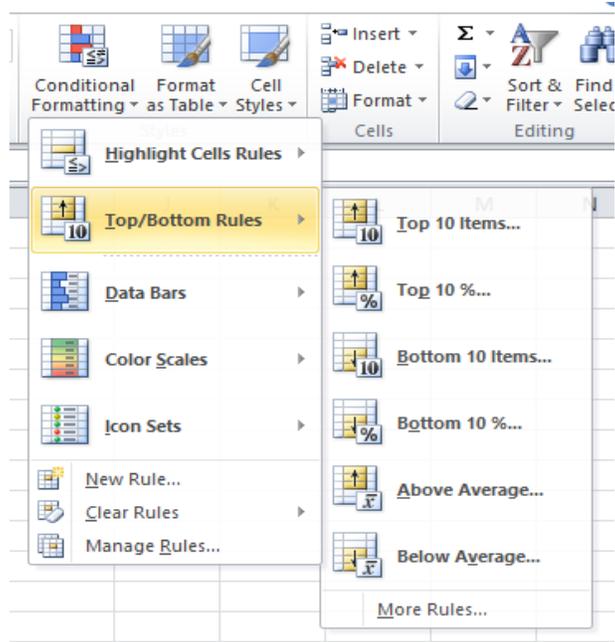
To clear a conditional formatting rule

Click Conditional Formatting at Home tab and choose Clear rules as follows



Top/Bottom Rules

It is similar if you want to highlight cells that are above/below the average of the cells or top/bottom.



Data Bars/Color scales/Icon sets

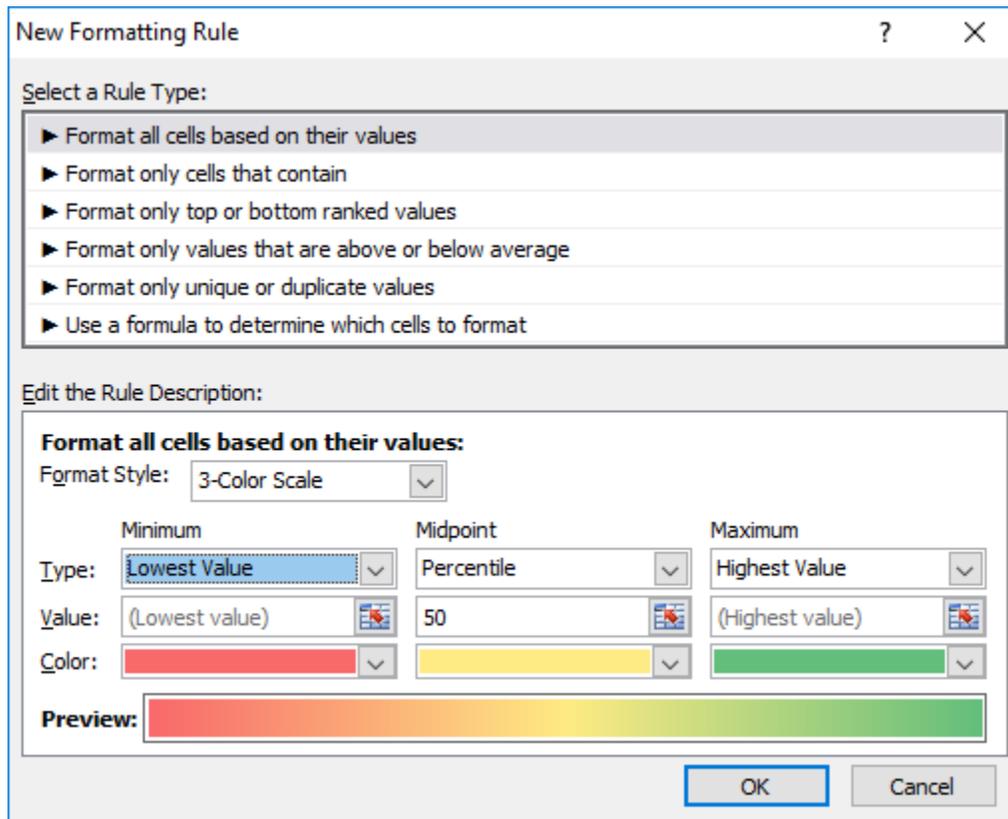
Data bars/Color scales/Icon sets in Excel 2010 or later make it very easy to visualize values in a range of cells.

- A longer bar represents a higher value (column E).
- The shade of the color represents the value in the cell (column F).
- Each icon represents a range of values (column G).

