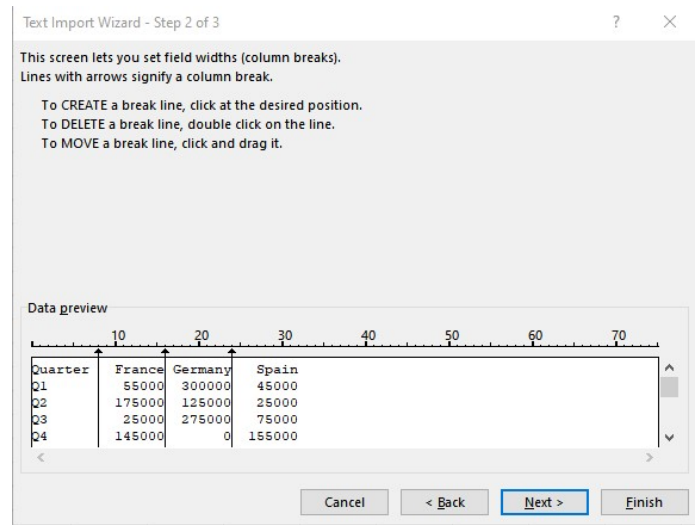# Excel Expert

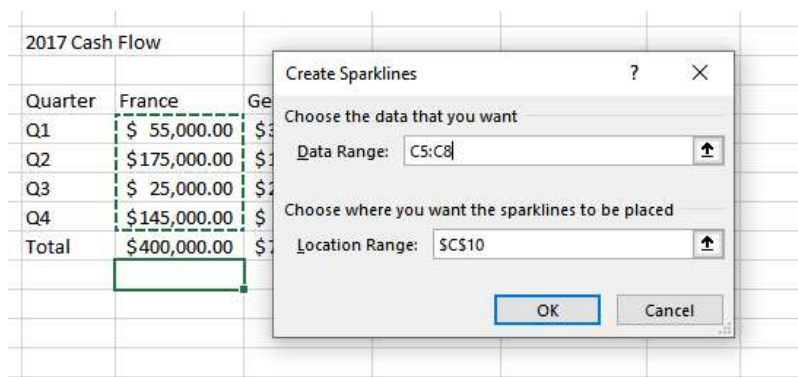# Session 4 – Data and Displays

Instructor: Don Bremer

Bringing in fixed width data

1. Open Excel
2. Open the file Cash Flow Summary
3. Make sure to split the columns
4. Add a few rows on top
5. Add a row on the side
6. Add Total Column
7. Add Total Row
8. Title the data and worksheet 2017 Cash Flow
9. Put in Totals
10. Make the digits money

Text Import Wizard - Step 2 of 3   ?   ☒

This screen lets you set field widths (column breaks).
Lines with arrows signify a column break.

To CREATE a break line, click at the desired position.
To DELETE a break line, double click on the line.
To MOVE a break line, click and drag it.

Data preview

	10	20	30	40	50	60	70

Quarter	France	Germany	Spain
Q1	55000	300000	45000
Q2	175000	125000	25000
Q3	25000	275000	75000
Q4	145000	0	155000

Cancel   < Back   Next >   Finish

	A	B	C	D	E	F
1						
2		2017 Cash Flow				
3						
4		Quarter	France	Germany	Spain	Total
5		Q1	$ 55,000.00	$300,000.00	$ 45,000.00	$ 400,000.00
6		Q2	$175,000.00	$125,000.00	$ 25,000.00	$ 325,000.00
7		Q3	$ 25,000.00	$275,000.00	$ 75,000.00	$ 375,000.00
8		Q4	$145,000.00	$ -	$155,000.00	$ 300,000.00
9		Total	$400,000.00	$700,000.00	$300,000.00	$1,400,000.00
10						
11						

You can add sparklines to the totals to see how the company is doing by Quarter or by Country:

2017 Cash Flow

Quarter	France	Ge
Q1	$ 55,000.00	$3
Q2	$175,000.00	$1
Q3	$ 25,000.00	$2
Q4	$145,000.00	$
Total	$400,000.00	$7

Create Sparklines   ?   ☒

Choose the data that you want

Data Range: C5:C8   ↑

Choose where you want the sparklines to be placed

Location Range: $C$10   ↑

OK   Cancel

You will have to create a new set of sparklines for quarters – but then you can copy all using autofill

Pivot Tables

Pivot Tables

A PivotTable report is an interactive table that you can use to quickly summarize large amounts of data. You can rotate its rows and columns to see different summaries of the source data, filter the data by displaying different pages, or display the details for areas of interest You can start a Pivot table by opening the Pivot Table toolbar and clicking on the wizard.