	A	B	C	D	E	F	G
16	8/7/2017	Central	Kivell	Pen Set	42	23.95 ↗	1,005.90
17	2/9/2016	Central	Jardine	Pencil	36	4.99 ↓	179.64
18	4/18/2016	Central	Andrews	Pencil	75	1.99 ↓	149.25
19	5/5/2016	Central	Jardine	Pencil	90	4.99 ↓	449.1
20	6/25/2016	Central	Morgan	Pencil	90	4.99 ↓	449.1
21	12/12/2016	Central	Smith	Pencil	67	1.29 ↓	86.43
22	4/10/2017	Central	Andrews	Pencil	66	1.99 ↓	131.34
23	5/14/2017	Central	Gill	Pencil	53	1.29 ↓	68.37
24	9/10/2017	Central	Gill	Pencil	7	1.29 ↓	9.03
25	10/31/2017	Central	Andrews	Pencil	14	1.29 ↓	18.06
26	4/1/2016	East	Jones	Binder	60	4.99 ↓	299.4
27	6/8/2016	East	Jones	Binder	60	8.99 ↓	539.4
28	7/12/2016	East	Howard	Binder	29	1.99 ↓	57.71
29	7/29/2016	East	Parent	Binder	81	19.99 ↑	1,619.19
30	2/18/2017	East	Jones	Binder	4	4.99 ↓	19.96
31	10/22/2016	East	Jones	Pen	64	8.99 ↓	575.36
32	11/8/2016	East	Parent	Pen	15	19.99 ↓	299.85
33	4/27/2017	East	Howard	Pen	96	4.99 ↓	479.04
34	9/18/2016	East	Jones	Pen Set	16	15.99 ↓	255.84
35	12/29/2016	East	Parent	Pen Set	74	15.99 ↗	1,183.26
36	7/4/2017	East	Jones	Pen Set	62	4.99 ↓	309.38
37	1/6/2016	East	Jones	Pencil	95	1.99 ↓	189.05
38	8/15/2016	East	Jones	Pencil	35	4.99 ↓	174.65
39	3/7/2017	West	Sorvino	Binder	7	19.99 ↓	139.93
40	10/14/2017	West	Thompson	Binder	57	19.99 ↗	1,139.43

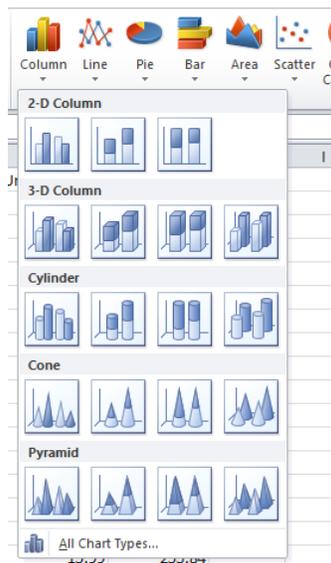
Rules Manager

You can use 'Rule Manager' to create, edit and delete rules

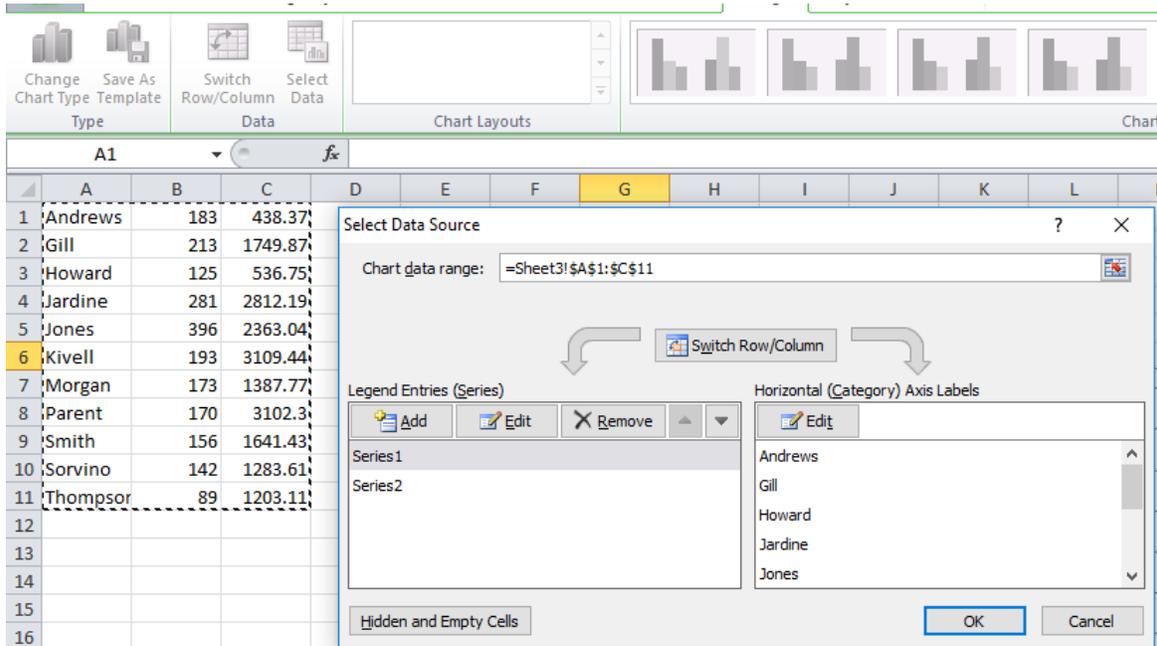


5. Chart

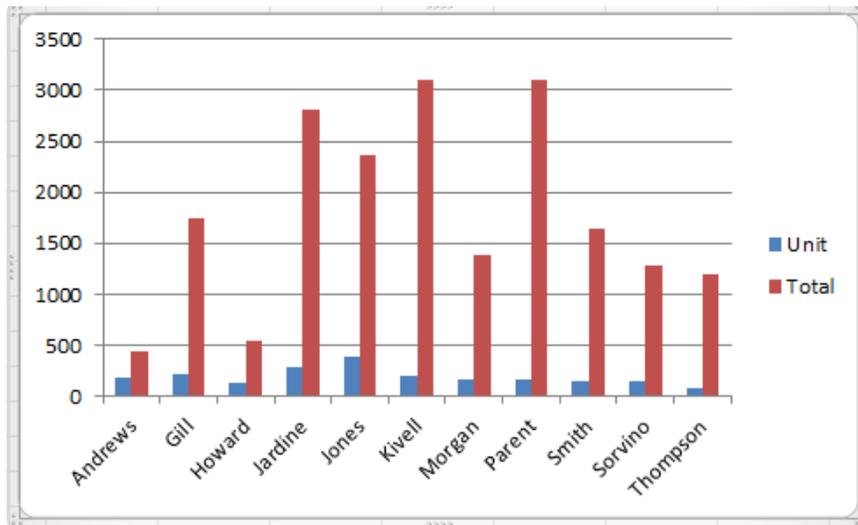
1. On the Insert tab, in the Charts group, choose chart type



2. Click Select data



You can edit name of legend entity, e.g., Series 1, Series 2 to Unit and Total

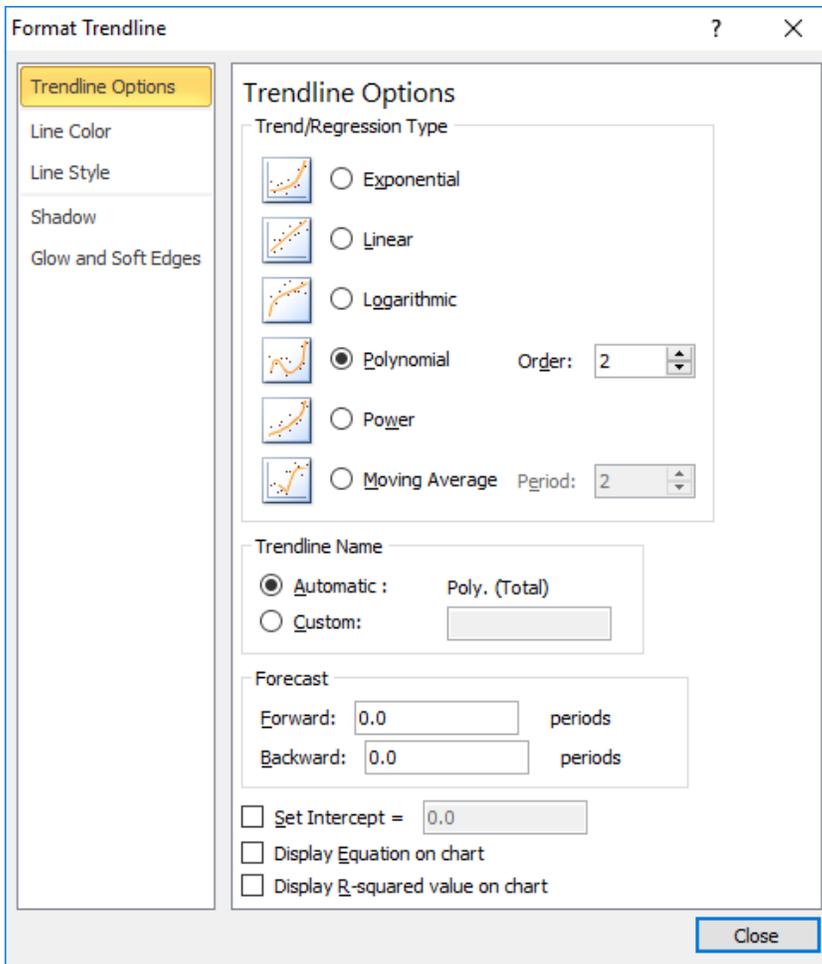


Select chart, then click to Design tab to change chart types, styles, layouts, ...