Open Sorting Lists.xls

Independent Variable - a variable (often denoted by x) whose variation does not depend on that of another.

Dependent Variable - a variable (often denoted by y) whose value depends on that of another.

1. Click anywhere in the data
2. Insert->Pivot Table
3. Click OK

	A	B	C	D	E	F	G
1	Type	(All)					
2							
3	Sum of Quantity	Column Labels					
4	Row Labels	April	May	September	Grand Total		
5	Cook		22000		22000		
6	Itasca	66500	42500		109000		
7	Lake		60000	10600	70600		
8	St. Louis	58500		26500	85000		
9	Grand Total	125000	124500	37100	286600		
10							
11							
12							
13							

Check the data, is it correct? What does this tell you?

Perhaps we should re-arrange the data. Instead of County and Month – try Type and month. Do this just like playing solitaire – drag and drop the fields to the place you want.

Pie Charts

These charts represent the parts of a whole. Each 'section' or 'slice of the pie is a data percentage. From biggest to smallest, segments are arranged in a clockwise formation. This way, the pie chart features easy-to-compare subjects presented in a neat, easy-to-understand way.
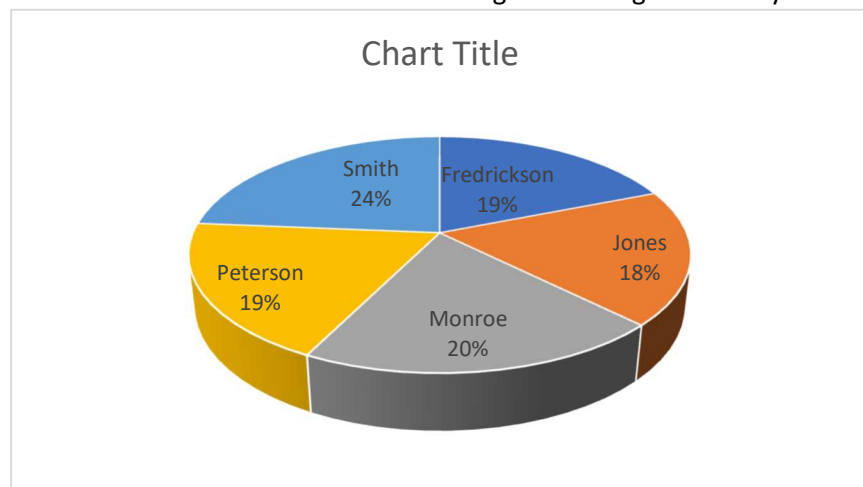
Create your own Pie Chart

1.) Open the tab timesheet.
2.) Select the names in column B
3.) Using your CTRL key, select the gross pay in column E
4.) To insert the graph, select insert pie, 2D

Again, not too hard. But, I don't like the color scheme. You can change that using the Gallery's selection on the top of the page.

Also, let's put the series name over the top of the pie pieces to make it easier to read along with their percentages.

OK, again I would call this the minimum acceptable chart. Perhaps we should draw our eyes to Smith since he is getting paid so much more than the rest of us. To do this:

Chart Title

Smith
24%

Fredrickson
19%

Jones
18%

Monroe
20%

Peterson
19%

1.) Click once on Smith's pie piece. They are now all selected
2.) Click again on Smith's pie piece. Now only Smith is selected.
3.) Drag Smith's pie piece out
4.) Re-color the pie piece to hot pink.

Bar Graphs

The bars' heights are scaled according to their values and the bars can be compared to each other. Bar graphs can be drawn in a 3-dimensional way and compiled for data comparison about the same thing or location. So that more important categories are emphasized, bars in a bar graphs are arranged in order of frequency.
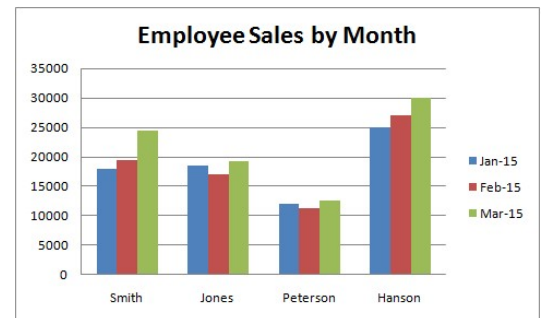
Create your own Bar Graph

In this first exercise, we would like to see the magnitude of sales by date.

1.) Open the tab called More Data
2.) Select from A2:D6
3.) Go to Insert->Insert Column Chart->2D Clustered Column

Boom! We have a chart. That was easy… But, my instructors always said a chart without a title is a graph. Add a chart title by selecting the Chart Layout with a Title on Top. Name the chart "Employee Sales by Month"

Now, it may be obvious what the y-axis is (money), but perhaps we should label it and use currency.

1.) Select the data that makes up the graph
2.) Go to the Home tab
3.) Select the $ for money

To add a title on the axis:

1.) Select the Chart
2.) Select Layout under the Chart
3.) Select on Axis Titles
4.) Select Vertical
5.) Put in "Sales"

Now, this graph is minimal – meaning the minimal we can get away with. Let's make it better. Let's annotate why Peterson's numbers are so low, "He's rarely here"

1.) Select the text box under insert
2.) Draw out a box to put text
3.) Put in the text, "He's Rarely Here"

Line Graphs

Line Graphs are great for showing trends in data. Is the item you are looking at going up or down? Is it staying consistent?

Let's show the stock prices of Apple and Microsoft from Jan 1, 2000 to Jan 1, 2015 (weekly) against the Dow Jones Industrial Average

Open the tab Stocks.

Wow! That's a lot of data. Let's hide everything except the closing data for all items.

	A	E	N	C
1		Apple	Microsoft	
2	Date	Close	Close	
3	12/29/2014	110.38	46.45	
4	12/22/2014	113.99	47.88	
5	12/15/2014	111.78	47.66	
6	12/8/2014	109.73	46.95	
7	12/1/2014	115	48.42	
8	11/24/2014	118.93	47.81	
9	11/17/2014	116.47	47.98	
10	11/10/2014	114.18	49.58	
11	11/3/2014	109.01	48.68	
12	10/27/2014	108	46.95	
13	10/20/2014	105.22	46.13	
14	10/13/2014	97.67	43.63	
15	10/6/2014	100.73	44.03	
16	9/29/2014	99.62	46.09	
17	9/22/2014	100.75	46.41	

1.) Select the column that we want to hide (e.g. column B)
2.) Right click on the selection giving you a context sensitive menu
3.) Select hide

Voilia! Repeat until it looks like this:

Now, to graph, select the date and the Apple close. We will add Microsoft close later in the exercise. Use the CTRL+Shift+Down Arrow to grab everything quickly!

While selected, Insert->Graph->Line 2-D

Wow! That was easy! Let's add Microsoft.

Edit Series ? ✕

Series name:
Microsoft   = Microsoft

Series values:
=Stock!$N$3:$N$784   = 1

OK   Cancel

1.) Select the chart
2.) Go to Chart Tools->Design-> And in the data section, choose Select Data.
3.) Click the Add button on the Legend Entries
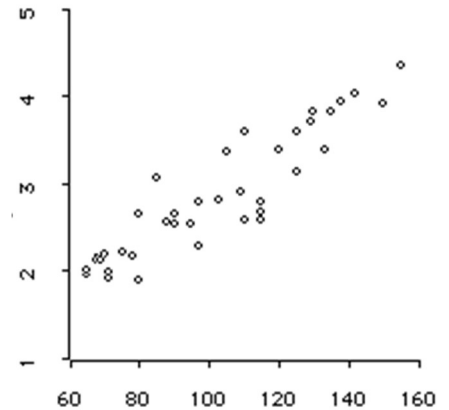4.) Type Microsoft into the Series name and select the series values

Scatterplot

Scatterplots display paired data using the vertical or the y axis and a horizontal axis or the x axis. The tools for statistics called correlation and regression are then used for showing trends on this type of graph.
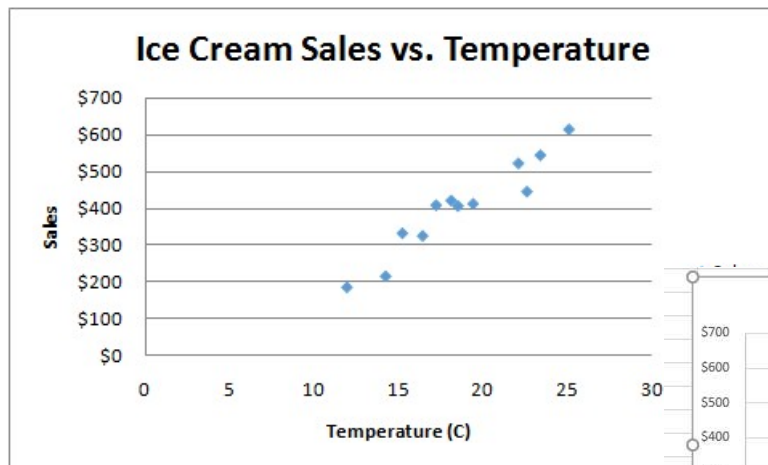
Create your own Scatterplot

Open the file **scatterplot**

1. Select the data from C4:D15
2. Go to Insert->Scatter-> 2D plot
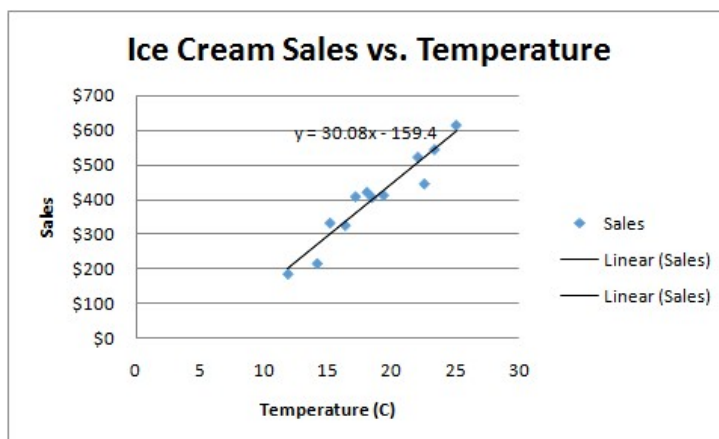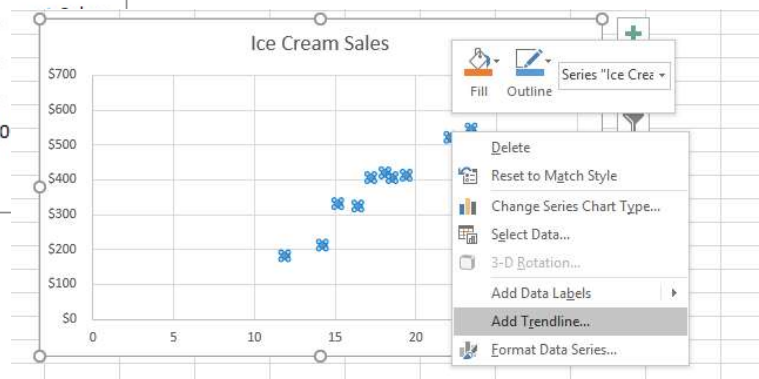3. Add Titles and Labels
4. Profit!

Make sure the x-axis values are on the right of the table. This is default in Excel.

An awesome feature in excel is to get the trendline!

1. Select the chart
2. Select Chart Tools->Layout->Trendline
3. You, as the expert, will have to say what type of trendline the data is representing.
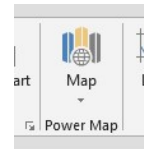4. I also recommend getting the equation on the chart

Maps

When using Powermap, we have to be very precise in location. The best way for getting precise geographic data is Longitude and Latitude. But, that won't work when we are talking about counties! So, we have to be precise in the counties we are talking about. Did you know there are St. Louis counties in MN and MI? Or Lake counties in MN, IN, IL? So, states are important!

1. Select the data from A1:G9. Notice that the headers of the data were selected.
2. Click Insert->Map->Launch Power Map
3. A new Panel will open saying "Launch Powermap" and at the bottom, there will be a + sign with the label "New Tour"
4. Click "New Tour"
5. A new window opens with the world on it. On the right, a panel shows up that has the headings of our data.
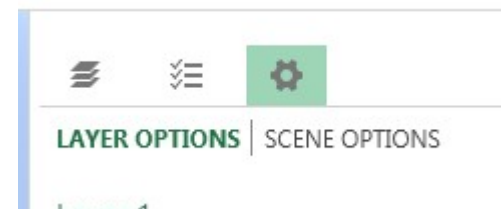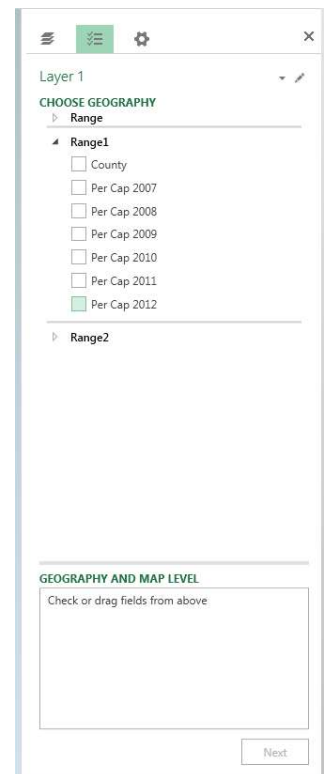6. Select County
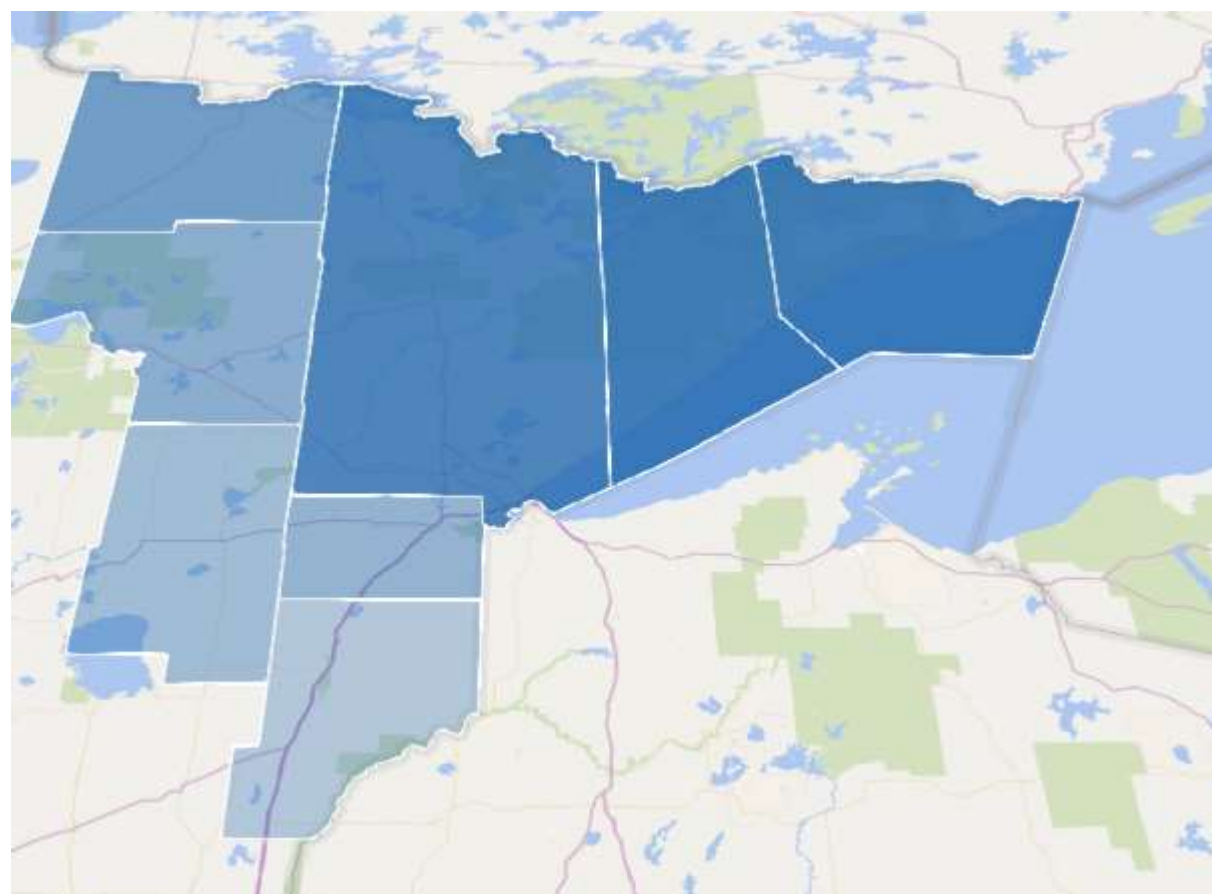   Items appear on the map with County in the Geography and Map Level
7. Click Next
8. Now that the counties are selected, it is time to select the dependent variable to graph. Select Per Cap 2007.
   We now have columns of the money on each county. This is great – but not very useful.
9. Above Height on the right, there are different ways to look at the data

   a. Stacked Column
   b. Clustered Column
   c. Bubble Graph
   d. Heat Map
   e. Visualization by Region—select this
10. Now, each of the counties are colored. They do differ slightly between them, but we may need to increase the amount of contrast. Select the Cog on the top of the panel for Layer Options.
11. This formatting allows for changes in color and contrast. Change the Color Scale to 25% and zoom in

15 Excel Tips and Tricks

1. CTRL+Y -- Redo
   'Nuff Said

2. **Multiple Cells, Same Data**

   For some reason, you may have to write the same thing over and over again in cells in a worksheet. That's excruciating. Just click the entire set of cells, either by dragging your cursor, or by holding the Ctrl key as you click each one. Type it on the last cell, then hit Ctrl+Enter—and what you typed goes into each cell selected.

3. **Paste Special with Formulas**

   Let's say you've got a huge amount of numbers in decimal format you want to show as percentages. The problem is, that numeral 1 shouldn't be 100%, but that's what Excel gives you if you just click the Percent Style button (or hit Ctrl-Shift-%). You want that 1 to be 1%. So you have to divide it by 100. That's where Paste Special comes in.

   First, type 100 in a cell and copy it. Then, select all the numbers you want reformatted, select Paste Special, click the "Divide" radio button, and boom goes the dynamite: you've got numbers converted to percentages. This also works to instantly add, subtract, or multiply numbers, obviously.

4. **Transpose Data from a Row to a Column**

   You would use this feature if you want to transpose data to get a better display; however, retyping all data would be the last thing you would need to do if you know how to use the Transpose function in Paste. Here's how: copy the area you want to transpose, move the pointer to another blank location. Go to Home->Paste->Transpose, please note that this function won't activate until you copy the data first.

5. **Save Charts as Templates**

   Excel has more types of charts than Jimmy Carter's got teeth and peanuts, but it's almost impossible to find a default chart that is perfect for your presentation. Thankfully, Excel's ability to customize all those graphs is exemplary. But when you have to recreate one? That's a pain. It doesn't have to be. Save your original chart as a template.

   Once a chart is perfected, right-click on it. Select Save as Template. Save a file with a CRTX

extension in your default Microsoft Excel Templates folder. Once you do that, applying the template is cake. Select the data you want to chart, go to the Insert tab, click Recommended Charts, and then the All Charts tab, and the Templates folder. In the My Templates box, pick the one to apply, then click OK.

Some elements, like the actual text in the legends and titles, won't translate unless they're part of the data selected. You will get all the font and color selections, embedded graphics, even the series options (like a drop shadow or glow around a chart element).

6. **Work With Cells Across Sheets**

This one, called 3D Sum, works when you have multiple sheets in a workbook that all have the same basic layout, say quarterly or yearly statements. For example, in cell B3, you always have the dollar amount for the same corresponding week over time.

On a new worksheet in the workbook, go to a cell and type a formula like =sum('Y1:Y10'!B3). That indicates a SUM formula (adding things up) for all the sheets that are titled Y1 to Y10 (so 10 years' worth), and looking at cell B3 in each. The result will be the sum of all 10 years. It's a good way to make a master spreadsheet that refers back to ever-changing data.

7. **Hide in Plain Sight**

It's easy to hide a row or column—just select the whole thing by clicking the letter or number header, right-click, and select "Hide." (You can unhide by selecting the columns to either side all at once, right-clicking, and selecting "Unhide"). But what if you have just a little section of inconveniently placed data you want to hide, but you still want to be able to work with? Easy. Highlight the cells, right-click, and choose Format Cells. On the Number tab at the top, go to Category and select "Custom." Type three semicolons (;;;) in the Type: field. Click OK. Now the numbers aren't visible, but you can still use them in formulas.

8. **Speed up Inputting Complicated Terms with AutoCorrect**

If you need to repeat the same value and it is complicated to input, the best way is to use the AutoCorrect function, which will replace your text with the correct text.

9. **Status Bar**

The status bar is always there but we hardly use it to the full. If you right click on it you can see there hell lot of things which you can check using status bar.

10. **Highlight Blank Cells**

When you work with large data sheets it's hard to identify the blank cells from it. So the best way is to highlight them by applying a cell color.

Here are the steps to do this.

- First of all, select all the data from the worksheet
- After that, go to Home Tab ➜ Editing ➜ Find & Select ➜ Go To Special.
- click goto special
- From Go To Special dialog box, select Blank and click OK.
- At this point, you have all the blank cell selected and now apply a cell color using font settings.

11. **Root of Number**

To calculate square root, cube root or any root of a number the best way is to use exponent formula. In exponent formula, you can specify the Nth number for which you want to calculate the root.

=number^(1/n)

For example, if you want to calculate a square root of 625 then the formula will be:

=625^(1/2)