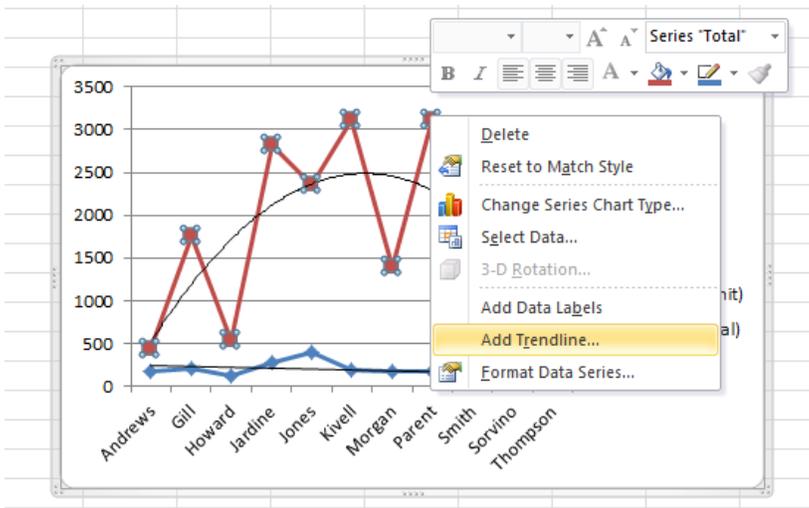


Trendline

Right click the data series, and then click Add Trendline...

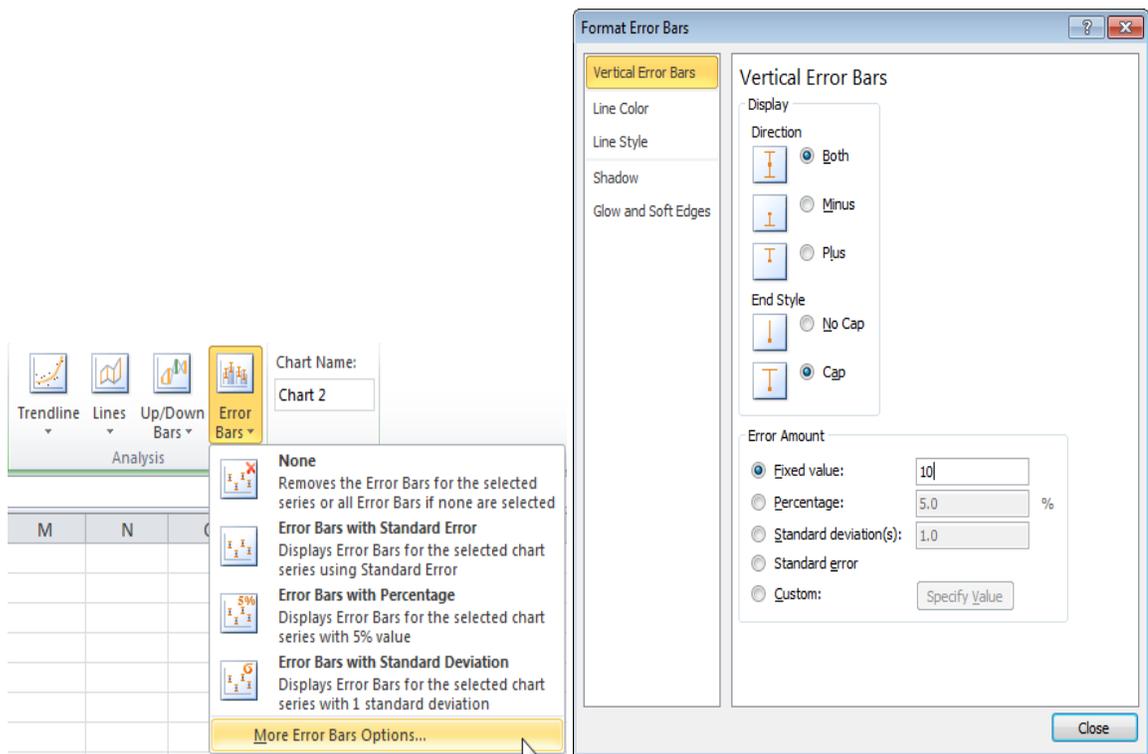


Choose a Trend/Regression type.



Error Bars

On the Layout tab, click Error Bars, More Error Bars Options...



Result:

