

50 Microsoft Excel Tips & Tricks



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Sage Alchemex

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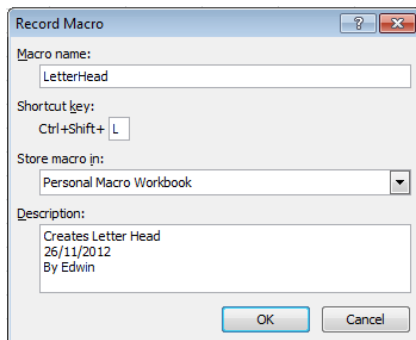
Tip1: Creating Macros

If you have tasks in Microsoft Excel that you do repeatedly, you can record a macro to automate those tasks. A macro is an action or a set of actions that you can run as many times as you want. When you create a macro, you are recording your mouse clicks and keystrokes. After you create a macro, you can edit it to make minor changes to the way it works.

In this example we demonstrate how you can create a macro that inserts the company's letter head and is available in every workbook (Personal Macro Workbook)

Applies To: MS Excel 2003, 2007 and 2010

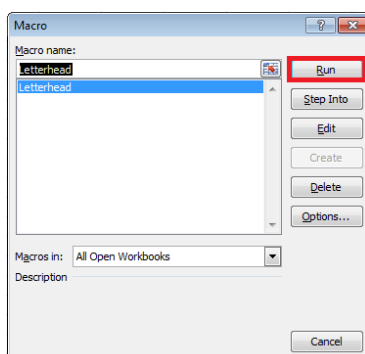
1. Open Microsoft Excel.
2. Select any cell.
3. Select **View, Macros (Macros group)**, and **Record Macro**. Then Enter as below.



4. Select **OK**.
5. Select **View, Macros (Macros group)**, and Use **Relative References** (So that macro can run in any cell on the particular worksheet).
6. Type your company letter head including any formatting e.g.

Sage Alchemex
4 Derby Place, Derby Downs
University Road, Westville, 3629, Durban, RSA
www.alchemex.com

7. Repeat step five.
8. Select **View, Macros (Macros group)**, and **Stop Recording**.
9. If you select any cell in any workbook/worksheet and press **CTRL+ SHIFT + L**, the macro will execute.
10. Alternatively you can select as: **View, Macros (Macros group)**, and **View Macros**. Then select as below.



Tip 2: The GETPIVOTDATA function

The GETPIVOTDATA function returns data stored in a PivotTable report. You can use GETPIVOTDATA to retrieve summary data from a PivotTable report, provided the summary data is visible in the report. You can quickly enter a simple GETPIVOTDATA formula by typing = in the cell you want to return the value to and then clicking the cell in the PivotTable report that contains the data you want to return.

The GETPIVOTDATA function syntax has the following arguments:

- **Data_field** Required. The name, enclosed in quotation marks, for the data field that contains the data that you want to retrieve
- **Pivot_table** Required. A reference to any cell, range of cells, or named range of cells in a PivotTable report. This information is used to determine which PivotTable report contains the data that you want to retrieve
- **Field1, Item1, Field2, Item2** Optional. 1 to 126 pairs of field names and item names that describe the data that you want to retrieve

Applies To: MS Excel 2003, 2007 and 2010

1. With reference to the PivotTable below, we are going to extract the total Dairy Products sales for the month of September.

	A	B	C	D	E
1					
2					
3	Category Name	Date	Sum of Quantity	Sum of Unit Price	Sum of Product Sales
4	Dairy Products		4374	4965	123910.8
5		Jan	448	284	9872
6		Feb	248	244	5616
7		Mar	311	310	9844.4
8		Apr	231	258.1	6647
9		May	494	634.7	11491.5
10		Jun	405	391.1	9507.7
11		Jul	374	461.8	13570.1
12		Aug	256	299.6	7375.5
13		Sep	435	408	12054
14		Oct	422	566	13745
15		Nov	344	634.6	13597.1
16		Dec	406	473.1	10590.5
17	Beverages		3996	4776.85	110424
18		Jan	330	535.2	24224.4
19		Feb	220	164	3090.4
20		Mar	471	416.4	11027.2
21		Apr	268	460	7377.5
22		May	322	500.75	15654
23		Jun	313	187.75	3602
24		Jul	327	497.5	8343.5
25		Aug	334	270	6154
26		Sep	174	408	6198.75
27		Oct	491	361.75	9043
28		Nov	248	163.75	4034
29		Dec	498	811.75	11675.25
30	Grand Total		8370	9741.85	234334.8

2. Select cell **A2** and type the following formula:
=GETPIVOTDATA("Sum of Product Sales",E3,"Category Name","Dairy Products","Date","Sep")
3. The answer will be **12054** as displayed below.

	A	B	C	D	E
1	Total Dairy Products Sales for September				
2					12054
3	Category Name	Date	Sum of Quantity	Sum of Unit Price	Sum of Product Sales
4	Dairy Products		4374	4965	123910.8
5		Jan	448	284	9872
6		Feb	248	244	5616
7		Mar	311	310	9844.4
8		Apr	231	258.1	6647
9		May	494	634.7	11491.5
10		Jun	405	391.1	9507.7
11		Jul	374	461.8	13570.1
12		Aug	256	299.6	7375.5
13		Sep	435	408	12054
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15		Nov	344	634.6	13597.1
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21		Apr	268	460	7377.5
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25		Aug	334	270	6154
26		Sep	174	408	6198.75
27		Oct	491	361.75	9043
28		Nov	248	163.75	4034
29		Dec	498	811.75	11675.25
30	Grand Total		8370	9741.85	234334.8

Tip 3: Formatting the Chart Vertical Axis

If you have plotted a graph and want to change the scale of the vertical axis to suit your needs, MS Excel allows you to customize the vertical axis.

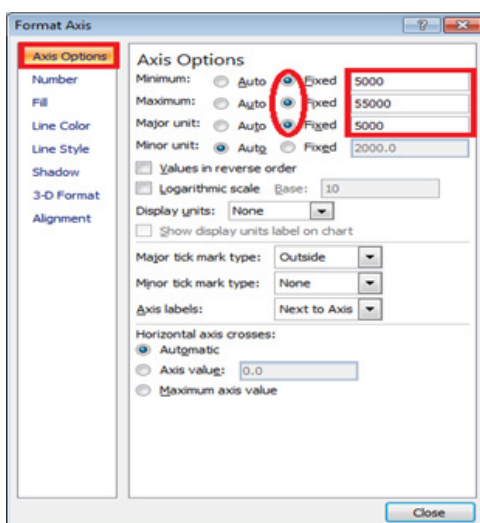
By default, Microsoft Office Excel determines the minimum and maximum scale values of the vertical (value) axis. The y axis is usually the vertical axis and contains data. The x-axis is usually the horizontal axis and contains categories in a chart. You can, however, customize the scale to better meet your needs. When the values that are plotted in the chart cover a very large range, you can also change the vertical (value) axis to a logarithmic scale (also known as log scale).

Applies To: MS Excel 2003, 2007 and 2010

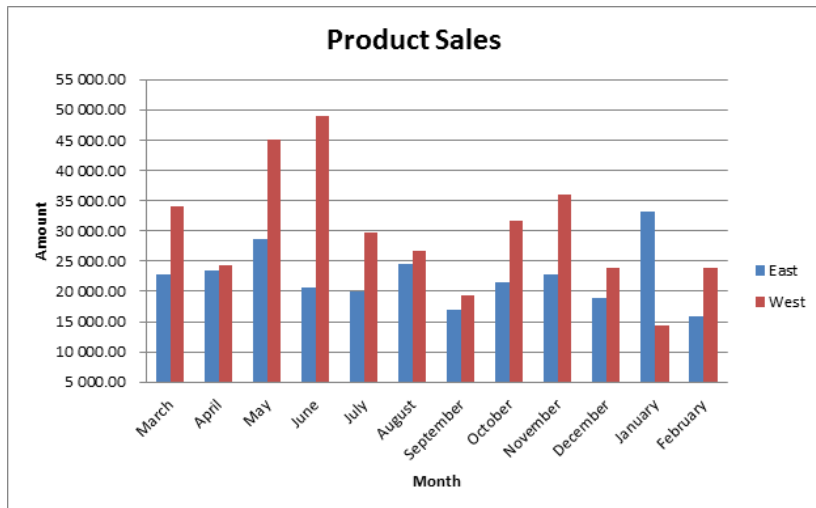
1. Assuming that you have just plotted the graph below.



2. To change the scale of the vertical axis to :
 - a. Minimum value = 5000
 - b. Maximum value = 55 000
 - c. Major Unit = 5000
3. Right click on the vertical axis.
4. Select **format axis**.
5. Enter as per screen shot below.



6. Select close.
7. The following chart will be displayed with customised vertical axis values.



What's your Excel IQ?

Not sure how efficient you are in Excel?
Take a simple multiple choice test and find out how your skills measure up.

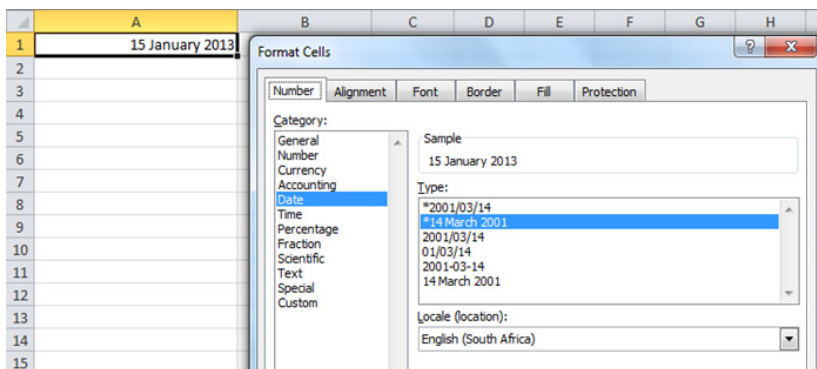
[Take the test](#)

Tip 4: Date Validation

If you have 90 days to settle an account, and would like to know if a given date is within 90 days of today's date, you can use a combination of the TODAY() date function and the IF() function. This will enable you to check if a given date is within 90 days of, well, today.

The TODAY() function returns the date as per the system date of the machine, using the YYYY/MM/DD format for the date. Once in a cell, this date can be used in calculations. The example in this tip starts with the following information in Excel: a date listed in cell A1, with the cell formatted to represent a date in DD-MMMM-YY format.

Applies To: MS Excel 2003, 2007 and 2010



1. Select cell **B1**.
2. Type in **=TODAY()** and press **Enter**.

	A	B	C
1	15 January 2013	04 February 2013	
2			
3			

3. Select cell **C1**. Type in **=B1-A1** and press **Enter**.
4. Select cell **C2**. Type in **=(TODAY()-A1)>=90** and press **Enter**. This will return a FALSE value, as the result (20) is not greater than or equal to 90.

	A	B	C	D
1	15 January 2013	04 February 2013	20	
2			FALSE	
3				

5. With cell **C2** still selected, type in **=IF(TODAY()-A1>=90,"Yes","No")** and press **Enter**.

	A	B	C	D
1	15 January 2013	04 February 2013	20	
2			No	
3				

The formula will subtract the entered date from today's date, then compare the value against 90. If the value is greater than or equal 90, the result will be "Yes", otherwise "No".

Tip 5: IF Function

Ever tried to create a formula with a condition but could not? Perhaps you intend to have different answers depending on the status (true or false) of the condition. Then the answer to your problem is the IF function.

The IF function is one of Excel's most useful and most used functions. What it does, basically, is test to see whether a certain condition is true or false. If the condition is true, the function will do one thing, if the condition is false, the function will do something else.

Syntax: =IF(logic test, value if true, value if false)

Applies To: MS Excel 2003, 2007 and 2010

1. We are going to calculate the commission figures for the following employees based on this criteria:
If the above target figure is above the target benchmark of \$10,000 multiply the value by 20% if the above target figure is below \$10,000 then multiply the figure by 5%.

	A	B
1		
2	Target Benchmarck	\$ 10,000.00
3		
4		Above Targets (\$)
5	Employee 1	\$ 35,000.00
6	Employee 2	\$ 24,600.00
7	Employee 3	\$ 12,000.00
8	Employee 4	\$ 50,000.00
9	Employee 5	\$ 18,600.00
10		

2. You can use the IF Statement.
3. Use the following formula and copy down =IF(B5>10000,B5*20%,B5*5%).
4. The commission figures will be automatically calculated based on the IF function.

	A	B	C
1			
2	Target Benchmarck	\$ 10,000.00	
3			
4		Above Targets (\$)	Commission
5	Employee 1	\$ 35,000.00	\$ 7,000.00
6	Employee 2	\$ 24,600.00	\$ 4,920.00
7	Employee 3	\$ 12,000.00	\$ 2,400.00
8	Employee 4	\$ 50,000.00	\$ 10,000.00
9	Employee 5	\$ 18,600.00	\$ 3,720.00
10			

5. The logic test is always a comparison between two values. Comparison operators are used, for example, to see if the first value is greater than or less than the second, or equal to it.

6. While the logic test section is limited to answering a true or false question, you have greater flexibility in what you place in the last two arguments.
7. The IF function can perform different calculations depending on whether the function returns a true value or not.

Note: There is no comma separator used for the number in 10,000 in the above example. This is because the IF function uses the comma to separate the three sections of the IF function contained within the round brackets.



Control Keys

- Ctrl+A: Selects the entire worksheet
- Ctrl+C: Copy the selection
- Ctrl+D: Fill down
- Ctrl+E: Find dialog box
- Ctrl+F: Find
- Ctrl+G: Go to
- Ctrl+H: Replace
- Ctrl+I: Italic
- Ctrl+J: Justify
- Ctrl+K: Insert link
- Ctrl+L: List
- Ctrl+M: Merge cells
- Ctrl+N: New
- Ctrl+O: Open
- Ctrl+P: Print
- Ctrl+Q: Quick
- Ctrl+R: Repeat
- Ctrl+S: Save
- Ctrl+T: Table
- Ctrl+U: Undo
- Ctrl+W: Window
- Ctrl+X: Cut
- Ctrl+Y: Redo
- Ctrl+Z: Undo
- Ctrl+[: Previous
- Ctrl+] : Next
- Ctrl+< : Previous
- Ctrl+> : Next
- Ctrl+Home : Home
- Ctrl+End : End
- Ctrl+Shift+< : Previous
- Ctrl+Shift+> : Next
- Ctrl+Shift+Home : Home
- Ctrl+Shift+End : End
- Ctrl+Shift+Left : Previous
- Ctrl+Shift+Right : Next
- Ctrl+Shift+Up : Previous
- Ctrl+Shift+Down : Next
- Ctrl+Shift+Home : Home
- Ctrl+Shift+End : End
- Ctrl+Shift+Left : Previous
- Ctrl+Shift+Right : Next
- Ctrl+Shift+Up : Previous
- Ctrl+Shift+Down : Next

Function

- F1: Display Help or the Office Assistant
- Alt+F1: Create an embedded chart
- Alt+F2: Create an embedded chart
- Alt+F3: Insert a new worksheet
- Alt+F4: Close the current window
- Alt+F5: Switch to the next window
- Alt+F6: Switch to the previous window
- Alt+F7: Enable or disable the status bar
- Alt+F8: Perform the Show/Hide task
- Alt+F9: Perform the Show/Hide task
- Alt+F10: Perform the Show/Hide task
- Alt+F11: Perform the Show/Hide task
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- Alt+F98: Perform the Show/Hide task
- Alt+F99: Perform the Show/Hide task
- Alt+F100: Perform the Show/Hide task

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Tip 6:

Calculating Multiple Conditions In a Formula with The Nested IF Statement

Do you need to calculate multiple conditions in a formula? Similar to the example below where a specific trade discount percentage has been used depending on the quantity purchased? If that is the case then you can use the Nested IF statement.

The Nested IF statement enables one to calculate multiple conditions in a formula. As a result more elaborate tests of data can be constructed.

Applies To: MS Excel 2003, 2007 and 2010

The If statement can be used to conduct conditional tests on values and formulas. However if more elaborate testing of data will be carried out then the Nested If Statement can be used.

To calculate the trade discount percentage for clients based on the table below;

TOTAL PURCHASES	
DISCOUNT PERCENTAGE	
>=\$30,000	7%
>=\$20,000	5%
>=\$10,000	3%
<\$10,000	0%

1. Enter the data given below.

	A	B	C	D
1	CUSTOMER NO	NAME	PURCHASES	TRADE DISCOUNT PERCENTAGE
2	C001	ABC TRADING	\$ 30 000.00	
3	C002	XYZ LTD	\$ 22 000.00	
4	C003	QWE PTY	\$ 15 000.00	
5	C004	MOX RETAILERS	\$ 10 000.00	
6	C005	JAS CC	\$ 5 000.00	

2. Select **cell D2** and type the following formula;
=IF(C2>=30000,"7%",IF(C2>=20000,"5%",IF(C2>=10000,"3%","0%"))).
3. Press **Enter** and copy the formula down.
4. The result will be as below.

	A	B	C	D
1	CUSTOMER NO	NAME	PURCHASES	TRADE DISCOUNT PERCENTAGE
2	C001	ABC TRADING	\$ 30 000.00	7%
3	C002	XYZ LTD	\$ 22 000.00	5%
4	C003	QWE PTY	\$ 15 000.00	3%
5	C004	MOX RETAILERS	\$ 10 000.00	3%
6	C005	JAS CC	\$ 5 000.00	0%

Tip 7: Making Forecasts with the Forecast Function

If you are recording monthly sales amounts and there seems to be a constant upward trend, though the increase each month isn't the same amount. You can use the FORECAST function to know when a certain sales amount has been hit.

Applies To: MS Excel 2007 and 2010

The FORECAST function can work whenever you have a set of data pairs: an x-value range (say, date) and a y-value range (say, value of sales for that date). The function uses a trend line on the y-value target amount (e.g. a sales amount target), then applies the same trend to the x-value range to work out the date that target will be reached. The values in the x-value range must be numbers, otherwise the function will return a #VALUE! Error.

In this example, we will be using the following data table which lists sales dates from the end of the month, and the value of those sales for that month. We shall use the FORECAST function to determine on what date sales will exceed \$2000.

E1		fx Estimated Date			
	A	B	C	D	E
1	Date	Amount		Target	Estimated Date
2	30-Sep-10	1250		2000	
3	31-Oct-10	1370			
4	30-Nov-10	1300			
5	31-Dec-10	1500			
6	31-Jan-11	1620			
7	28-Feb-11	1520			
8	31-Mar-11	1780			
9	30-Apr-11	1820			
10					
11					
12					

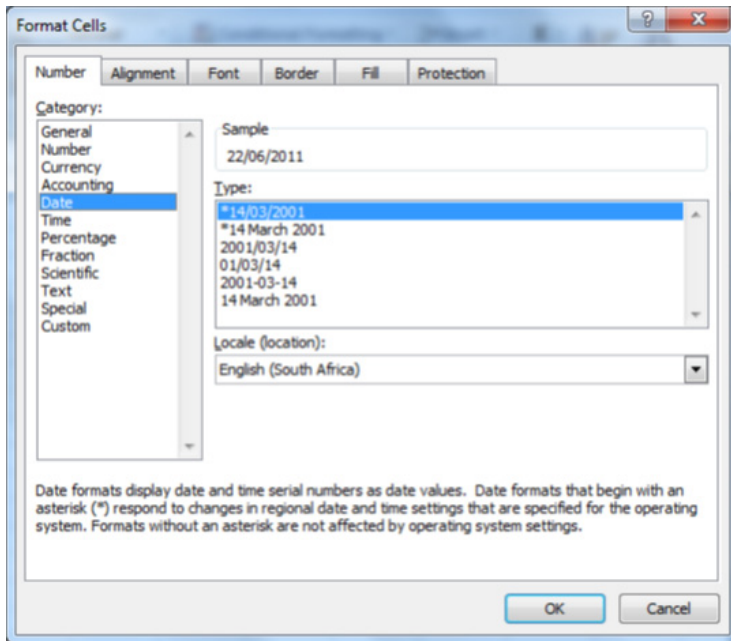
1. Select cell E2.
2. Type in **=FORECAST(D2,A2:A9,B2:B9)** and press **Enter**.

SUM		X ✓ fx =FORECAST(D2,A2:A9,B2:B9)			
	A	B	C	D	E
1	Date	Amount		Target	Estimated Date
2	30-Sep-10	1250		2000	=FORECAST(D2,A2:A9,B2:B9)
3	31-Oct-10	1370			
4	30-Nov-10	1300			
5	31-Dec-10	1500			
6	31-Jan-11	1620			
7	28-Feb-11	1520			
8	31-Mar-11	1780			
9	30-Apr-11	1820			
10					

3. The formula returns a value of **40716.54041**

E2		fx =FORECAST(D2,A2:A9,B2:B9)			
	A	B	C	D	E
1	Date	Amount		Target	Estimated Date
2	30-Sep-10	1250		2000	40716.54041
3	31-Oct-10	1370			
4	30-Nov-10	1300			
5	31-Dec-10	1500			
6	31-Jan-11	1620			
7	28-Feb-11	1520			
8	31-Mar-11	1780			
9	30-Apr-11	1820			
10					

4. We can now format this number to return a date value. While cell E2 is still selected, press **CTRL + 1**. This will bring up the "Format Cells" window. On the „Number“ tab, select the **"Date"** option in the left hand menu, then your desired date format on the right, then click **OK**.



5. The number will now be converted to a date and we can see that sales are estimated to exceed \$2000 on 22nd June, 2011.

E2 fx =FORECAST(D2,A2:A9,B2:B9)					
	A	B	C	D	E
1	Date	Amount		Target	Estimated Date
2	30-Sep-10	1250		2000	22/06/2011
3	31-Oct-10	1370			
4	30-Nov-10	1300			
5	31-Dec-10	1500			
6	31-Jan-11	1620			
7	28-Feb-11	1520			
8	31-Mar-11	1780			
9	30-Apr-11	1820			
10					

Tip 8: Trapping Error Messages By Using the IF Error Function

If you've worked with formulas, you've probably encountered the dreaded formula error. Rather than return a numeric result, the formula cell displays a weird message such as #VALUE! or #DIV/0!.

Most of the time, this means you need to track down the source of the error and fix it. But sometimes a formula error simply means that the data used by the formula is not yet available. For example, say you run a small telemarketing company. You might have a spreadsheet set up to track your daily sales as a percentage of calls made.

Applies To: MS Excel 2003, 2007 and 2010

	A	B	C	D
1	Telemarketing Results			
2				
3	Day	Calls Made	Sales	Percentage
4	1	3500	120	3%
5	2	3600	200	6%
6	3	3800	104	3%
7	4	3700	170	5%
8	5	3400	209	6%
9	6			#DIV/0!
10	7			#DIV/0!
11	8			#DIV/0!
12	9			#DIV/0!
13	10			#DIV/0!
14	11			#DIV/0!
15	12			#DIV/0!

1. The formulas in column D do the calculations that come up with the percentages. For example, cell D4 contains the formula =C4/B4. The answer was then converted to percentages by using the percent style option.
2. The formula does its job well--as long as there is data to calculate. An empty cell (such as B9) is treated as a zero, and division by zero is not allowed. As a result, Excel displays an ugly #DIV/0! error message, which makes your entire worksheet look like it was created by a novice.
3. You can avoid displaying formula errors by re-writing your formula to use an IFError function. For example:

=IFERROR((C4/B4),"")

4. Displays a blank cell if the division operation results in an error (cell B4 is empty or contains 0), yet still displays valid results.
5. If you prefer, you can replace the empty string ("") with other text of your choice--just make sure the text is enclosed in quote marks.

Tip 9: Formatting Your Dates To Show the Period Number

Are you looking for an easy and effective method of displaying the period for a given date? Perhaps you have a sales report and you intend to analyse the dates by periods, then the Custom Format option is the answer.

By using a Custom Format, you can show the period of the date (in this case the month) without changing the date in the field.

Before:

E	F	G	H	I
<i>Product Name</i>	<i>Date</i>	<i>Quantity</i>	<i>Unit Price</i>	<i>Product Sales</i>
Maxilaku	January 01, 2009	30	16 \$	480.00
Gnocchi di nonna Alice	March 01, 2009	70	30 \$	2 128.00
Tunnbröd	February 02, 2009	60	7 \$	432.00
Pavlova	January 03, 2009	21	14 \$	291.90
Singaporean Hokkien Fried Mee	April 03, 2009	40	11 \$	448.00
Boston Crab Meat	January 07, 2009	2	15 \$	29.40
Inlagd Sill	March 07, 2009	5	15 \$	76.00
Chai	January 07, 2009	10	14 \$	144.00
Gudbrandsdalsost	January 07, 2009	15	29 \$	432.00
Queso Cabrales	May 07, 2009	30	17 \$	504.00
Chai	March 14, 2009	24	14 \$	345.60
Teatime Chocolate Biscuits	January 16, 2009	20	7 \$	146.00
Original Frankfurter grüne Soße	May 16, 2009	35	10 \$	364.00
Côte de Blaye	April 16, 2009	50	211 \$	10 540.00

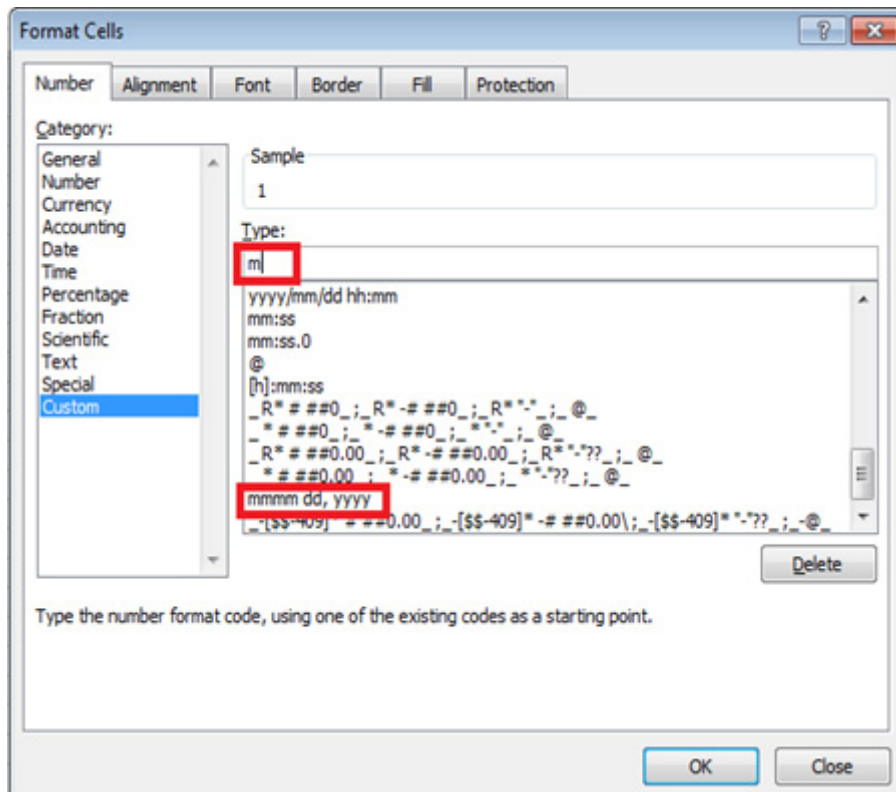
After (using a Custom Format):

E	F	G	H	I
<i>Product Name</i>	<i>Date</i>	<i>Quantity</i>	<i>Unit Price</i>	<i>Product Sales</i>
Maxilaku		1	30	16 \$ 480.00
Gnocchi di nonna Alice		3	70	30 \$ 2 128.00
Tunnbröd		2	60	7 \$ 432.00
Pavlova		1	21	14 \$ 291.90
Singaporean Hokkien Fried Mee		4	40	11 \$ 448.00
Boston Crab Meat		1	2	15 \$ 29.40
Inlagd Sill		3	5	15 \$ 76.00
Chai		1	10	14 \$ 144.00
Gudbrandsdalsost		1	15	29 \$ 432.00
Queso Cabrales		5	30	17 \$ 504.00
Chai		3	24	14 \$ 345.60
Teatime Chocolate Biscuits		1	20	7 \$ 146.00
Original Frankfurter grüne Soße		5	35	10 \$ 364.00
Côte de Blaye		4	50	211 \$ 10 540.00

Applies To: MS Excel 2003, 2007 and 2010

1. Select the date's data range.
2. Right click on the selected data range.

3. Select **Format Cells**.
4. Under Category, select **Custom**.
5. In the Type box, Enter **m**.
6. Select **OK**.



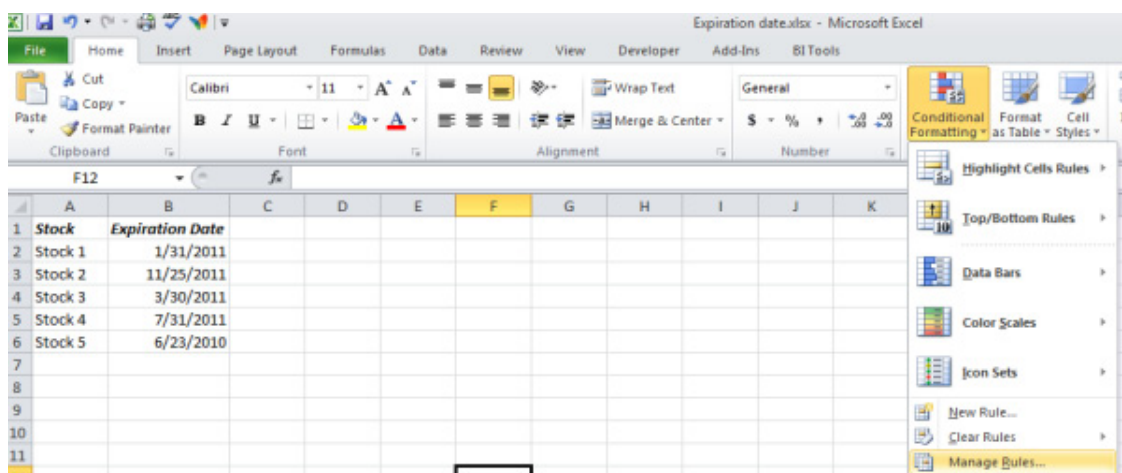
Tip 10: To Automatically Highlight Upcoming and Past Due Dates

In Excel 2010, there is a way to automatically highlight up-coming and past due dates. For example, if one has expiry dates for stock in a spreadsheet it is possible to highlight the stock that has expired and the stock that will expire within 30 days. This is achievable with conditional formatting.

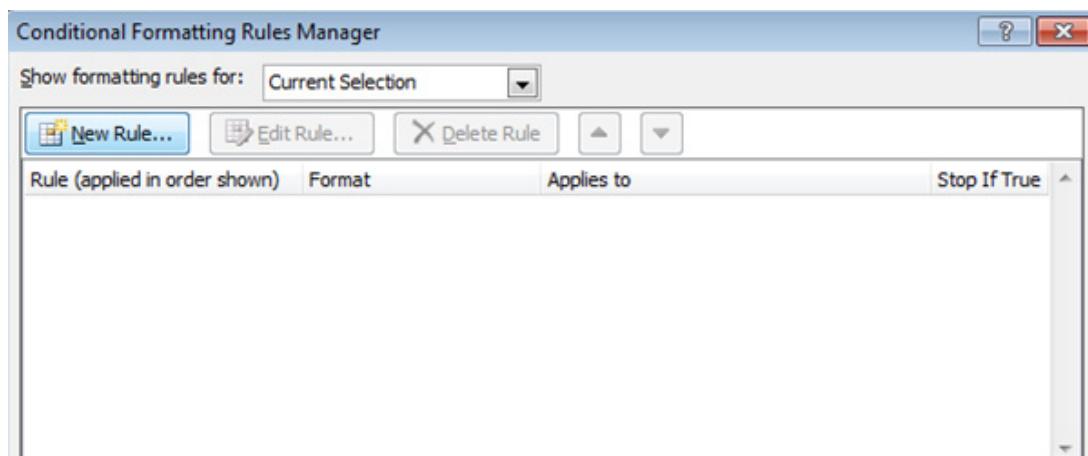
Below is a demonstration of how this can be done.

Applies To: MS Excel 2010

1. Select the Home tab in the toolbar at the top of the screen.
2. Then in the styles group, click on the **Conditional Formatting** drop-down and select **Manage Rules**.



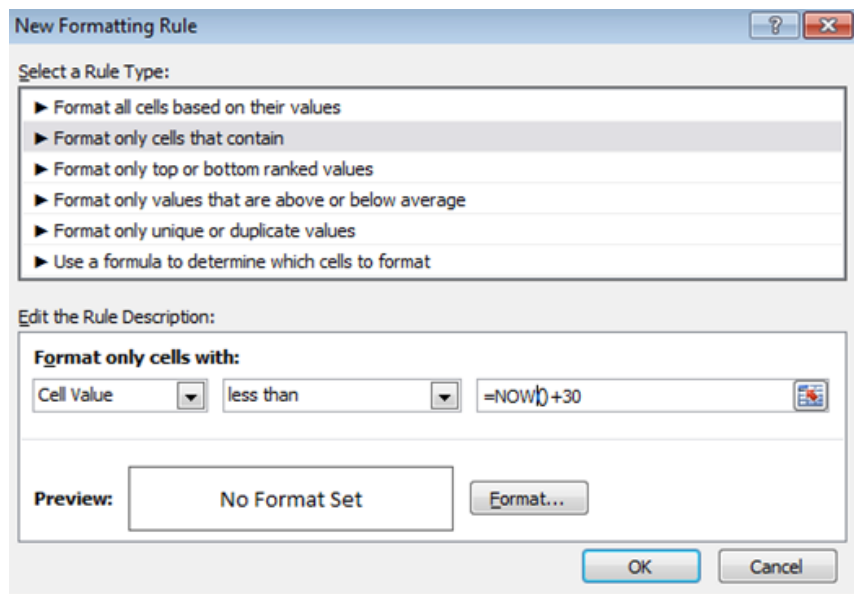
3. When the Conditional Formatting Rules Manager window appears, click on the “**New Rule**” button to enter the first condition.



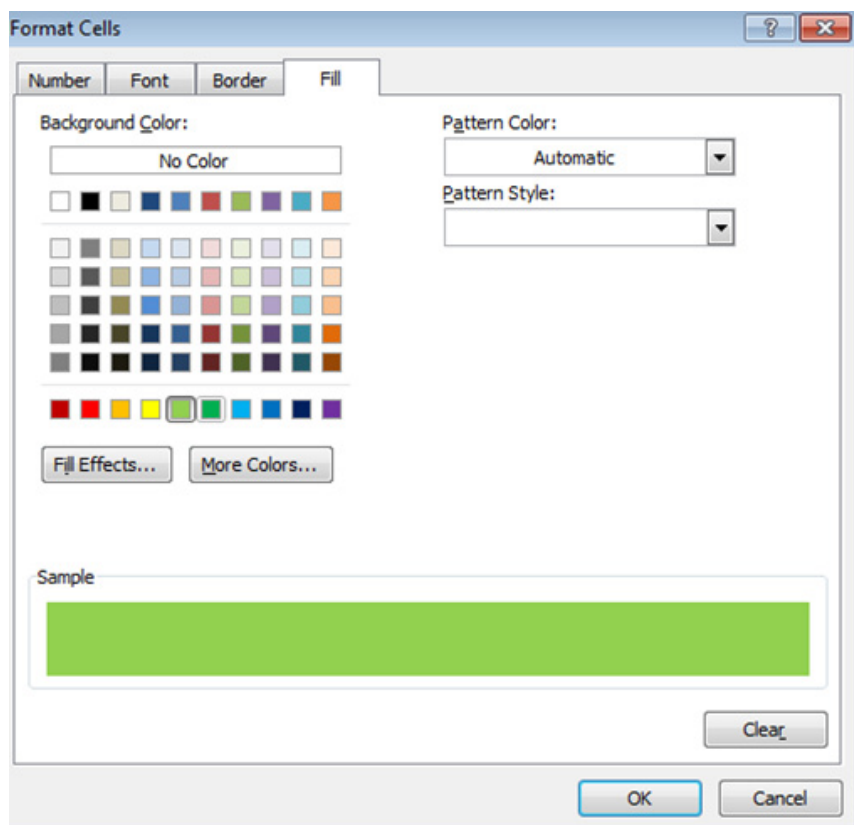
4. When the New Formatting Rule window appears, select Format only cells that contain as the rule type.

Then select Cell Value in the first drop down, less than in the second drop down, and enter the following formula:
=NOW()+30

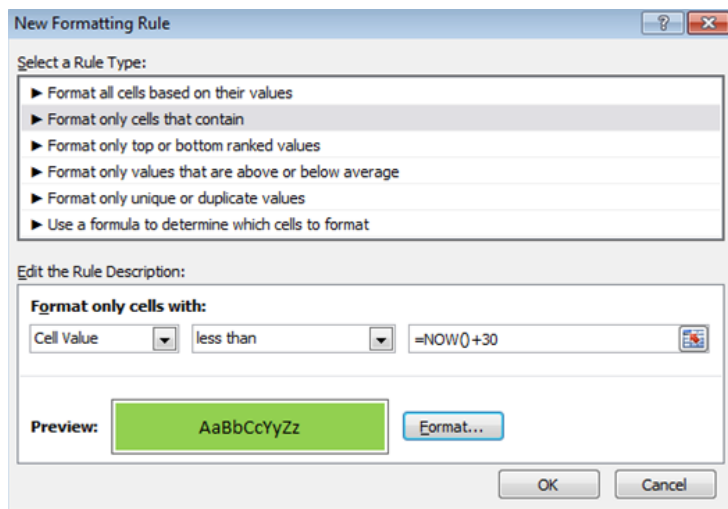
Next, we need to select what formatting to apply when this condition is met. To do this, click on the Format button.



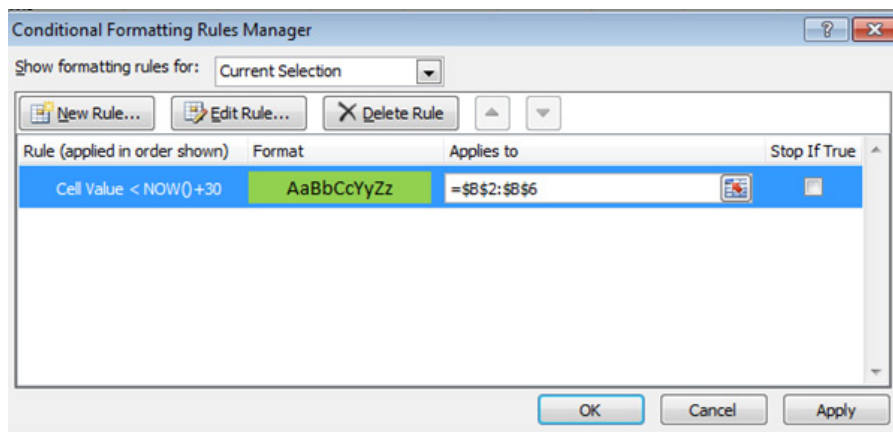
5. When the Format Cells window appears, select the **Fill** tab. Then select the color that you would like to use for the dates that will expire in the next 30 days. In this example, we've selected green. Then click on the **OK** button.



6. When you return to the New Formatting Rule window, you should see the preview of the formatting in the preview box. In this example, the preview box shows green as the fill color. Click on the **OK** button.



This will return you to the Conditional Formatting Rules Manager window. Select **OK**.



The stock that has already expired and the stock that will expire in less than 30 days from now will be highlighted in green.

	A	B	C
1	Stock	Expiration Date	
2	Stock A	2013/03/14	
3	Stock B	2013/12/30	
4	Stock C	2013/02/20	
5	Stock D	2013/05/01	
6	Stock E	2013/01/23	

Tip 11: Date Data Validation

When working on a project timeline the end date should always be greater than the start date; however error can occur when entering the dates manually into a spreadsheet. By using Date Data Validation you can ensure that the project end date is greater than the project start date as it notifies you should this not be the case.

Applies To: MS Excel 2003, 2007 and 2010

1. Refer to the data given below.

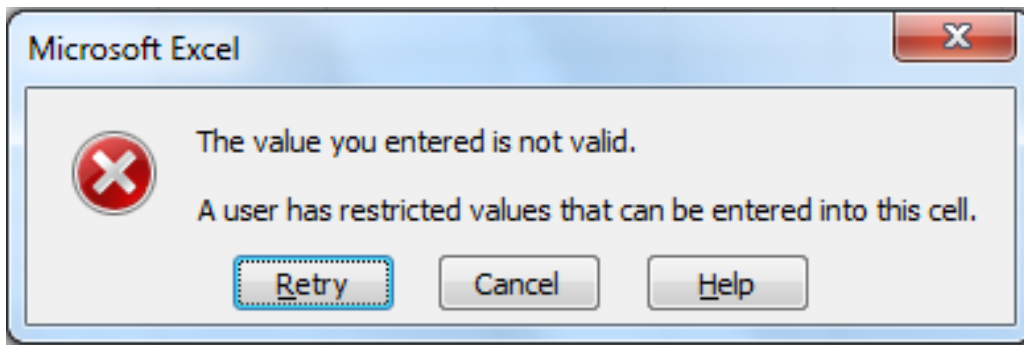
	A	B	C
1	Task	Start Date	End Date
2	A	2013/01/15	
3	B	2013/02/16	
4	C	2013/03/03	
5	D	2013/01/03	
6	E	2013/02/09	
7	F	2013/01/10	
8	G	2013/01/22	

2. Select the range; **C2:C8**.
3. From the Data tab, in the Data Tools group, select **Data Validation**.
4. Select as below;

The screenshot shows the 'Data Validation' dialog box with the following settings:

- Settings** tab is active.
- Validation criteria:**
 - Allow:** Date
 - Data:** greater than
 - Start date:** =B2
 - ☒ Ignore blank
- ☐ Apply these changes to all other cells with the same settings
- Buttons: Clear All, OK, Cancel

5. Select the **OK** button.
6. Enter **2013/01/12** in cell C2. An error message given below will be displayed since 2013/01/12 is less than 2013/01/15.



Thus one is able to ensure that the data that users enter into a worksheet conforms to certain standards by enforcing the data validation rule.

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Tip 12: Transpose Function

Have you ever needed to change the orientation of a range of cells whilst maintaining links to the source data and had to manually recreate the spreadsheet? Well, there's a quicker way - the TRANSPOSE function. The TRANSPOSE function returns a vertical range of cells as a horizontal range, or vice versa, whilst maintaining links to source data.

The TRANSPOSE function must be entered as an array formula. An array formula performs multiple calculations on one or more sets of values, and then returns either a single result or multiple results. Array formulas are enclosed between brackets { } and are entered by pressing (CTRL+SHIFT+ENTER) in a range that has the same number of rows and columns as the source range. Use TRANSPOSE to shift the vertical and horizontal orientation of an array or range on a worksheet.

Applies To: MS Excel 2003, 2007 and 2010

1. This tip will be based on the screen shot below.

	A	B	C	D	E	F	G	H	I	J	K	L
1												
2												
3	Staff Code	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11
4	Name	M Naidoo	M Effort	B Nixon	K Swartz	L Belford	Kelvin Moxford	Jenny Brown	Helen Marks	Gene Fraser	F Jackson	Evan Peterson
5	Structure	5000-Com	23000-Com	0-Basic	8000-Com	0-Basic	5000-Com	0-Basic	19500-Com	0-Basic	18500-Com	0-Basic
6												

2. Starting from cell A7- select the data range **A7:C18** (Where the data will be pasted).
3. With the data range A7:C18 still selected, type the formula below.

=TRANSPOSE(A2:L4) and **press CTRL+SHIFT+ENTER**

4. The result will be as below.

7	Staff Code	Name	Dept
8	P1	M Naidoo	Accounts
9	P2	M Effort	Sales
10	P3	B Nixon	Support
11	P4	K Swartz	Development
12	P5	L Belford	Marketing
13	P6	Kelvin Moxford	Accounts
14	P7	Jenny Brown	Support
15	P8	Helen Marks	Development
16	P9	Gene Fraser	Marketing
17	P10	F Jackson	Support
18	P11	Evan Peterson	Support

N.B: You can also transpose data by using COPY-PASTE SPECIAL-TRANSPOSE-OK. However the transposed data will have no links to the source data.

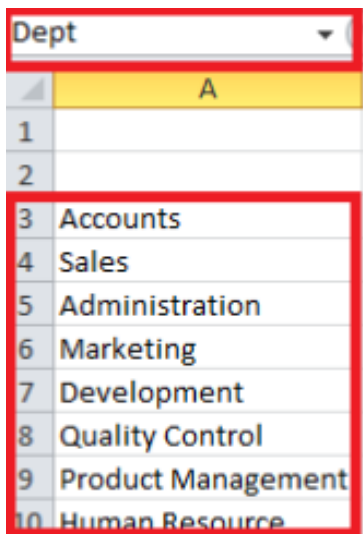
Tip 13: Data Validation

Data Validation enables you to create a drop down list to control the type of data or the values that users enter into a cell. For instance if you have a list of employees and want to assign a department next to each employees name, you can use a drop down list instead of typing the departments.

Below is an example of how to use Data Validation.

Applies To: MS Excel 2003, 2007 and 2010

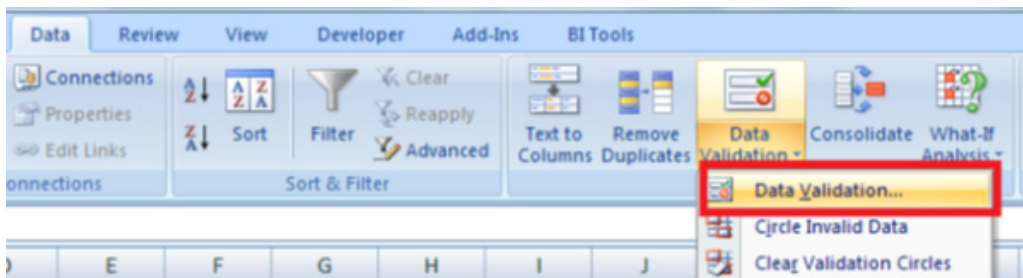
1. Select the sheet 1 tab and enter as below.



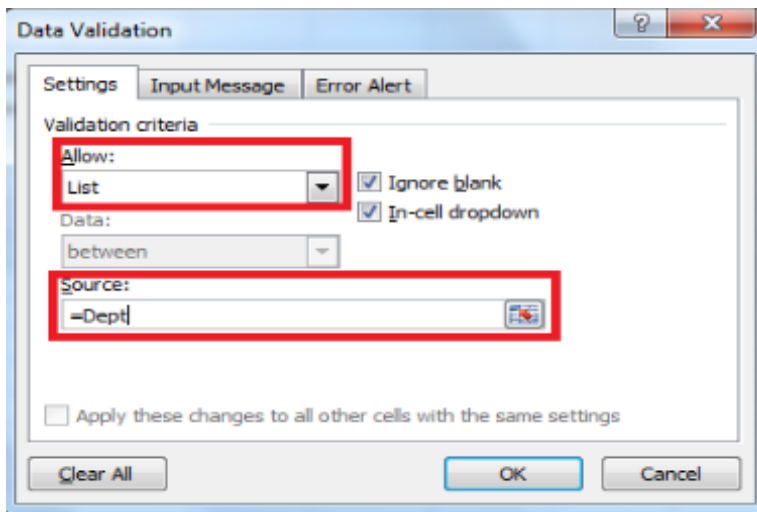
2. Select **A3:A10** and enter Dept in the name box as per screen shot above(You must press the **Enter** key after typing Dept).
3. Select the **sheet 2 tab**, and select the cells in the Department Column of the report (**E5:E17**).

	A	B	C	D	E
1					
2					
3					
4		Employee Id	Name	Surname	Department
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					

4. Add the Data Validation to the selected cells. Refer to the screen shot below.



5. The following screen will be displayed, select the criteria as shown below.
To insert the range name (Dept.) you can either **type in =Dept** or **press F3** in the Source text box and then **select Dept** from the list of Named Ranges.



6. **Select OK** and enter employees' information. To choose the department, select the drop down arrow in column E. A list of departments will be displayed thus automating the entry of departments into the worksheet. The screen shot is displayed below.

	A	B	C	D	E
1					
2					
3					
4		Employee Id	Name	Surname	Department
5		E001	Joe	Bloggs	
6					Accounts
7					Sales
8					Administration
9					Marketing
10					Development
11					Quality Control
12					Product Management
13					Human Resource
14					
15					
16					
17					
18					

Tip 14: Generating of Random Numbers For Testing of Formulas

Do you need to generate random numbers to test formulas? Consider using the RANDBETWEEN function. The function can be used to create some random numbers for testing of formulas so that you don't need to make them up.

The RANDBETWEEN function returns a random integer number between the numbers you specify. A new random integer number is returned every time the worksheet is calculated.

Applies To: MS Excel 2003, 2007 and 2010

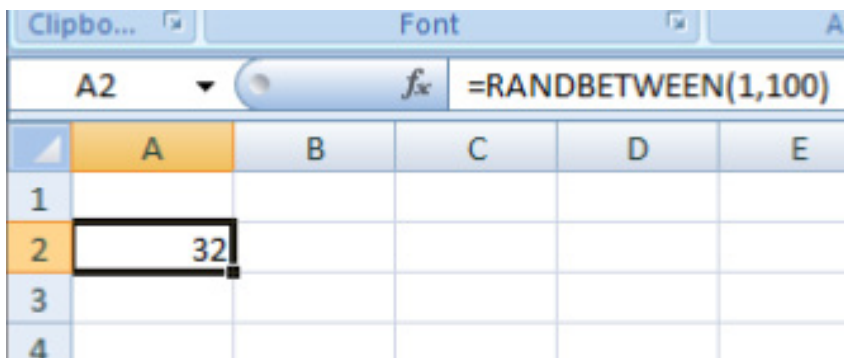
The RANDBETWEEN function allows you to generate a random, whole number inside of a range.

The syntax is:

=RANDBETWEEN(bottom,top)

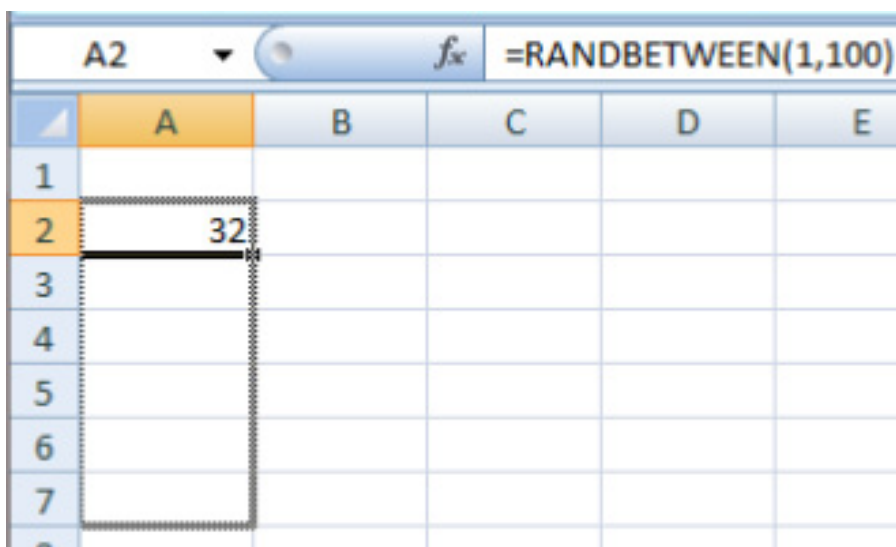
The bottom parameter is the lowest number in the range you want to use, and top is the highest number in the range.

1. Select **cell A2** and type **=RANDBETWEEN(1,100)** and press **Enter**.



When you press Enter, a random whole number between 1 and 100 is generated (in this instance, the number 32 is returned).

2. Move your mouse to the bottom left hand corner of **cell A2**, click and hold on the autoFill handle, and drag it down to **cell A7**.



A2		fx =RANDBETWEEN(1,100)			
	A	B	C	D	E
1					
2	78				
3	72				
4	100				
5	58				
6	83				
7	33				
8					

You'll note that the moment you release the AutoFill Handle, all cells generated a random number, including cell A2 – it has changed from 32 to 78. RANDBETWEEN will generate a new number each time you press Enter, or even when you use the UNDO or REDO functions (as long as you're not altering any of the RANDBETWEEN cells).

3. Select cell **B2**. Type in **=A2*100** and press **Enter**.

B2		fx =A2*100			
	A	B	C	D	E
1					
2	24	2400			
3	73				
4	92				
5	77				
6	46				
7	26				

Again, when you hit **Enter**, you'll notice that all values in cells A2 to A7 change to a new, random value.

Tip 15: Hyperlinks

A Hyperlink is a reference to a document, a location or an action that the reader can directly follow. Microsoft has added the ability to place hyperlinks directly into an Excel worksheet, connected to a number of worksheet objects; including shapes, charts and wordart, included as a worksheet formula or programmatically using VBA by selecting the link. The use of Hyperlinks in Excel has been extended to a number of areas and this includes: opening files, opening web pages, creating new excel files or sending emails, but we will focus on jumping/navigating to locations within an existing workbook.

In the example below we create a hyperlink to the East and West worksheets so that navigating to those worksheets can be simplified.

The screenshot shows an Excel worksheet with the following content:

Sales Commissions and Incentives			
Month: March			

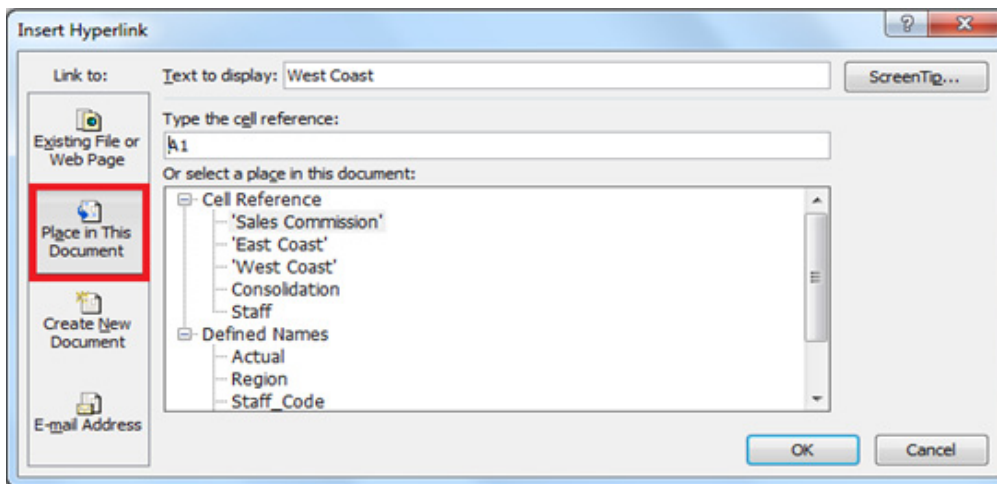
The table below is located in the worksheet:

Region	Sales Staff per Region	Value of Commission
West Coast		
East Coast		
Total		
Total Actual		

The worksheet tabs at the bottom are: Sales Commission, East Coast, West Coast.

Applies To: MS Excel 2003, 2007 and 2010

1. To create a link to the West Coast worksheet.
 - a. Right click on **cell B5** and select **Hyperlink**.
 - b. The screen shot below will be displayed.



- c. Select as above then click on **West Coast**.

2. To create a link to the East Coast worksheet
 - a. Right click on **cell B6** and select **Hyperlink**.
 - b. Select as in step 1(b) above, then click on **East Coast**.

3. By clicking on cells B5 & B6, one will be taken to the West Coast and East Coast worksheets respectively.

N.B

To delete a hyperlink select as below

- Right click on the cell with the hyperlink e.g. B5
- Select **Remove Hyperlink**

To edit a hyperlink select as below

- Right click on the cell with the hyperlink e.g. B5
- Select **Edit Hyperlink**
- Select the new location for the hyperlink
- Select **OK**

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Tip 16: Data Consolidation

To summarise and report results from data on separate worksheets, you can consolidate the data from each separate worksheet into one worksheet (or master worksheet). The worksheets you consolidate can be in the same workbook as the master worksheet or in other workbooks. When you consolidate data in one worksheet, you can more easily update and aggregate it on a regular or ad hoc basis.

There are two main ways to consolidate data:

- Consolidate by position: Use this method when the data from multiple source areas is arranged in the same order and uses the same row and column labels.
- Consolidate by category: Use this method when the data from multiple source areas is arranged differently, but the same row and column labels are used.

Applies To: MS Excel 2003, 2007 and 2010

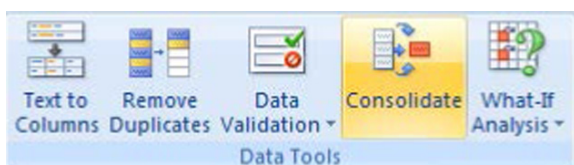
1. Insert a new worksheet.
2. Rename **Sheet1**, **Sheet2** and **Sheet3** to **Branch A**, **Branch B** and **Summary** respectively.
3. Enter the data given in the example below on the Branch A worksheet.
The same order and location of the data must be maintained on all the worksheets.

	A	B	C	D	E	F
1				XYZ Limited		
2				Expense Report		
3						
4			Transport	Salaries	Advertising	Total
5		January	\$ 200 000.00	\$ 400 000.00	\$ 150 000.00	\$ 750 000.00
6		February	\$ 150 000.00	\$ 250 000.00	\$ 300 000.00	\$ 700 000.00
7		March	\$ 250 000.00	\$ 300 000.00	\$ 250 000.00	\$ 800 000.00
8		April	\$ 300 000.00	\$ 150 000.00	\$ 300 000.00	\$ 750 000.00
9		May	\$ 350 000.00	\$ 250 000.00	\$ 200 000.00	\$ 800 000.00
10		June	\$ 400 000.00	\$ 200 000.00	\$ 150 000.00	\$ 750 000.00
11		Total	\$ 1 650 000.00	\$ 1 550 000.00	\$ 1 350 000.00	\$ 4 550 000.00

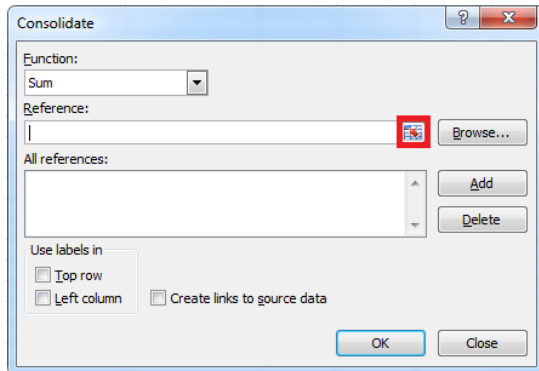
4. Enter the data given below on the Branch B worksheet.

	A	B	C	D	E	F
1				XYZ Limited		
2				Expense Report		
3						
4			Transport	Salaries	Advertising	Total
5		January	\$ 150 000.00	\$ 250 000.00	\$ 290 000.00	\$ 690 000.00
6		February	\$ 100 000.00	\$ 100 000.00	\$ 345 000.00	\$ 545 000.00
7		March	\$ 200 000.00	\$ 350 000.00	\$ 259 000.00	\$ 809 000.00
8		April	\$ 250 000.00	\$ 200 000.00	\$ 250 000.00	\$ 700 000.00
9		May	\$ 300 000.00	\$ 400 000.00	\$ 160 000.00	\$ 860 000.00
10		June	\$ 300 000.00	\$ 250 000.00	\$ 170 000.00	\$ 720 000.00
11		Total	\$ 1 300 000.00	\$ 1 550 000.00	\$ 1 474 000.00	\$ 4 324 000.00

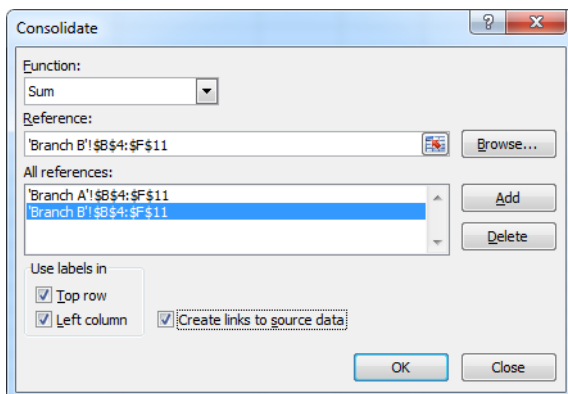
5. Select the summary worksheet, click **cell B3**.
6. Select on **Data**, **Consolidate** (under data tools).



- The screen shot given below will be displayed.



- Select the **Edit Ref** icon and highlight the data range B3:F10 on the Branch A worksheet.
- Press **Enter** & select the **Add** button.
- Repeat steps 8 and 9 on the Branch B worksheet.
- The screen shot below will be displayed.



- Select all the check boxes and then press Enter or click **OK**.

1	2	A	B	C	D	E	F
	1				XYZ Limited		
	2				Expense Report		
	3						
	4			Transport	Salaries	Advertising	Total
+	7	January	\$ 350 000.00	\$ 650 000.00	\$ 440 000.00	\$ 1 440 000.00	
+	10	February	\$ 250 000.00	\$ 350 000.00	\$ 645 000.00	\$ 1 245 000.00	
+	13	March	\$ 450 000.00	\$ 650 000.00	\$ 509 000.00	\$ 1 609 000.00	
+	16	April	\$ 550 000.00	\$ 350 000.00	\$ 550 000.00	\$ 1 450 000.00	
+	19	May	\$ 650 000.00	\$ 650 000.00	\$ 360 000.00	\$ 1 660 000.00	
+	22	June	\$ 700 000.00	\$ 450 000.00	\$ 320 000.00	\$ 1 470 000.00	
+	25	Total	\$ 2 950 000.00	\$ 3 100 000.00	\$ 2 824 000.00	\$ 8 874 000.00	

The data will then be consolidated on the summary worksheet. The details can be displayed by clicking on 2 or the expand button as given above.

To consolidate more ranches or worksheets simply repeat steps 8 & 9 but on the appropriate worksheet.

Tip 17: Replace Function

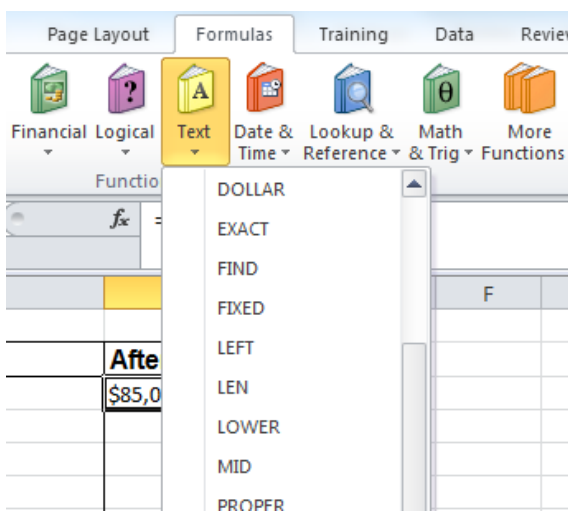
You don't always have control over the format and type of data that you import from an external data source, such as a database, text file or a Web page. Before you can analyse the data, you first need to clean it up. Below we will discuss the REPLACE function; which replaces part of a text string, based on the number of characters you specify, with a different text string.

Take the example of the data in the screen shot below, using a manual method to clean the data will be too laborious to undertake. Below we explain how the unwanted characters in each cell will be replaced with a \$ sign using the Replace function.

	A	B	C	D
1				
2		Before	After	
3		#!@85,000		
4		#!@90,000		
5		#!&99,000		
6		#!@100,00		
7		#!@120,000		
8		#!(150,000		
9		#!@200,000		
10		#^@180,000		
11		%!@80,000		
12		^!@90,009		
13		#*@88,000		
14		#!^65,000		

Applies To: MS Excel 2003, 2007 and 2010

1. With reference to the screen shot above.
2. Select **cell C3**.
3. Select as per screen shot below.



- Enter the formula arguments as below.

Function Arguments

REPLACE

Old_text: B3 = "#!@85,000"

Start_num: 1 = 1

Num_chars: 3 = 3

New_text: \$ =

Replaces part of a text string with a different text string.

New_text is the text that will replace characters in Old_text.

Formula result =

[Help on this function](#) OK Cancel

- Select **OK**.
- The result will be displayed below. The special characters # ! & % ^ will be replaced with the \$.

	A	B	C	D
1				
2		Before	After	
3		#!@85,000	\$85,000	
4		#!@90,000	\$90,000	
5		#!&99,000	\$99,000	
6		#!@100,00	\$100,00	
7		#!@120,000	\$120,000	
8		#!(150,000	\$150,000	
9		#!@200,000	\$200,000	
10		#!^@180,000	\$180,000	
11		%!@80,000	\$80,000	
12		^!@90,009	\$90,009	
13		#!*@88,000	\$88,000	
14		#!^65,000	\$65,000	

The Replace function syntax has the following arguments.

- Old_text : Text in which you want to replace some characters.
- Start_num : The position of the character in old_text that you want to replace with new_text.
- Num_chars : The number of characters in old_text that you want REPLACE to replace with new_text.
- New_text Required. The text that will replace characters in old_text.

Tip 18: Countifs

Are you looking for a simple but yet effective way of monitoring the performance of your sales staff? Perhaps you are the Sales Manager and would like to analyse the performance of your staff. The Countifs function can be a great formula to use in order to ascertain if the Sales Representatives have met the target. The Countifs function can be used to apply multiple criteria while the Countif function only applies a single criteria.

In the example below we count how many times the target of selling seafood over the value of \$100 in the month of April is achieved. This relates to the individual sales staff and is aptly explained in the following steps.

	A	B	C	D	E	F	G	H
1								
2		Sales Person	Product Name	Month	Product Sales			
3		Anderson. P	Seafood	April	\$ 480.00		Anderson. P	
4		Johnson. A	Grains/Cereals	February	\$ 2 128.00		Johnson. A	
5		Peters. K	Seafood	April	\$ 432.00		Bonders. P	
6		Bonders. P	Confections	April	\$ 291.90		Lavin. T	
7		Newson. L	Grains/Cereals	March	\$ 448.00		Perks. M	
8		Lavin. T	Seafood	April	\$ 29.40		Peters. K	
9		Perks. M	Seafood	April	\$ 76.00		Newson. L	
10		Anderson. P	Beverages	February	\$ 144.00			
11		Johnson. A	Dairy Products	April	\$ 432.00			
12		Peters. K	Seafood	April	\$ 504.00			
13		Bonders. P	Beverages	March	\$ 345.60			
14		Newson. L	Confections	April	\$ 146.00			
15		Lavin. T	Seafood	April	\$ 364.00			
16		Perks. M	Beverages	April	\$ 2 400.00			
17		Anderson. P	Seafood	April	\$ 150.00			
18		Johnson. A	Seafood	April	\$ 240.00			
19		Peters. K	Seafood	January	\$ 747.00			
20		Bonders. P	Dairy Products	March	\$ 140.00			
21		Newson. L	Seafood	April	\$ 192.00			
22		Lavin. T	Grains/Cereals	March	\$ 912.00			

Applies To: MS Excel 2003, 2007 and 2010

1. Select cell H3 as per screen shot above.
2. Enter the formula given below.

=COUNTIFS(\$B\$3:\$B\$22,G3,\$C\$3:\$C\$22,\$C\$8,\$D\$3:\$D\$22,\$D\$6,\$E\$3:\$E\$22,">100")

3. After copying the formula down the answer will be displayed below.

	A	B	C	D	E	F	G	H
1								
2		Sales Person	Product Name	Month	Product Sales			
3		Anderson. P	Seafood	April	\$ 480.00		Anderson. P	2
4		Johnson. A	Grains/Cereals	February	\$ 2 128.00		Johnson. A	1
5		Peters. K	Seafood	April	\$ 432.00		Bonders. P	0
6		Bonders. P	Confections	April	\$ 291.90		Lavin. T	1
7		Newson. L	Grains/Cereals	March	\$ 448.00		Perks. M	0
8		Lavin. T	Seafood	April	\$ 29.40		Peters. K	2
9		Perks. M	Seafood	April	\$ 76.00		Newson. L	1
10		Anderson. P	Beverages	February	\$ 144.00			
11		Johnson. A	Dairy Products	April	\$ 432.00			
12		Peters. K	Seafood	April	\$ 504.00			
13		Bonders. P	Beverages	March	\$ 345.60			
14		Newson. L	Confections	April	\$ 146.00			
15		Lavin. T	Seafood	April	\$ 364.00			
16		Perks. M	Beverages	April	\$ 2 400.00			
17		Anderson. P	Seafood	April	\$ 150.00			
18		Johnson. A	Seafood	April	\$ 240.00			
19		Peters. K	Seafood	January	\$ 747.00			
20		Bonders. P	Dairy Products	March	\$ 140.00			
21		Newson. L	Seafood	April	\$ 192.00			
22		Lavin. T	Grains/Cereals	March	\$ 912.00			

4. As can be seen the performance of the sales staff has been tabulated. All this has been done by one simple but yet effective Countifs formula.

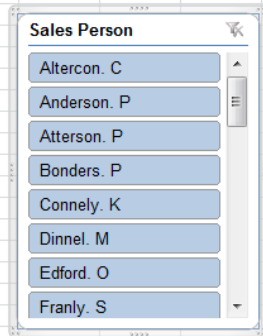
The COUNTIFS function syntax has the following arguments.

- Criteria_range1 : The first range in which to evaluate the associated criteria.
- Criteria1 : The criteria in the form of a number, expression, cell reference, or text that define which cells will be counted.
- Criteria_range2, criteria2, ... Optional. Additional ranges and their associated criteria. Up to 127 range/criteria pairs are allowed.

Tip 19: Protecting the PivotTable With Full Slicer Functionality

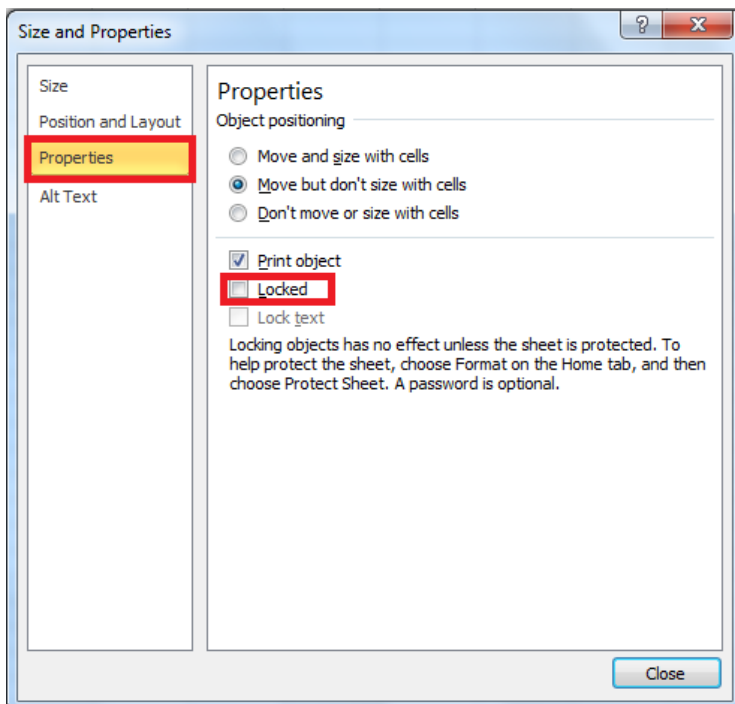
Have you ever had your data in an excel workbook accidentally or deliberately tampered with? You could be working on a project and would like to restrict access to data on some shared workbooks. In the following tip we explain how the entire worksheet/PivotTable can be protected with the user only allowed access to the slicer.

	A	B	C	D	E	F
1						
2						
3	Row Labels	Sum of Product Sales				
4	East Coast	161979.58				
5	Anderson. P	20960.55				
6	Bonders. P	18793.6				
7	Johnson. A	20272.45				
8	Lavin. T	16801.45				
9	Newson. L	30473.28				
10	Perks. M	35196.55				
11	Peters. K	19481.7				
12	North Coast	155812.4				
13	Altercon. C	29732.61				
14	Atterson. P	30262.49				
15	Connely. K	24455.9				
16	Dinnel. M	22239.45				
17	Edford. O	22548.15				
18	Naidoo. L	504				
19	Oxford. D	25589.8				
20	Petty. A	480				



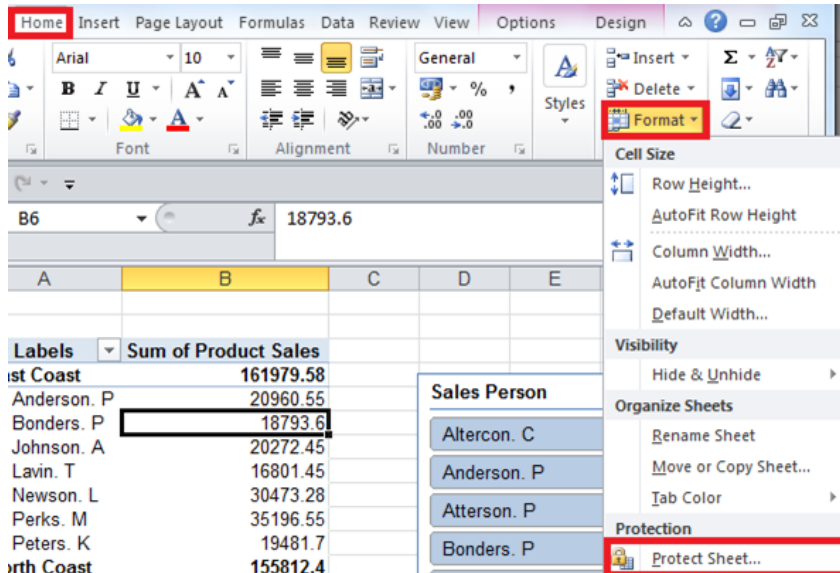
Applies To: MS Excel 2010 and 2013

1. Right click on the Slicer and select **Size** and **Properties**.
2. Click on **Properties**.
3. Unlock the Slicers by unchecking the 'Locked' check box as per screen shot below.



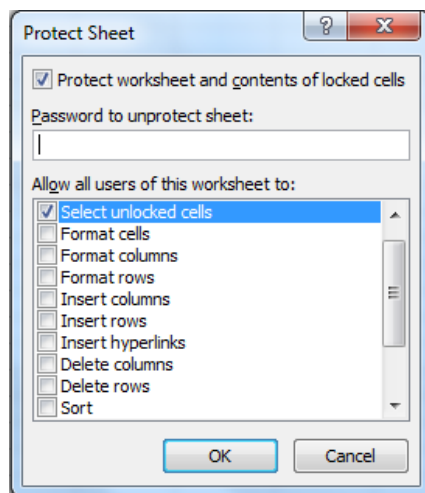
3. Select **Close**.

4. Select as per screen shot below.

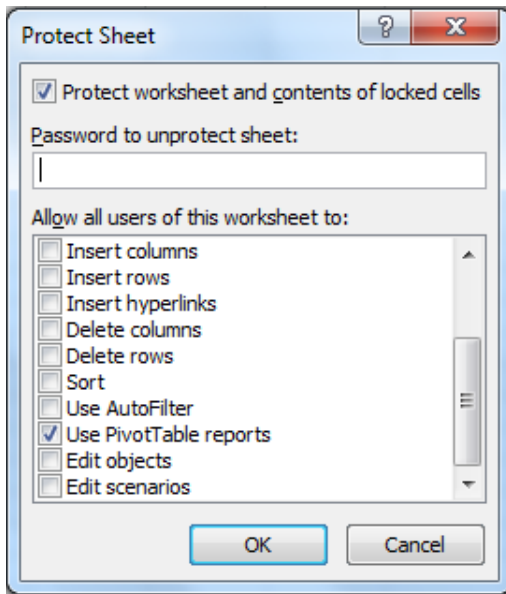


5. Tick or select only the following options. Refer to the screen shots below.

- Select unlocked Cells
- Use PivotTable reports



- A password can be added if necessary.



- Select **OK**.

The user will only have access to the Slicer. Therefore the PivotTable report can't be tampered with, in that way the integrity of the data is maintained.

Excel Financial Functions Quick Reference Guide

NPER function: Returns the number of periods for an investment.
Syntax: NPER(rate, pmt, pv, [fv], [type])
Syntax Example: NPER(5%/12 (rate), -175 (pmt), 10000 (pv))
The Excel NPER function calculates the number of periods required to pay off a loan, for a specified constant periodic payment and a constant interest rate.

FV function: Returns the future value of an investment.
Syntax: FV(rate, nper, pmt, [pv], [type])
Syntax Example: FV(11%/12 (rate), 3 years *12 (nper), -1500 (pmt),)
The Excel FV function calculates the future value of an investment with periodic constant payments and a constant interest rate.

PMT function: Returns the periodic payment for an annuity.
Syntax: PMT(rate, nper, pv, [fv], [type])
Syntax Example: PMT(10%/12 (rate), 5 years *12 (nper), 100000 (pv))
The Excel PMT function calculates the constant periodic payment required to pay off (or partially pay off) a loan or investment, with a constant interest rate, over a specified period.

IPMT function: Returns the interest payment for an investment for a given period.
Syntax: IPMT(rate, per, nper, pv, [fv], [type])

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Excel Financial Functions Quick Reference Guide

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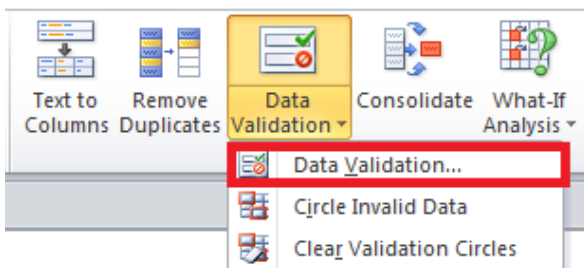
Tip 20: Circling Invalid Data

You may have imported or entered account codes into a Microsoft Excel spreadsheet and want to identify invalid account codes. Let's say the account codes are supposed to have five characters but because of data entry errors some accounts codes do not meet the required criteria; they either exceed or are less than five characters. By using the Data Validation option to circle invalid data the invalid account codes will be circled and therefore easily identifiable. It must be noted that data validation will have to be applied before circling invalid data. Circling Invalid Data can only be applied with data that has already been captured, unlike with Data Validation which can also be applied prior to data being captured.

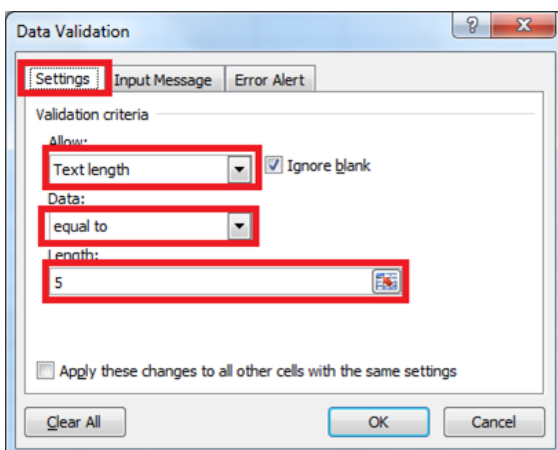
	A	B
1		
2	Account Codes	Sub Account Number
3	NM001	001
4	NM002	002
5	NM03	003
6	NM004	004
7	NM005	005
8	NM06	006
9	NM007	007
10	NM08	008
11	NM009	009
12	NM0010	010

Applies To: MS Excel 2003, 2007, 2010 and 2013

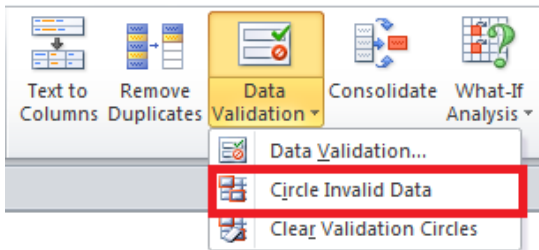
1. Select the data range **A3:A12**.
2. Select the **Data Tab** and then **Data Validation** as below.



3. Enter as per screen shot below.



4. Click **OK**.
5. To circle invalid data, select the data range **A3:A12**.
6. Select the **Data Tab** and in **Data Validation** select **Circle Invalid Data** as per the screen shot below.



7. The invalid data will be circled as displayed below.

	A	B
1		
2	Account Codes	Sub Account Number
3	NM001	001
4	NM002	002
5	NM003	003
6	NM004	004
7	NM005	005
8	NM006	006
9	NM007	007
10	NM008	008
11	NM009	009
12	NM0010	010

Tip 21: Database Functions

By using the DSUM function, you can specify criteria and conditions regarding which cells should be added together. An alternative to using DSUM is using SUMIF, but SUMIF is not suitable for complex criteria.

The list below shows monthly and daily product sales. In cell G5 we have calculated a running total using the DSUM function, which takes into account a number of criteria that has been set up in the range A1:D2.

We will use the DSUM function to calculate the total sales that meets the following criteria: Monthly sales for February that are greater than \$500 and where the weekday is Tuesday and the product is Ipoh Coffee.

	A	B	C	D	E	F	G
1	Month	Weekday	Product	Sales			
2	February	Tuesday	Ipoh Coffee	>500			
3							
4							Total Sales
5	Month	Weekday	Product	Sales			\$ 2 400.00
6	January	Monday	Sirop d'érable	\$ 400.00			
7	February	Tuesday	Ipoh Coffee	\$ 700.00			
8	January	Wednesday	Sirop d'érable	\$ 200.00			
9	February	Thursday	Chocolade	\$ 700.00			
10	March	Friday	Sirop d'érable	\$ 800.00			
11	February	Tuesday	Ipoh Coffee	\$ 900.00			
12	February	Tuesday	Ipoh Coffee	\$ 300.00			
13	March	Monday	Ipoh Coffee	\$ 350.00			
14	February	Tuesday	Ipoh Coffee	\$ 300.00			
15	January	Wednesday	Sirop d'érable	\$ 400.00			
16	February	Thursday	Chocolade	\$ 800.00			
17	January	Friday	Sirop d'érable	\$ 200.00			
18	April	Saturday	Chocolade	\$ 700.00			
19	February	Tuesday	Ipoh Coffee	\$ 800.00			

The syntax for the DSUM function is: = DSUM(database, field, criteria)

The arguments of the DSUM function are explained below.

Database:

Is the range of cells that makes up the list or database. A database is a list of related data in which rows of related information are records, and columns of data are fields. The first row of the list contains labels for each column.

Field:

Indicates which column is used in the function. Field can be given as text with the column label enclosed between double quotation marks, such as "Age" or "Yield," or as a number that represents the position of the column within the list: 1 for the first column, 2 for the second column, and so on.

Criteria:

Is the range of cells that contains the conditions you specify. You can use any range for the criteria argument, as long as it includes at least one column label and at least one cell below the column label for specifying a condition for the column.

Applies To: MS Excel 2003,2007,2010 and 2013

1. Select the cell G5.

2. Enter the formula below:

=DSUM(A5:D19,4,A1:D2)

(A5:D19) is the database, (4) is the field number for sales, (A1:D2) is the criteria range.

3. Press **Enter**.

4. The answer will be \$2,400.00.

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Tip 22:

How to Enter Data in a Range Without Scrolling Horizontally by using the Data Entry Form

A data form provides a convenient means to enter or display information in a range or list without scrolling horizontally. A data form can make data entry easier than typing across the columns when you have a wide range with more columns than will fit on the screen at one time. A data form simply lists column fields and doesn't cater for custom form features.

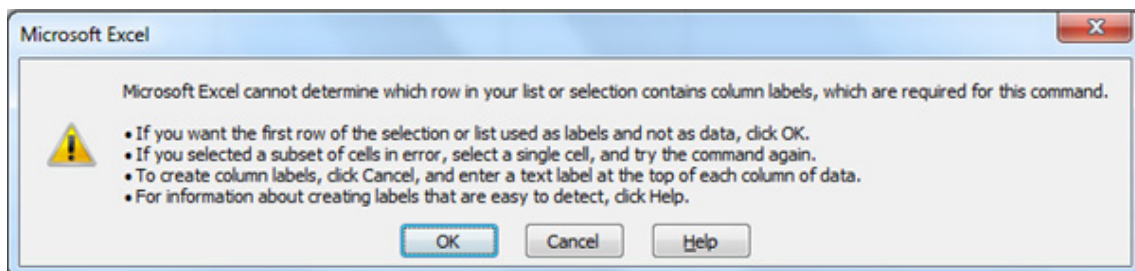
A data form can be created to enter data from scratch like in the example below. To add a data form to an already existing data list select any cell within the list and apply the instructions given below.

Applies To: MS Excel 2003, 2007, 2010 and 2013

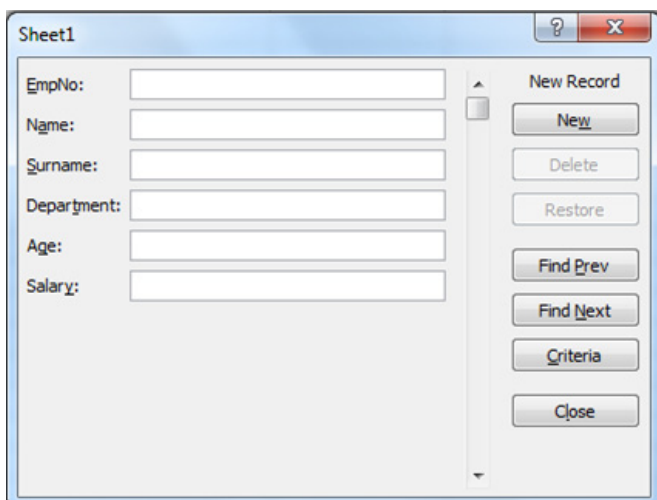
1. Enter the list headings into your spreadsheet as per screen shot below

	A	B	C	D	E	F
1	EmpNo	Name	Surname	Department	Age	Salary
2						
3						
4						

2. Select any cell below the list headings E.g. B2.
3. Press **ALT + D** then press the **letter O twice** (while you are still holding on to ALT + D).
4. The screen shot below will be displayed.



5. Select **OK**.
6. The following data form will be displayed.

A screenshot of the Data Entry Form in Microsoft Excel. The form is titled "Sheet1" and has a scroll bar on the right. On the left, there are six text boxes with labels: "EmpNo:", "Name:", "Surname:", "Department:", "Age:", and "Salary:". On the right, there is a "New Record" section with a "New" button. Below that are "Delete", "Restore", "Find Prev", "Find Next", "Criteria", and "Close" buttons.

7. To enter your first record refer to the screen shot below. Use the tab key or mouse to move from one text box to the next.

8. To capture the second record select the New button or press **Enter**.
9. The first record will be appended to the spread sheet as displayed below.

10. To close the form; select the **Close button** or **X**.
11. The function of the other control buttons are explained below

Use	To find
? (question mark)	Any single character For example, sm?th finds "smith" and "smyth"
* (asterisk)	Any number of characters For example, *east finds "Northeast" and "Southeast"
~ (tilde) followed by ?, *, or ~	A question mark, asterisk, or tilde For example, fy91~? finds "fy91?"

Tip 23:

Using Icon Sets to Create Visual Effects to Compare Cell Values

Icon Sets in Conditional Formatting create a visual effect in your data so that you can compare the value of a cell with other cells. For example, if you are an accountant and want to easily categorize debtors based on how much they owe your company you can use Conditional formatting – Icon Sets.

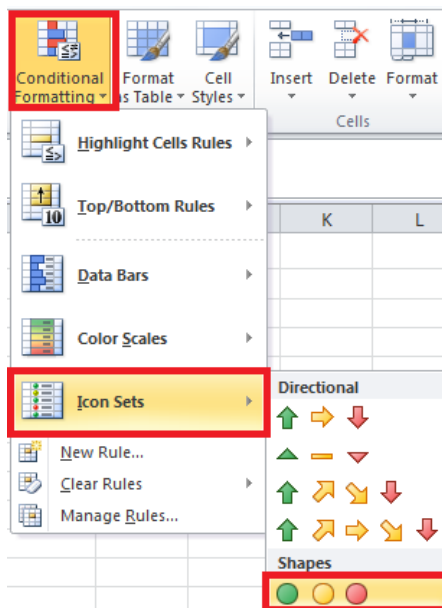
In the example below we categorize the debtor balances as follows: Red for $\geq \$50,000$, Yellow for $\geq \$25,000$, Green for $< \$25,000$.

Applies To: MS Excel 2007, 2010 and 2013

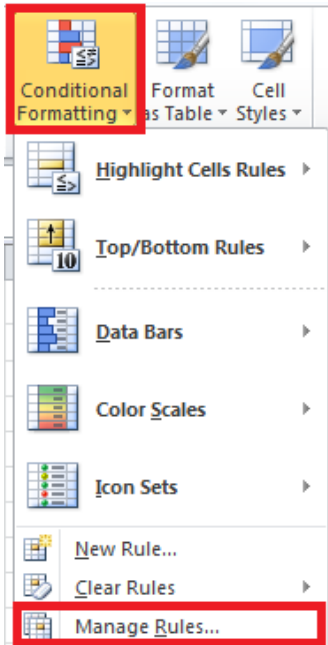
1. The screen shot below will be used for this example.

	A	B
1	Debtors Balances	
2	Debtor	Outstanding Balance
3	ARCH'S	\$ 17 000.00
4	ARCH'S BAKERY	\$ 34 000.00
5	ARCH'S P	\$ 32 000.00
6	BASILS CC	\$ 29 000.00
7	BEE B'S DELIGHTS	\$ 43 000.00
8	BETSIES PIES	\$ 60 000.00
9	BOBS SHOP	\$ 3 048.39
10	BOBS UNCLE	\$ 7 500.00
11	BOTTLE SHOP	\$ 54 000.00
12	CINDYS DELI	\$ 27 000.00
13	DCEES TEAS	\$ 1 728.77
14	FRICKELS CLOTHING	\$ 5 157.14
15	FRICKELS PICKLES	\$ 75 000.00
16	FRICKELS SHOPPING	\$ 29 000.00
17	FRICKELS SPARE PARTS	\$ 47 000.00
18	FRUITY JOES	\$ 85 000.00
19	JENS JAMS	\$ 3 519.87
20	MARANGOES	\$ 1 567.70
21	SUNSHINE CAFÉ	\$ 9 000.00
22	TEA 4 U (JHB)	\$ 599.20
23	THIRSTY KIRSTIES	\$ 15 000.00
24	TREE GARDENS	\$ 40 000.00
25	TREE TEA	\$ 77 000.00

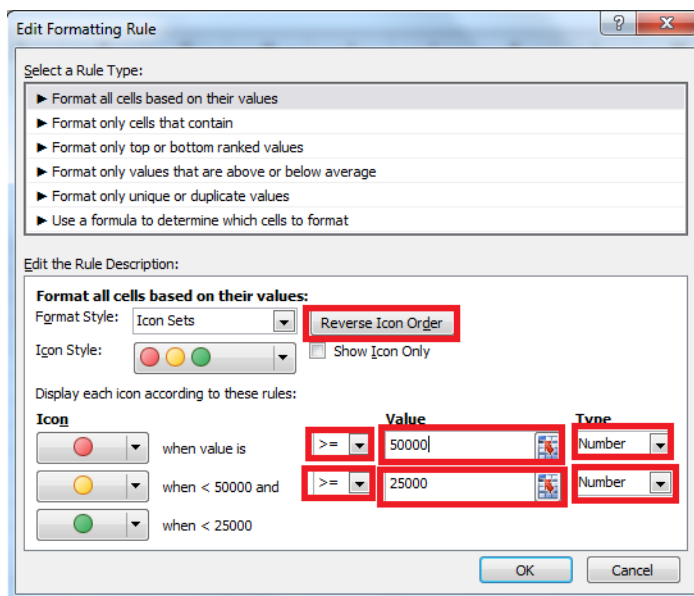
2. Highlight the data range **B3:B25**.
3. Select the Home Tab and as per screen shot below.



4. With the data range (B3:B25) still selected, select the **Home** Tab as below.



5. Select **Edit Rule** and as per screen shot below.

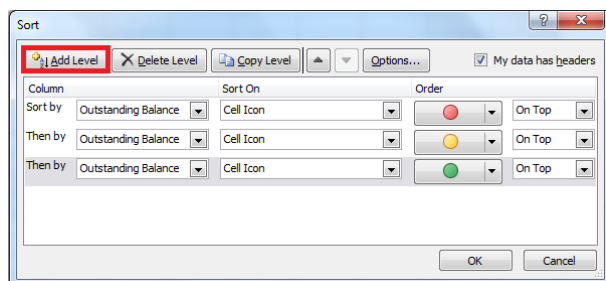


6. Select **OK**.

7. Select **OK**. The debtors balance list will be as below.

	A	B
1	Debtors Balances	
2	Debtor	Outstanding Balance
3	ARCH'S	17 000.00
4	ARCH'S BAKERY	34 000.00
5	ARCH'S P	32 000.00
6	BASILS CC	29 000.00
7	BEE B'S DELIGHTS	43 000.00
8	BETSIES PIES	60 000.00
9	BOBS SHOP	3 048.39
10	BOBS UNCLE	7 500.00
11	BOTTLE SHOP	54 000.00
12	CINDYS DELI	27 000.00
13	DCEES TEAS	1 728.77
14	FRICKELS CLOTHING	5 157.14
15	FRICKELS PICKLES	75 000.00
16	FRICKELS SHOPPING	29 000.00
17	FRICKELS SPARE PARTS	47 000.00
18	FRUITY JOES	85 000.00
19	JENS JAMS	3 519.87
20	MARANGOES	1 567.70
21	SUNSHINE CAFÉ	9 000.00
22	TEA 4 U (JHB)	599.20
23	THIRSTY KIRSTIES	15 000.00
24	TREE GARDENS	40 000.00
25	TREE TEA	77 000.00

8. To sort the list by the icon sets:
- Select any cell within the outstanding balance column.
 - Select the Data Tab then select **Sort**.
 - Select as below. To add a new level, select the **Add Level** button.



- Select **OK**.
- The debtors balances will be sorted by icons with the red icons appearing on top of the list.

Therefore you will be able to categorize debtors based on the outstanding balance.

	A	B
1	Debtors Balances	
2	Debtor	Outstanding Balance
3	BETSIES PIES	60 000.00
4	BOTTLE SHOP	54 000.00
5	FRICKELS PICKLES	75 000.00
6	FRUITY JOES	85 000.00
7	TREE TEA	77 000.00
8	ARCH'S BAKERY	34 000.00
9	ARCH'S P	32 000.00
10	BASILS CC	29 000.00
11	BEE B'S DELIGHTS	43 000.00
12	CINDYS DELI	27 000.00
13	FRICKELS SHOPPING	29 000.00
14	FRICKELS SPARE PARTS	47 000.00
15	TREE GARDENS	40 000.00
16	ARCH'S	17 000.00
17	BOBS SHOP	3 048.39
18	BOBS UNCLE	7 500.00
19	DCEES TEAS	1 728.77
20	FRICKELS CLOTHING	5 157.14
21	JENS JAMS	3 519.87
22	MARANGOES	1 567.70
23	SUNSHINE CAFÉ	9 000.00
24	TEA 4 U (JHB)	599.20
25	THIRSTY KIRSTIES	15 000.00

Tip 24: How to Customize Data Validation with the TRIM Function

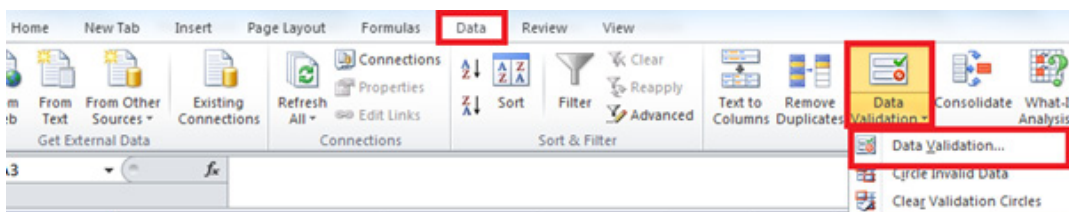
In previous tips we have covered data validation which helps you control the type of data or values that other users enter into a cell, and the TRIM function which removes all spaces from text except for single spaces between words. This tip will show you how to control the type of data entered and also prevent the entry of data with leading or trailing spaces. Instead of applying the TRIM function to already entered data, we combine data validation and the TRIM function to ensure that only relevant and clean data is captured.

Applies To: MS Excel 2007, 2010 and 2013

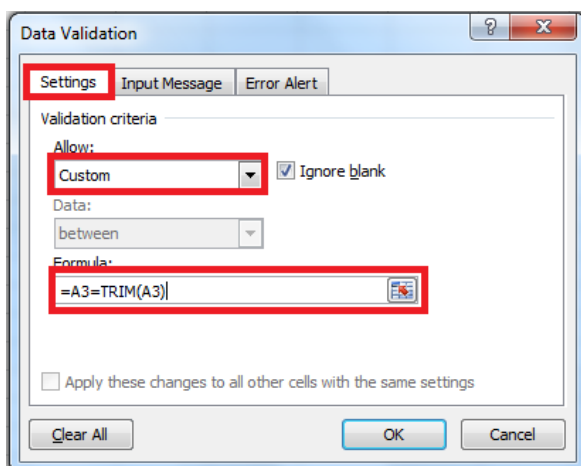
1. The screen shot below will be used for this example.

	A	B	C
1	Data Entry Form		
2	Account Codes	Account Name	Amount
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

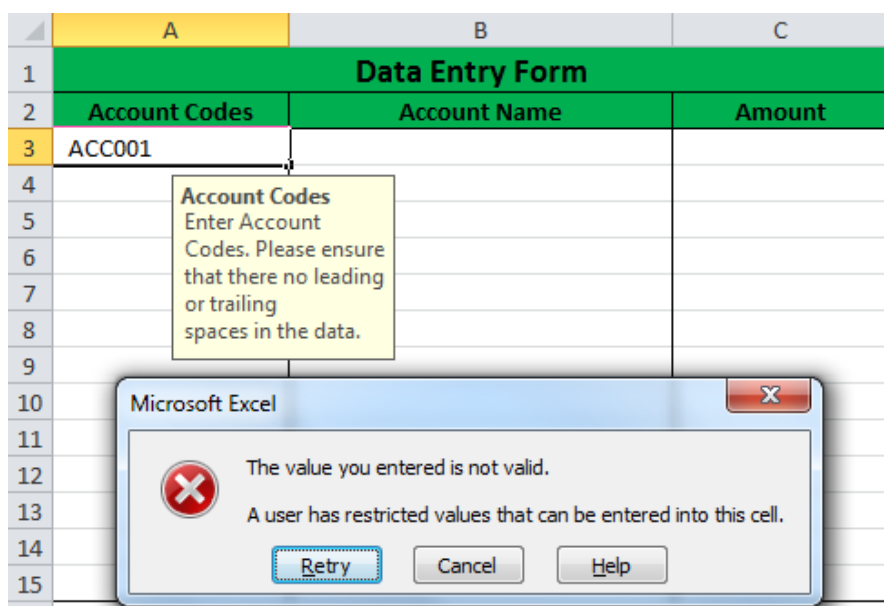
2. Select **cell A3:A15**
3. Select as per screen shot below.



4. Enter data as given below.



5. To add an input message select the **Input Message tab** and enter the appropriate message.
6. To add an error alert, select the **Error Alert tab** and enter the appropriate message.
7. Select **OK**.
8. Select **cell A3** and enter the account code “**ACC001**” with leading spaces. An error message will be displayed.



9. Select **Retry** and enter the account code “**ACC001**” without leaving spaces.
10. The value will be accepted as displayed below.

	A	B	C
1	Data Entry Form		
2	Account Codes	Account Name	Amount
3	ACC001		
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

Tip 25:

How to Replace Empty Cells with Zero Values in a Chart

If you create a chart from a worksheet, with data that is hidden in rows and columns, or that has empty cells, by default the hidden data will not display and the empty cells will display as gaps in the chart. To override this you can use the Hidden and Empty Cells function which allows you to determine how the chart should deal with hidden data and empty cells. This function gives you the option to either show hidden and empty cells as gaps, or as zeros, or to smooth the chart over the gaps.

In this tip we show you how to replace empty cells with zero values in your chart.

For example, you (the Sales Manager) want to view your product sales plotted as values on your sales chart. To do this, follow the steps below.

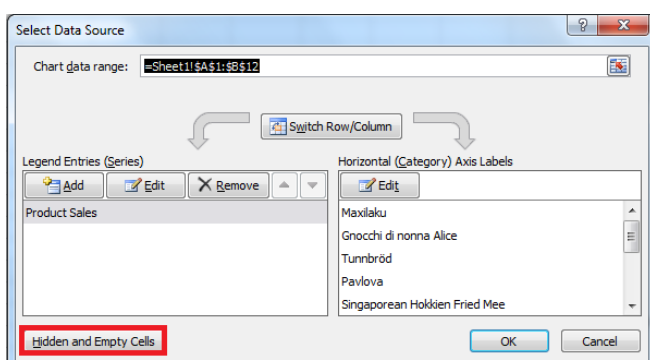
Applies to: Microsoft® Excel® 2007, 2010 and 2013

The screen shots below are used in this example.

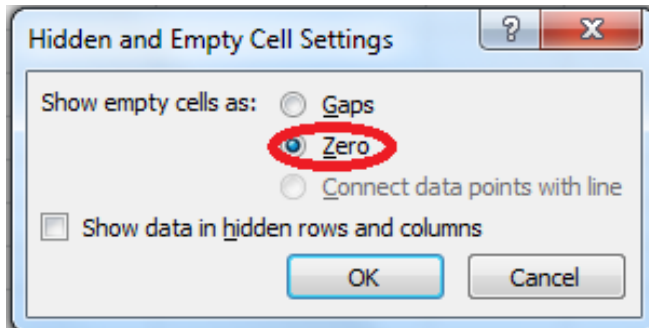
	A	B
1	Product Name	Product Sales
2	Maxilaku	480
3	Gnocchi di nonna Alice	
4	Tunnbröd	
5	Pavlova	292
6	Singaporean Hokkien Fried Mee	
7	Boston Crab Meat	
8	Inlagd Sill	76
9	Chai	144
10	Gudbrandsdalsost	
11	Queso Cabrales	504
12	Chai	346



1. To show blank values as zeros in your chart:
 - a. Right-click the chart.
 - b. Click **Select Data**.
 - c. Click the **Hidden and Empty Cells** button as displayed below.



2. Select **Zero**.



3. Select **OK**.
4. Select **OK** again.
5. The chart will now display the empty cells as zero.



Tip 26:

How to Prevent Data Duplication In a Microsoft® Excel® Worksheet

Data duplication in Microsoft® Excel® can lead to a host of irregularities; so it is a good idea to prevent it. In this tip we explain how you can prevent duplicate data from being captured in an Excel worksheet by using custom data validation. The COUNTIF function will be added to the Data Validation option to prevent duplicate data entries.

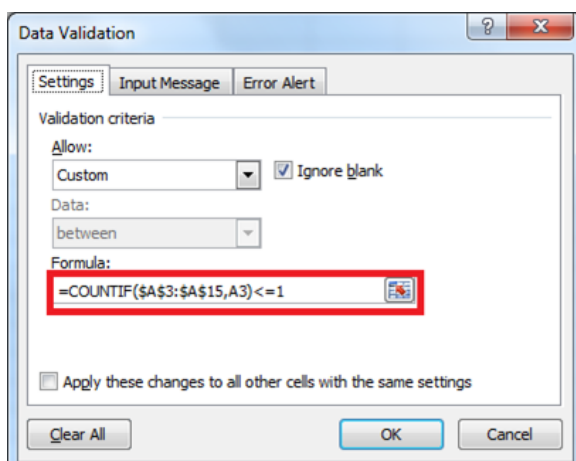
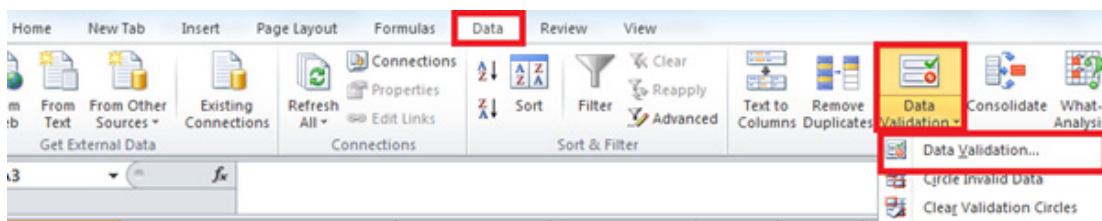
A key benefit of using this method is that it prevents data duplication before it is captured. Other methods will only allow you to highlight and remove duplicate values after your data has been captured.

Applies to: Microsoft® Excel® 2007, 2010 and 2013

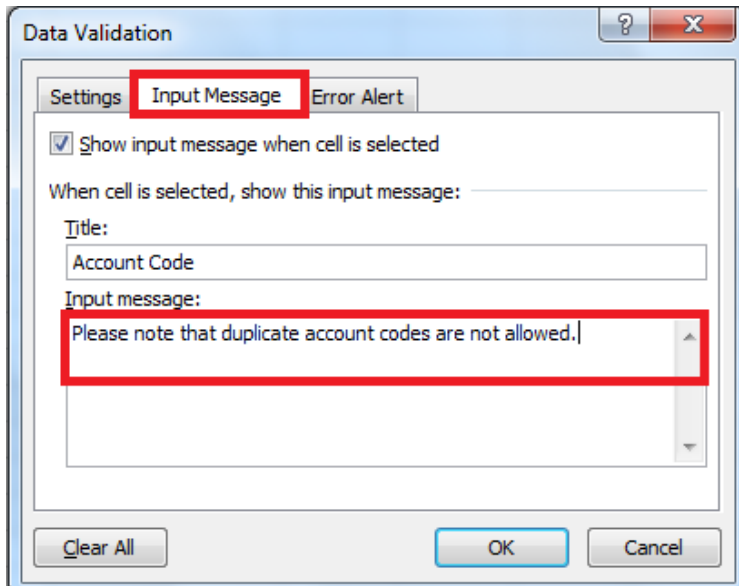
The screen shot below is used in this example:

	A	B	C
1	Data Entry Form		
2	Account Codes	Account Name	Amount
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

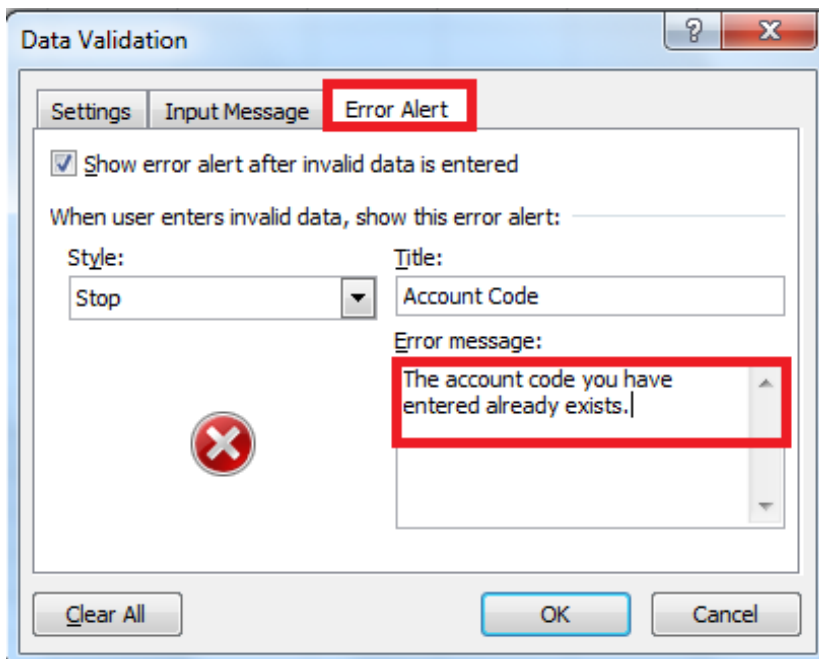
1. Select **cells A3:A15**.
2. Select **Data Validation** as per the screen shot below.



3. Enter the data in the same format as shown below.
4. To add an input message select the **Input Message** tab and enter the appropriate message.



5. To add a custom error message, select the **Error Alert** tab and enter the appropriate message.



6. Click **OK**.
7. Select **cell A3** and enter the account code "**ACC001**".
8. Select **cell A4** and re-enter the same account code "**ACC001**".
9. The custom error message, entered in point 5, will be displayed.
10. Select **Retry** and enter the account code "**ACC002**".
11. The value will be accepted as shown below.

	A	B	C
1	DATA ENTRY FORM		
2	ACCOUNT CODE	ACCOUNT NAME	AMOUNT
3	ACC001		
4	ACC002		
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

Tip 27: How to Convert Dates from Numeric Values to Text

As a Sales Manager, a report which allows you to see how sales perform on different days of the week could be useful to you; enabling you to make informed business decisions on weekly stock orders.

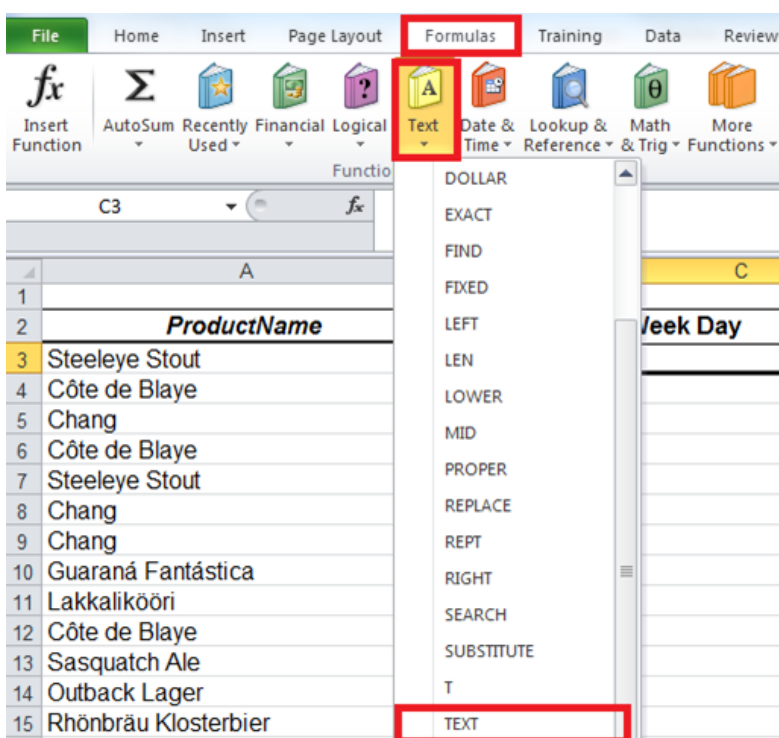
The TEXT function converts a numeric value to text, so you can set dates to display as text to make it easier to see days of the week; i.e. Monday February 2013 as opposed to 2013/02/11.

Applies to: Microsoft® Excel® 2007, 2010 and 2013.

The screen shots below will be used to illustrate this exercise.

	A	B	C	D	E
1					
2	ProductName	Date	Week Day	Day-Month-Year	ProductSales
3	Steeleye Stout	2013/01/01			\$ 504.00
4	Côte de Blaye	2013/01/16			\$ 10 540.00
5	Chang	2013/02/17			\$ 912.00
6	Côte de Blaye	2013/01/23			\$ 8 263.36
7	Steeleye Stout	2013/04/23			\$ 691.20
8	Chang	2013/02/10			\$ 581.40
9	Chang	2013/03/10			\$ 516.80
10	Guaraná Fantástica	2013/03/12			\$ 273.60
11	Lakkalikööri	2013/05/14			\$ 514.08
12	Côte de Blaye	2013/03/19			\$ 6 324.00
13	Sasquatch Ale	2013/03/24			\$ 372.40
14	Outback Lager	2013/03/25			\$ 648.00
15	Rhönbräu Klosterbier	2013/03/31			\$ 223.20
16	Vegie-spread	2013/02/02			\$ 2 281.50
17	Aniseed Syrup	2013/01/06			\$ 400.00
18	Gula Malacca	2013/05/10			\$ 496.00
19	Original Frankfurter grüne Soße	2013/01/16			\$ 364.00
20	Vegie-spread	2013/01/29			\$ 921.37
21	Sirup d'érable	2013/02/10			\$ 1 744.20
22	Louisiana Hot Spiced Okra	2013/02/11			\$ 816.00
23	Louisiana Fiery Hot Pepper Sauce	2013/02/14			\$ 588.00
24	Original Frankfurter grüne Soße	2013/04/19			\$ 514.80
25	Gula Malacca	2013/02/20			\$ 1 472.50
26	Louisiana Hot Spiced Okra	2013/03/14			\$ 693.60

1. To extract the week day from the date string, select **TEXT** under the Formulas tab as below.



2. Select **cell C3** and enter as per the screen shot below.

Function Arguments

TEXT

Value: B3 = 41275

Format_text: "DDDD" = "DDDD"

= "Tuesday"

Converts a value to text in a specific number format.

Value is a number, a formula that evaluates to a numeric value, or a reference to a cell containing a numeric value.

Formula result = Tuesday

[Help on this function](#)

OK Cancel

3. Select **OK** and copy the formula down.
4. To extract the day, month and year from a date string.
 - a. Select **cell D3** and as follow the instruction in step 2 above.
 - b. Enter as per screen shot below.

Function Arguments

TEXT

Value: B3 = 41275

Format_text: "DDDD " & "MMMM " & "YYYY" = "DDDD MMMM YYYY"

= "Tuesday January 2013"

Converts a value to text in a specific number format.

Value is a number, a formula that evaluates to a numeric value, or a reference to a cell containing a numeric value.

Formula result = Tuesday January 2013

[Help on this function](#)

OK Cancel

- c. Select **OK** and copy the formula down.
5. The data will be displayed as per screen shot below.

	A	B	C	D	E
1					
2	ProductName	Date	Week Day	Day-Month-Year	ProductSales
3	Steeleye Stout	2013/01/01	Tuesday	Tuesday January 2013	\$ 504.00
4	Côte de Blaye	2013/01/16	Wednesday	Wednesday January 2013	\$ 10 540.00
5	Chang	2013/02/17	Sunday	Sunday February 2013	\$ 912.00
6	Côte de Blaye	2013/01/23	Wednesday	Wednesday January 2013	\$ 8 263.36
7	Steeleye Stout	2013/04/23	Tuesday	Tuesday April 2013	\$ 691.20
8	Chang	2013/02/10	Sunday	Sunday February 2013	\$ 581.40
9	Chang	2013/03/10	Sunday	Sunday March 2013	\$ 516.80
10	Guaraná Fantástica	2013/03/12	Tuesday	Tuesday March 2013	\$ 273.60
11	Lakkalikööri	2013/05/14	Tuesday	Tuesday May 2013	\$ 514.08
12	Côte de Blaye	2013/03/19	Tuesday	Tuesday March 2013	\$ 6 324.00
13	Sasquatch Ale	2013/03/24	Sunday	Sunday March 2013	\$ 372.40
14	Outback Lager	2013/03/25	Monday	Monday March 2013	\$ 648.00
15	Rhônebrau Klosterbier	2013/03/31	Sunday	Sunday March 2013	\$ 223.20
16	Veggie-spread	2013/02/02	Saturday	Saturday February 2013	\$ 2 281.50
17	Aniseed Syrup	2013/01/06	Sunday	Sunday January 2013	\$ 400.00
18	Gula Malacca	2013/05/10	Friday	Friday May 2013	\$ 496.00
19	Original Frankfurter grüne Soße	2013/01/16	Wednesday	Wednesday January 2013	\$ 364.00
20	Veggie-spread	2013/01/29	Tuesday	Tuesday January 2013	\$ 921.37
21	Sirop d'érable	2013/02/10	Sunday	Sunday February 2013	\$ 1 744.20
22	Louisiana Hot Spiced Okra	2013/02/11	Monday	Monday February 2013	\$ 816.00
23	Louisiana Fiery Hot Pepper Sauce	2013/02/14	Thursday	Thursday February 2013	\$ 588.00
24	Original Frankfurter grüne Soße	2013/04/19	Friday	Friday April 2013	\$ 514.80
25	Gula Malacca	2013/02/20	Wednesday	Wednesday February 2013	\$ 1 472.50
26	Louisiana Hot Spiced Okra	2013/03/14	Thursday	Thursday March 2013	\$ 693.60

For more information on extracting the day, month and year using the TEXT function, refer to the screen shot below.

m	Displays the month as a number without a leading zero.
mm	Displays the month as a number with a leading zero when appropriate.
mmm	Displays the month as an abbreviation (Jan to Dec).
mmmm	Displays the month as a full name (January to December).
mmmmm	Displays the month as a single letter (J to D).
d	Displays the day as a number without a leading zero.
dd	Displays the day as a number with a leading zero when appropriate.
ddd	Displays the day as an abbreviation (Sun to Sat).
dddd	Displays the day as a full name (Sunday to Saturday).
yy	Displays the year as a two-digit number.
yyyy	Displays the year as a four-digit number.

Tip 28: Splitting data from one column to two or more

If you ever need to split data in one column into two or more columns, you can use the LEFT, MID and RIGHT Text functions.

- The LEFT function returns the first character or characters in a text string, based on the number of characters you specify.
- The MID function returns a specific number of characters from a text string, starting at the position you specify.
- The RIGHT function returns the last character or characters in a text string, also based on the number of characters you specify.

The alternative is to use the Text to Columns option which has been covered in previous tips; however this option will not work if the source data has formulas like a VLOOKUP.

In the example below we use the LEFT, MID and RIGHT functions to split the System Numbers into Main Account Numbers, Account Numbers and Sub Account Numbers.

Applies to: Microsoft® Excel® 2007, 2010 and 2013.

The screen shots below will be used to illustrate this exercise.

	A	B	C	D
1	System Number	Main Account Number	Account Number	Sub Account Number
2	NM00A0000			
3	NM01A0221			
4	NM02A0332			
5	NM03A0443			
6	NM04A0554			
7	NM05A0665			
8	NM06A0776			
9	NM07A0887			
10	NM08A0998			
11	NM09A1009			
12	NM10A1110			
13	NM11A1211			
14	NM12A1312			
15	NM13A1413			
16	NM14A1514			

1. To extract the Main Account Number using the LEFT function.
 - a. Select **cell B2**
 - b. Enter the formula as **=LEFT(A2,4)**
 - c. Copy the formula down
2. To extract the Account Number using the MID function.
 - a. Select **cell C2**
 - b. Enter the formula as **=MID(A2,5,3)**
 - c. Copy the formula down

3. To extract the Sub Account Number using the RIGHT function.
 - a. Select **cell D2**
 - b. Enter the formula as **=RIGHT(A2,2)**
 - c. Copy the formula down

The outcome should be as per the screenshot below.

	A	B	C	D
1	Account Number	Main Account Number	Account Number	Sub Account Number
2	NM00A0000	NM00	A00	00
3	NM01A0221	NM01	A02	21
4	NM02A0332	NM02	A03	32
5	NM03A0443	NM03	A04	43
6	NM04A0554	NM04	A05	54
7	NM05A0665	NM05	A06	65
8	NM06A0776	NM06	A07	76
9	NM07A0887	NM07	A08	87
10	NM08A0998	NM08	A09	98
11	NM09A1009	NM09	A10	09
12	NM10A1110	NM10	A11	10
13	NM11A1211	NM11	A12	11
14	NM12A1312	NM12	A13	12
15	NM13A1413	NM13	A14	13
16	NM14A1514	NM14	A15	14

Tip 29: Counting Cells That are Not Empty

Let's say you want to count the number of employees in a data range and would like to ignore any blank cells. The way to go is to use the CountA function.

The COUNTA function counts cells containing any type of information, including error values and empty text (""). For example, if the range contains a formula that returns an empty string, the COUNTA function counts that value. The COUNTA function does not count empty cells.

Applies To: MS Excel 2003, 2007, 2010 and 2013

1. The screen shot below will be used for this example.

	A	B	C
1	Employee List		
2	Employee	Department	Salary
3	Anderson. P	Accounts	\$ 3 000.00
4	Bonders. P	Accounts	\$ 5 000.00
5	Franly. S	Accounts	\$ 7 000.00
6	Grooner. T	Accounts	\$ 9 000.00
7	Hannis. H	Accounts	\$ 7 000.00
8		Total	\$ 31 000.00
9	Ilknis. K	Sales	\$ 8 000.00
10	Jarison. P	Sales	\$ 9 000.00
11	Jarison. P	Sales	\$ 7 000.00
12	Johnson. A	Sales	\$ 7 500.00
13	Kinsly. N	Sales	\$ 5 600.00
14		Total	\$ 37 100.00
15	Lavin. T	Marketing	\$ 5 000.00
16	Lumford. T	Marketing	\$ 6 000.00
17	Moodley. L	Marketing	\$ 7 500.00
18	Newson. L	Marketing	\$ 8 000.00
19	Peters. K	Marketing	\$ 7 500.00
20		Total	\$ 34 000.00

2. To count the total number of employees in the data range A3:A19.
 - Select **cell A20**
 - Type **=Counta(A3:A19)**
 - Press **Enter**
 - The answer will be 15
3. The Counta function returns 15 and ignores blank cells in the range A3:A19.

Tip 30: Determining and Using Names in Formulas

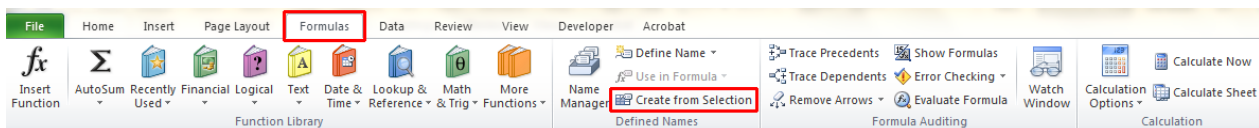
Naming formulas in a Microsoft® Excel® workbook makes it easier to maintain them and improves clarity and understanding of the respective data. You can define a name for a cell range, function, constant, or table. Names can easily be updated, audited, and managed once they are defined. In this tip you will learn how to automatically generate names from selected data.

Applies To: Microsoft Excel 2007, 2010 and 2013

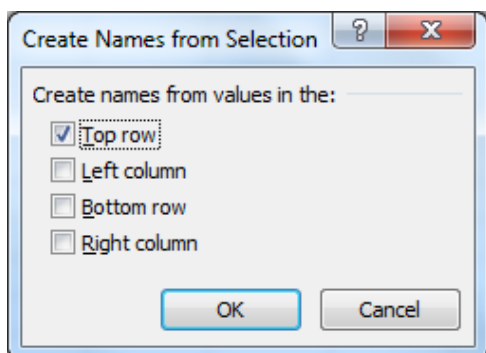
The screen shot in the example below will be used for this example.

	A	B	C	D	E	F	G	H
1	Category/D	CategoryName	Product/D	ProductName	Date	Quantity	UnitPrice	ProductSales
2	1	Beverages	43	Iphoh Coffee	2006/03/07	15	36.80	552.00
3	4	Dairy Products	69	Gudbrandsdalsost	2006/01/20	20	28.80	576.00
4	4	Dairy Products	59	Raclette Courdavault	2006/01/23	20	44.00	880.00
5	4	Dairy Products	59	Raclette Courdavault	2006/03/20	12	44.00	528.00
6	6	Meat/Poultry	9	Mishi Kobe Niku	2006/01/21	20	77.60	1552.00
7	6	Meat/Poultry	29	Thüringer Rostbratwurst	2006/03/05	18	99.00	1782.00
8	7	Produce	28	Rössle Sauerkraut	2006/02/20	15	36.40	546.00
9	7	Produce	51	Manjimup Dried Apples	2006/03/12	18	42.40	763.20
10	7	Produce	28	Rössle Sauerkraut	2006/03/13	18	36.40	655.20
11	1	Beverages	1	Chai	2006/01/07	10	14.40	144.00
12	1	Beverages	76	Lakkalikööri	2006/01/14	14	14.40	201.60
13	1	Beverages	76	Lakkalikööri	2006/01/24	20	14.40	288.00
14	1	Beverages	76	Lakkalikööri	2006/02/03	18	14.40	259.20
15	1	Beverages	2	Chang	2006/02/04	10	15.20	152.00
16	1	Beverages	34	Sasquatch Ale	2006/02/06	20	11.20	224.00
17	1	Beverages	35	Steeleye Stout	2006/02/12	8	14.40	115.20
18	1	Beverages	43	Iphoh Coffee	2006/03/04	3	36.80	110.40
19	1	Beverages	1	Chai	2006/03/17	15	14.40	216.00
20	1	Beverages	70	Outback Lager	2006/03/17	12	12.00	144.00
21	2	Condiments	65	Louisiana Fiery Hot Pepper Sauce	2006/01/01	20	16.80	336.00
22	2	Condiments	61	Sirop d'érable	2006/01/17	16	22.80	364.80
23	2	Condiments	4	Chef Anton's Cajun Seasoning	2006/03/04	16	17.60	281.60
24	2	Condiments	44	Gula Malacca	2006/03/31	15	15.50	232.50
25	3	Confections	19	Teatime Chocolate Biscuits	2006/01/14	18	7.30	131.40

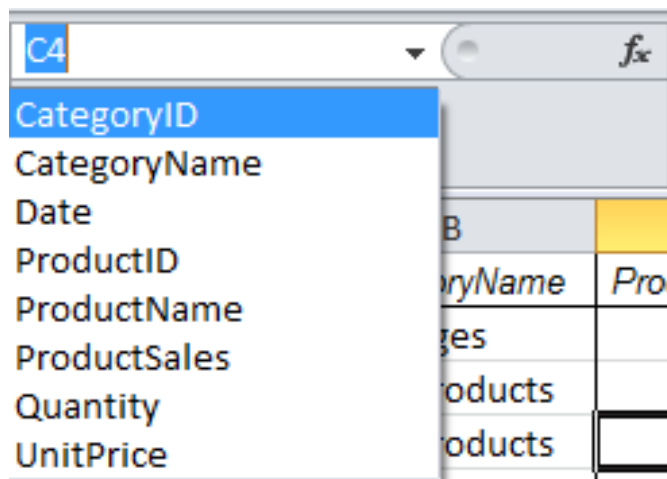
1. Select any cell in the data range A1:H25.
2. Press **CTRL + A**.
3. Select as per screen shot below.



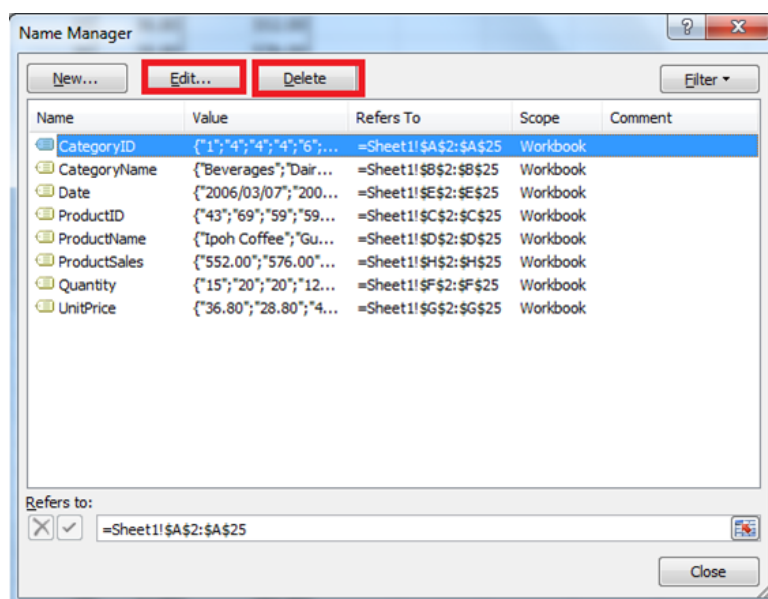
4. Then select as below.



5. Select **OK**.
6. The names have been defined as displayed in the name box below.



7. To edit or delete names; select the **Name Manager** option under the Formulas Tab –Defined Names group and select Edit or Delete.



Tip 31:

How to extract text from a text string using the MID and FIND functions

Let's say you have imported a list of names into Microsoft® Excel® from a payroll program, and the first names and surnames are all added to one column of data but in order to manipulate the data you would like to have the surnames extracted to a separate column. You can do this using various methods of extracting text from a text string. In this tip we show you how, by nesting the MID and FIND functions, the surname can be extracted from the name string.

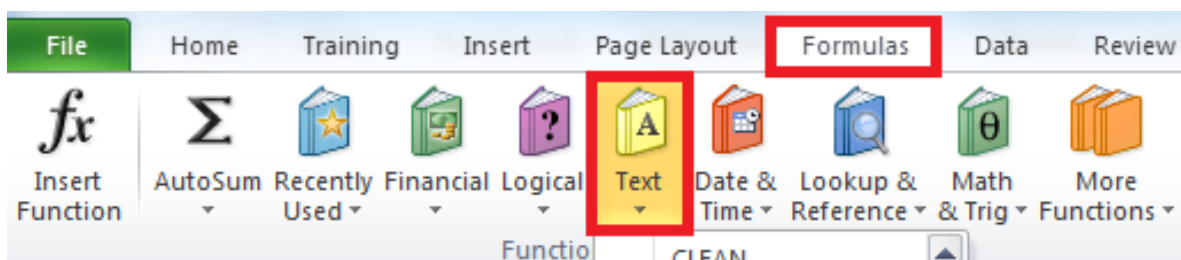
- The MID function returns a specific number of characters from a text string, starting at the position you specify.
- The FIND function locates one text string within a second text string, and returns the number of the starting position of the first text string from the first character of the second text string.

Applies to: Microsoft Excel 2007, 2010 and 2013.

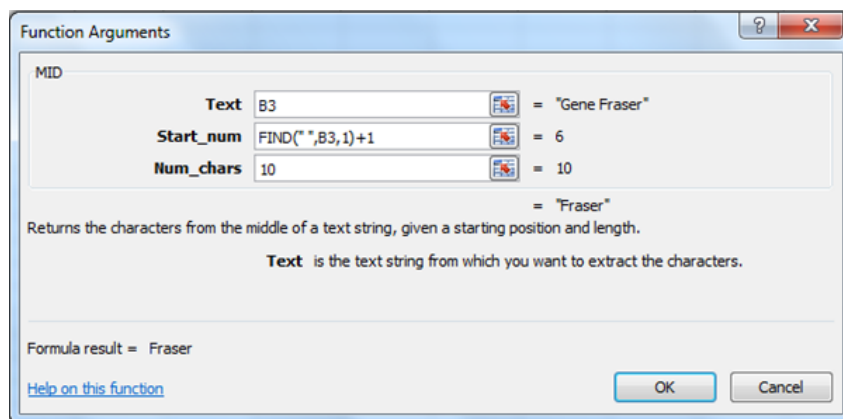
The screen shots below will be used to illustrate this exercise.

	A	B	C
1			
2	Staff Code	Name	Surname
3	P9	Gene Fraser	
4	P8	Helen Marks	
5	P7	Jenny Brown	
6	P6	Kelvin Moxford	
7	P5	L Belford	
8	P46	Peter Jackson	
9	P45	Jeff Sutton	
10	P44	Daryl Pieters	
11	P43	Dale Myton	
12	P42	Bronwyn Dixter	
13	P41	Angela Acton	
14	P40	Nadjia Davids	
15	P4	K Swartz	
16	P39	Jackie Hart	
17	P38	B. Kurten	
18	P36	O. Syffert	
19	P35	C. Teversham	
20	P34	G. Boddington	
21	P33	G. Pitt	
22	P32	Frank Smithers	
23	P31	Anthia Storm	
24	P30	Jen Myers	
25	P3	B Nixon	
26	P29	C. Vilders	
27	P28	Sherril Dory	

1. Select cell C3.
2. Select as per screen shot below.



3. Select **MID** from the Text functions list.
4. Then enter the formula as below.



- B3 refers to the first cell under the names column
 - Excel searches for the position of the space within the text string using the FIND function.
 - 1 is added to the returned number
 - This is the first letter of the surnames.
 - 10 is the maximum number of characters that can be extracted.
5. Select **OK** and copy the formula down.
 6. The result will be as below.

	A	B	C
1			
2	Staff Code	Name	Surname
3	P9	Gene Fraser	Fraser
4	P8	Helen Marks	Marks
5	P7	Jenny Brown	Brown
6	P6	Kelvin Moxford	Moxford
7	P5	L Belford	Belford
8	P46	Peter Jackson	Jackson
9	P45	Jeff Sutton	Sutton
10	P44	Daryl Pieters	Pieters
11	P43	Dale Myton	Myton
12	P42	Bronwyn Dexter	Dexter
13	P41	Angela Acton	Acton
14	P40	Nadjia Davids	Davids
15	P4	K Swartz	Swartz
16	P39	Jackie Hart	Hart
17	P38	B. Kurten	Kurten
18	P36	O. Syffert	Syffert
19	P35	C. Teversham	Teversham
20	P34	G. Boddington	Boddington
21	P33	G. Pitt	Pitt
22	P32	Frank Smithers	Smithers
23	P31	Anthia Storm	Storm
24	P30	Jen Myers	Myers
25	P3	B Nixon	Nixon
26	P29	C. Vilders	Vilders
27	P28	Sherril Dory	Dory

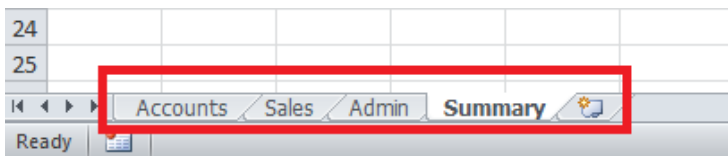
Tip 32:

Consolidating Cells in Different Worksheets with 3D-Reference

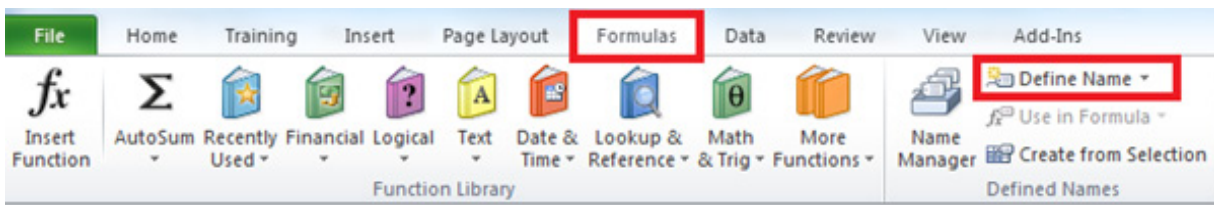
Consolidating budget allocations for different departments which are on separate worksheets can be a tedious task, unless you automate it. 3D-Reference is a Microsoft® Excel® function that is useful for referencing several worksheets that follow the same pattern and contain the same type of data. In this week's tip we will show you how you can consolidate budget allocations in different worksheets.

Applies to: Microsoft Excel 2007, 2010 and 2013.

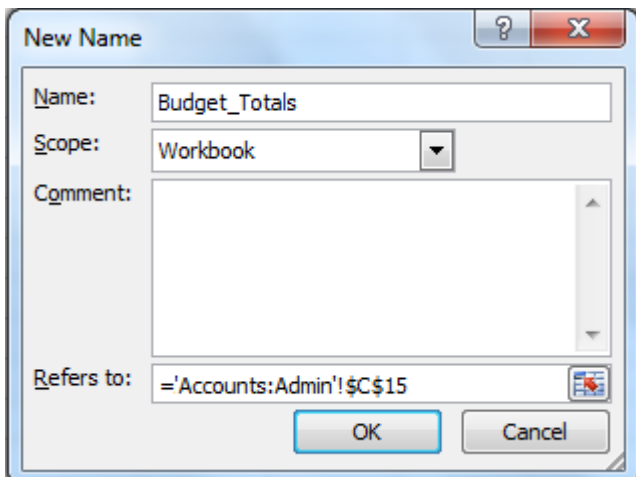
The screen shots below will be used to illustrate this exercise. The total budget values are in cell C15 on the three department worksheets.



1. With the Summary worksheet open, select the **Formulas** tab and then select **Define Name**.



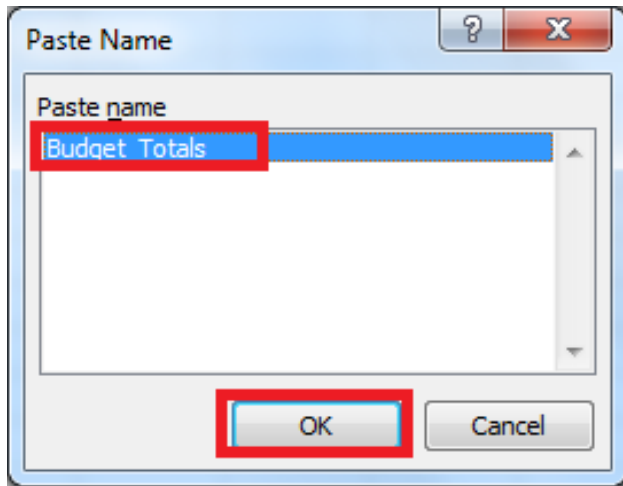
2. In the **New Name fields**, enter as below and select **OK**.



Rules when naming ranges

- No Spaces
- No cell addresses
- Cannot begin with a number
- Can use an underscore instead of a space

3. Select **cell C15** on the summary worksheet enter **=Sum(**
4. Then press **F3**.
5. Select **Budget Tools** and then OK as per the below screenshot.



6. Press **Enter**.
7. The total budget allocation for the three departments will be \$ 2, 156 ,000 .00.



Tip 33: Sampling Analysis Tool

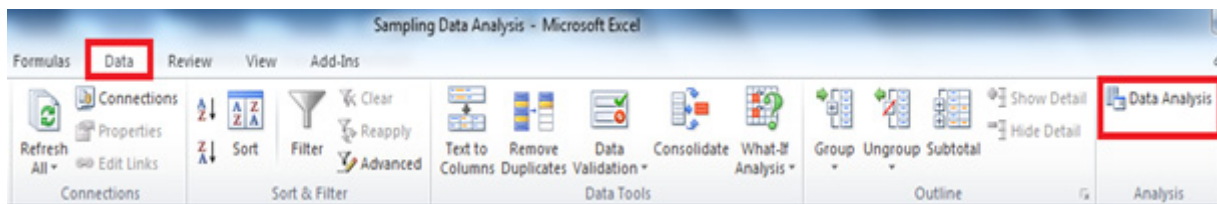
If you ever need to randomly select numbers from a given range of values; for instance, your Marketing team could be running a lucky draw and have solicited your help in authentically selecting winners, use the Sampling Analysis tool. This tool basically selects a random sample from your range of values (a sample being a portion of the whole range), therefore selecting the winners for you.

Applies to: Microsoft Excel 2007, 2010 and 2013

The screen shot below will be used for this example.

	A	B	C	D	E	F	G	H
1		Competiton Entrants				Competiton Winners		
2		No	Initial	Surname		No	Initial	Surname
3		1	P	Anderson				
4		2	A	Johnson				
5		3	K	Peters				
6		4	P	Bonders				
7		5	L	Newson				
8		6	T	Lavin				
9		7	M	Perks				
10		8	P	Paul				
11		9	A	Joshua				
12		10	K	Mary				
13		11	P	Edwin				
14		12	L	Ben				
15		13	T	Mike				
16		14	M	Justin				
17		15	P	Janet				
18		16	A	Charlene				

1. Select the **Data** tab and **Data Analysis** as per screen shot below.

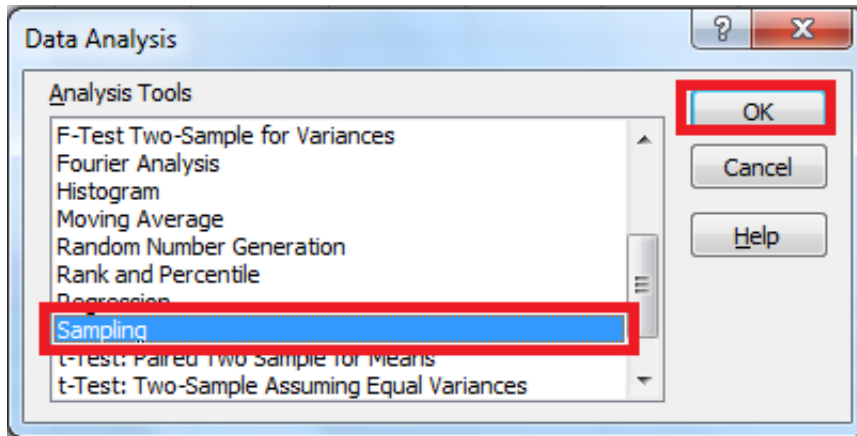


N.B. If the Data Analysis option is not installed, install by following the instructions below.

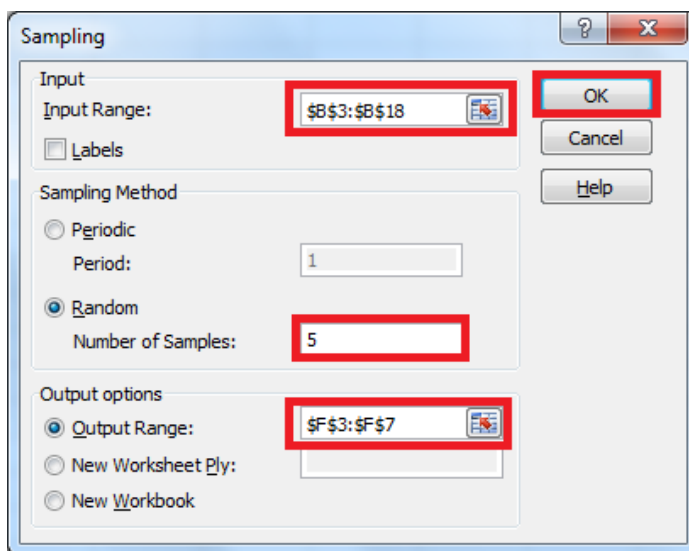
- Select the **Microsoft Office button** or the **File tab**, and then select **Excel Options/ Options**
- Select **Add-Ins**, and then in the Manage box drop down list, select **Excel Add-ins**.
- Select **Go**.
- In the Add-ins available box, check the Analysis ToolPak box, and then select **OK**.
 - If Analysis ToolPak is not listed in the Add-ins available drop down list, select Browse to locate it.
 - If you get prompted that the Analysis ToolPak is not currently installed on your computer, select Yes to install it.
- After you load the Analysis ToolPak, the Data Analysis command is available in the Analysis group on the Data tab.

2. Select the **Data Analysis** command as per the screen shot below.

3. Select **Sampling** and then **OK**.



4. Then select or type in the **Input Range**, **Number of Samples** and **Output Range** as below. Select **OK**.



5. The results will be as below.

	A	B	C	D	E	F	G	H
1		Competiton Entrants				Competiton Winners		
2		No	Initial	Surname		No	Initial	Surname
3		1	P	Anderson		3		
4		2	A	Johnson		15		
5		3	K	Peters		8		
6		4	P	Bonders		10		
7		5	L	Newson		16		
8		6	T	Lavin				
9		7	M	Perks				
10		8	P	Paul				
11		9	A	Joshua				
12		10	K	Mary				
13		11	P	Edwin				
14		12	L	Ben				
15		13	T	Mike				
16		14	M	Justin				
17		15	P	Janet				
18		16	A	Charlene				

6. Use Vlookup to extract the initials and surnames of the competition winners.

7. Select **cell G3** and enter the Vlookup formula given below.

8. **=VLOOKUP(F3,\$B\$2:\$D\$18,2,0)**

9. Press **Enter** and copy the formula down to **cell G7**.

10. Select **cell H3** and enter the Vlookup formula given below.

11. **=VLOOKUP(F3,\$B\$2:\$D\$18,3,0)**

12. Press **Enter** and copy the formula down to **cell H7**.

13. The initials and surnames will be displayed as below.

	A	B	C	D	E	F	G	H
1		Competition Entrants				Competition Winners		
2		No	Initial	Surname		No	Initial	Surname
3		1	P	Anderson		3	K	Peters
4		2	A	Johnson		15	P	Janet
5		3	K	Peters		8	P	Paul
6		4	P	Bonders		10	K	Mary
7		5	L	Newson		16	A	Charlene
8		6	T	Lavin				
9		7	M	Perks				
10		8	P	Paul				
11		9	A	Joshua				
12		10	K	Mary				
13		11	P	Edwin				
14		12	L	Ben				
15		13	T	Mike				
16		14	M	Justin				
17		15	P	Janet				
18		16	A	Charlene				

Tip 34: The YEARFRAC function

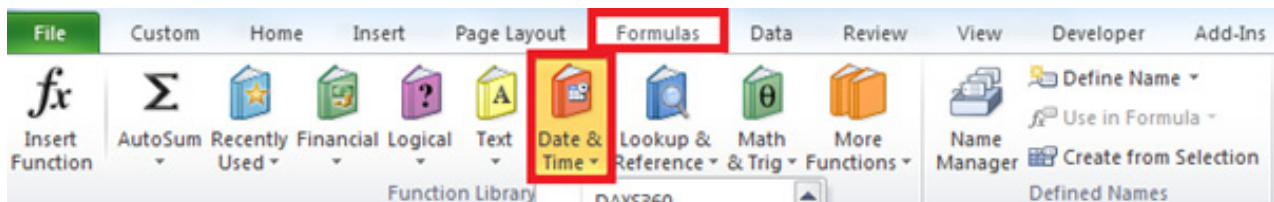
The YEARFRAC function can help with calculating the current life span of an asset, or the age of employees based upon their dates of birth. The YEARFRAC function calculates an accurate difference between two dates because unlike other methods that return a whole number, the YEARFRAC function returns a decimal result to indicate fractions of a year. Our example exercise is on how to calculate the life span of an asset based on date it was manufactured.

Applies to: Microsoft Excel 2007, 2010 and 2013

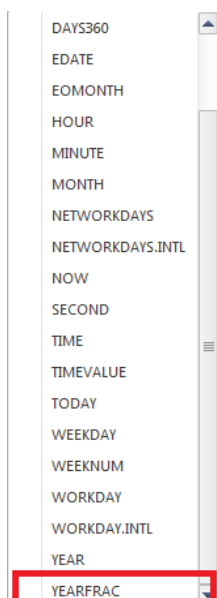
The screen shot below will be used for this example.

	A	B	C	D	E	F	G	H
1								
2								
3	Asset Name	Asset Number	Asset Category	Branch	Region	Cost	Manufacture Date	Current Life Span
4	Vehicle 387	285	Vehicle	CALIFORNIA	WCoast	\$ 83 000.00	2007/01/24	
5	HP Printer 1020	257	Computer	CALIFORNIA	WCoast	\$ 2 000.00	2006/01/22	
6	Vehicle 515	313	Vehicle	CALIFORNIA	WCoast	\$ 89 000.00	2006/01/27	
7	HP Printer 1020	264	Computer	CALIFORNIA	WCoast	\$ 2 000.00	2006/04/23	
8	Vehicle 547	320	Vehicle	CALIFORNIA	WCoast	\$ 78 000.00	2006/04/29	
9	IBM Printer 1120	271	Computer	CALIFORNIA	WCoast	\$ 10 000.00	2006/07/24	
10	HP Laserjet 830	278	Computer	CALIFORNIA	WCoast	\$ 1 500.00	2006/10/24	
11	Vehicle 419	292	Vehicle	CALIFORNIA	WCoast	\$ 75 000.00	2007/04/26	
12	Vehicle 451	299	Vehicle	CALIFORNIA	WCoast	\$ 67 000.00	2007/07/27	
13	Vehicle 579	327	Vehicle	CALIFORNIA	WCoast	\$ 93 000.00	2007/07/30	
14	Vehicle 611	334	Vehicle	CALIFORNIA	WCoast	\$ 108 000.00	2007/07/30	
15	Vehicle 483	306	Vehicle	CALIFORNIA	WCoast	\$ 59 000.00	2007/10/27	
16	Vehicle 643	341	Vehicle	OREGON	WCoast	\$ 123 000.00	2007/05/02	
17	IBM Desktop	397	Computer	OREGON	WCoast	\$ 10 500.00	2006/01/25	
18	IBM Desktop	404	Computer	OREGON	WCoast	\$ 10 500.00	2006/01/28	
19	Vehicle 707	355	Vehicle	OREGON	WCoast	\$ 153 000.00	2007/05/04	
20	Vehicle 739	362	Vehicle	OREGON	WCoast	\$ 168 000.00	2007/05/05	
21	Vehicle 675	348	Vehicle	OREGON	WCoast	\$ 138 000.00	2007/08/03	
22	Lot 840	47	Land	WASHINGTON	WCoast	\$ 300 000.00	2006/02/25	
23	Lot 719	40	Land	WASHINGTON	WCoast	\$ 250 000.00	2006/02/15	
24	Server Cabinet	75	Furniture	WASHINGTON	WCoast	\$ 15 000.00	2006/01/22	

1. Select **cell H4**.
2. Select the **Formulas** tab and then **Date & Time** as below.



3. Select **YEARFRAC** from the Date & Time drop down list.
4. Enter the formula arguments as below.



Function Arguments

YEARFRAC

Start_date: TODAY() = Volatile

End_date: G4 = 39106

Basis: 1 = 1

Returns the year fraction representing the number of whole days between start_date and end_date.

Start_date is a serial date number that represents the start date.

Formula result = Volatile

[Help on this function](#)

OK Cancel

5. Select **OK** and copy the formula down.

0 or omitted	US (NASD) 30/360
1	Actual/actual
2	Actual/360
3	Actual/365
4	European 30/360

6. The answer will be as below.

	A	B	C	D	E	F	G	
1	Asset Register							
2								
3	Asset Name	Asset Number	Asset Category	Branch	Region	Cost	Manufacture Date	Cur
4	Vehicle 387	285	Vehicle	CALIFORNIA	WCoast	\$ 83 000.00	2007/01/24	
5	HP Printer 1020	257	Computer	CALIFORNIA	WCoast	\$ 2 000.00	2006/01/22	
6	Vehicle 515	313	Vehicle	CALIFORNIA	WCoast	\$ 89 000.00	2006/01/27	
7	HP Printer 1020	264	Computer	CALIFORNIA	WCoast	\$ 2 000.00	2006/04/23	
8	Vehicle 547	320	Vehicle	CALIFORNIA	WCoast	\$ 78 000.00	2006/04/29	
9	IBM Printer 1120	271	Computer	CALIFORNIA	WCoast	\$ 10 000.00	2006/07/24	
10	HP Laserjet 830	278	Computer	CALIFORNIA	WCoast	\$ 1 500.00	2006/10/24	
11	Vehicle 419	292	Vehicle	CALIFORNIA	WCoast	\$ 75 000.00	2007/04/26	
12	Vehicle 451	299	Vehicle	CALIFORNIA	WCoast	\$ 67 000.00	2007/07/27	
13	Vehicle 579	327	Vehicle	CALIFORNIA	WCoast	\$ 93 000.00	2007/07/30	
14	Vehicle 611	334	Vehicle	CALIFORNIA	WCoast	\$ 108 000.00	2007/07/30	
15	Vehicle 483	306	Vehicle	CALIFORNIA	WCoast	\$ 59 000.00	2007/10/27	
16	Vehicle 643	341	Vehicle	OREGON	WCoast	\$ 123 000.00	2007/05/02	
17	IBM Desktop	397	Computer	OREGON	WCoast	\$ 10 500.00	2006/01/25	
18	IBM Desktop	404	Computer	OREGON	WCoast	\$ 10 500.00	2006/01/28	
19	Vehicle 707	355	Vehicle	OREGON	WCoast	\$ 153 000.00	2007/05/04	
20	Vehicle 739	362	Vehicle	OREGON	WCoast	\$ 168 000.00	2007/05/05	
21	Vehicle 675	348	Vehicle	OREGON	WCoast	\$ 138 000.00	2007/08/03	
22	Lot 840	47	Land	WASHINGTON	WCoast	\$ 300 000.00	2006/02/25	
23	Lot 719	40	Land	WASHINGTON	WCoast	\$ 250 000.00	2006/02/15	
24	Server Cabinet	75	Furniture	WASHINGTON	WCoast	\$ 15 000.00	2006/01/22	

Tip 35:

How to Create a Table out of a Data Range for Data Analysis

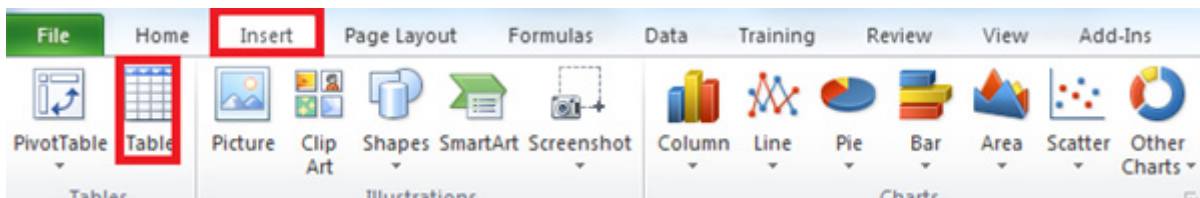
If you no longer want to work with your data in a table, you can convert the table to a regular range of data while keeping any table style formatting that you applied. When you no longer need a table and the data that it contains, you can delete it.

Applies to: Microsoft Excel 2007, 2010 and 2013

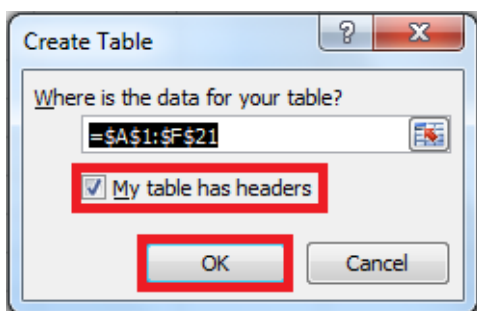
The screen shot below will be used for this example.

	A	B	C	D	E	F
1	Transaction No	ProductName	Date	Quantity	UnitPrice	ProductSales
2	0001	Côte de Blaye	2006/01/16	50	\$ 210.80	\$ 10 540.00
3	0002	Côte de Blaye	2006/01/23	49	\$ 210.80	\$ 10 329.20
4	0003	Côte de Blaye	2006/03/19	30	\$ 210.80	\$ 6 324.00
5	0004	Vegie-spread	2006/01/02	65	\$ 35.10	\$ 2 281.50
6	0004	Vegie-spread	2006/01/02	65	\$ 35.10	\$ 2 281.50
7	0006	Raclette Courdavault	2006/03/19	60	\$ 44.00	\$ 2 640.00
8	0007	Raclette Courdavault	2006/03/31	60	\$ 44.00	\$ 2 640.00
9	0008	Gnocchi di nonna Alice	2006/01/01	70	\$ 30.40	\$ 2 128.00
10	0009	Alice Mutton	2006/01/30	95	\$ 31.20	\$ 2 964.00
11	0010	Pâté chinois	2006/02/19	120	\$ 19.20	\$ 2 304.00
12	0010	Pâté chinois	2006/02/19	120	\$ 19.20	\$ 2 304.00
13	0012	Gula Malacca	2006/02/20	100	\$ 15.50	\$ 1 550.00
14	0013	Tarte au sucre	2006/01/08	35	\$ 39.40	\$ 1 379.00
16	0015	Schoggi Schokolade	2006/02/10	50	\$ 35.10	\$ 1 755.00
17	0016	Tarte au sucre	2006/02/18	35	\$ 39.40	\$ 1 379.00
18	0017	Flotemysost	2006/01/01	60	\$ 17.20	\$ 1 032.00
19	0017	Flotemysost	2006/01/01	60	\$ 17.20	\$ 1 032.00
20	0019	Raclette Courdavault	2006/02/25	36	\$ 44.00	\$ 1 584.00
21	0020	Mozzarella di Giovanni	2006/02/27	40	\$ 27.80	\$ 1 112.00

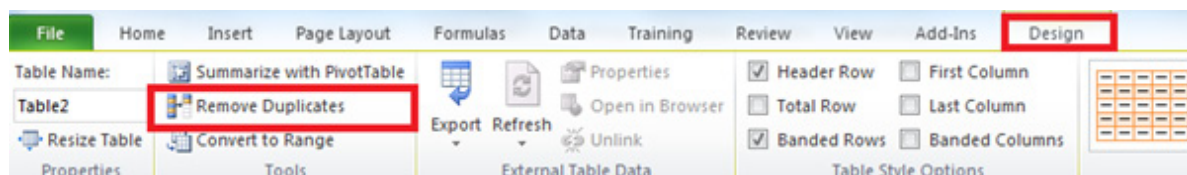
1. Select any **cell** within the data range A1:F21.
2. Select the **Insert** tab and then **Table** as per screen shot below.



3. Input the location of your data, tick the '**My table has headers**' box and select **OK**.



4. To remove duplicate records from the table, select the **Design** tab and **Remove Duplicates**.
 - Records 004,0010 and 0017 have duplicate values.



- Ensure that you select a cell within the table for the design contextual tab to be activated.
5. Select **OK**.
 6. The final table will look like the table below.

	A	B	C	D	E	F
1	Transaction No	ProductName	Date	Quantity	UnitPrice	ProductSales
2	0001	Côte de Blaye	2006/01/16	50	\$ 210.80	\$ 10 540.00
3	0002	Côte de Blaye	2006/01/23	49	\$ 210.80	\$ 10 329.20
4	0003	Côte de Blaye	2006/03/19	30	\$ 210.80	\$ 6 324.00
5	0004	Vegie-spread	2006/01/02	65	\$ 35.10	\$ 2 281.50
6	0006	Raclette Courdavault	2006/03/19	60	\$ 44.00	\$ 2 640.00
7	0007	Raclette Courdavault	2006/03/31	60	\$ 44.00	\$ 2 640.00
8	0008	Gnocchi di nonna Alice	2006/01/01	70	\$ 30.40	\$ 2 128.00
9	0009	Alice Mutton	2006/01/30	95	\$ 31.20	\$ 2 964.00
10	0010	Pâté chinois	2006/02/19	120	\$ 19.20	\$ 2 304.00
11	0012	Gula Malacca	2006/02/20	100	\$ 15.50	\$ 1 550.00
12	0013	Tarte au sucre	2006/01/08	35	\$ 39.40	\$ 1 379.00
13	0014	Tarte au sucre	2006/01/14	40	\$ 39.40	\$ 1 576.00
14	0015	Schoggi Schokolade	2006/02/10	50	\$ 35.10	\$ 1 755.00
15	0016	Tarte au sucre	2006/02/18	35	\$ 39.40	\$ 1 379.00
16	0017	Flotemysost	2006/01/01	60	\$ 17.20	\$ 1 032.00
17	0019	Raclette Courdavault	2006/02/25	36	\$ 44.00	\$ 1 584.00
18	0020	Mozzarella di Giovanni	2006/02/27	40	\$ 27.80	\$ 1 112.00

Tip 36: Using Custom Format

How to format a number without decimal places, with a thousands separator, and combine it with text, using custom formatting and joining cells.

Applies To: MS Excel 2003, 2007 and 2010

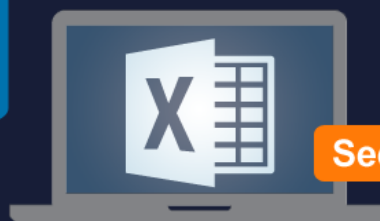
1. For example, Cell A1 contains "You owe" and cell B1 contains the value 87777.

In cell C1 enter the following formula `=A1&" "&TEXT(B1,"$#,##0")`.

	A	B	C
1	You Owe	87777	You Owe \$87,777
2			

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Tip 37:

Use MATCH and INDEX as an Alternative to The Vertical Lookup

Vertical Lookup is one of the commonly used MS Excel functions. But it has limitations in that the main search criterion needs to be in the first column. However by using a combination of MATCH and INDEX, you can return values from an array regardless of what information is in the first column of the array. Follow our example below as we explain how you can use MATCH and INDEX as an alternative to the Vertical Lookup.

MATCH: Returns the relative position of an item in an array that matches a specified value in a specified order.

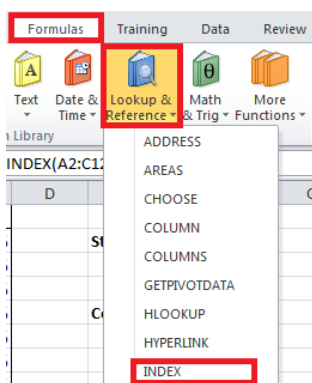
INDEX: Returns a value or reference of the cell at the intersection of a particular row and column, in a given range.

Applies To: Excel 2003, 2007 and 2010

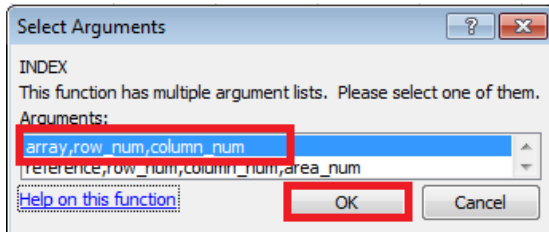
1. Reference will be made to the screen shot below. We are going to retrieve the Commission Rate for P7.

	A	B	C	D	E	F	G	H
1	Name	Commission	Staff Code					
2	Kerry	25%	P1			Staff Code	P7	
3	John	15%	P2					
4	Peter	8%	P3					
5	Lionel	14%	P4			Commission		
6	Sandy	26%	P5					
7	Alex	19%	P6					
8	Darien	22%	P7					
9	Mary	16%	P8					
10	Anne	27%	P9					
11	Candice	5%	P10					
12	Mark	14%	P11					

2. Select cell G5.
3. Select as below.

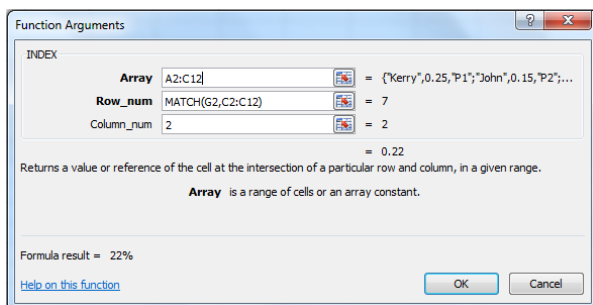


4. Select as below.



- In the first option the data array is only based on one data range
- In the second option the data array is based on multiple data ranges

5. Enter as below.



6. Select **OK**.

7. The answer will be 22% as given below.

	A	B	C	D	E	F	G
1	Name	Commission	Staff Code				
2	Kerry	25%	P1			Staff Code	P7
3	John	15%	P2				
4	Peter	8%	P3				
5	Lionel	14%	P4			Commission	22%
6	Sandy	26%	P5				
7	Alex	19%	P6				
8	Darien	22%	P7				
9	Mary	16%	P8				
10	Anne	27%	P9				
11	Candice	5%	P10				
12	Mark	14%	P11				

Tip 38: Positive and Negative Numbers

Have you ever had a column with positive and negative numbers, but would like to sum the positive and negative numbers separately? This can be done by using the SUMIF function.

Example:

SUMIF SUMIF(range,criteria,sum_range)

Range:

Is the range of cells that you want evaluated by criteria. Cells in each range must be numbers or names, arrays, or references that contain numbers. Blank and text values are ignored.

Criteria:

Is the criteria in the form of a number, expression, or text that defines which cells will be added. For example, criteria can be expressed as 32, "32", ">32", or "apples".

Sum_range :

Are the actual cells to add if their corresponding cells in range match criteria. If sum_range is omitted, the cells in range are both evaluated by criteria and added if they match criteria.

Applies To: MS Excel 2003, 2007 and 2010

1. To add the positive numbers as per the example:
 - a. Select the desired **cell (E13)**
 - b. Enter in the below formula:
=SUMIF(E4:E12,">0")
 - c. Press **Enter**.
2. To add the negative numbers:
 - a. Select the desired **cell (E14)**
 - b. Enter in the below formula:
=SUMIF(E4:E12,"<0")
 - c. Press **Enter**.

	A	B	C	D	E
1		WYX ENTERPRISES			
2		STOCK REPORT			
3		Stock No	Description	Date	Stock In/Out
4		NE01	Network cables	03/10/2010	60
5		MO01	Mouse Pads	09/10/2010	-56
6		NE01	Network cables	13/10/2010	89
7		KE01	Keyboards	14/10/2010	-10
8		MN01	Monitors	15/10/2010	77
9		KE01	Keyboards	15/10/2010	-45
10		CH01	Chairs	17/10/2010	55
11		PR01	Projectors	19/10/2010	65
12		MO01	Mouse Pads	21/10/2010	-20
13		Total In			346
14		Total Out			-131

Tip 39: Aggregate Function

Are you planning on finding the sum for a range of numbers with error values within the range? You can actually use the Aggregate Function to overcome the limitation posed by some functions like Sum, MAX, MIN, AVERAGE and Percentile functions.

The Aggregate Function addresses the limitation of conditional formatting. Data bars, Icon Sets and Color Scales cannot display conditional formatting if there are errors in the range. This is because the MIN, MAX and PERCENTILE functions do not calculate when there is an error in the calculation range. The LARGE, SMALL, and STDEVP functions also affect the appropriate functionality of certain conditional formatting rules for the same reasons. By using the AGGREGATE Function, you can implement those functions because the errors will be ignored. In addition, the AGGREGATE Function can apply different aggregate functions to a list or database with the option to ignore hidden rows and error values.

Syntax: AGGREGATE(function_num, options, ref1, [ref2], ...)

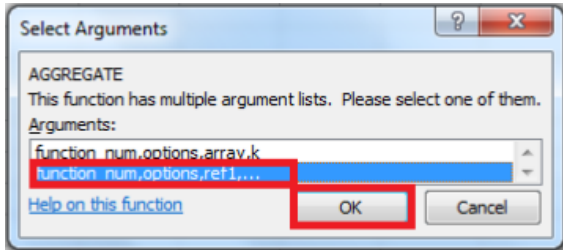
Applies To: Excel 2010

1. Refer to the data given below.

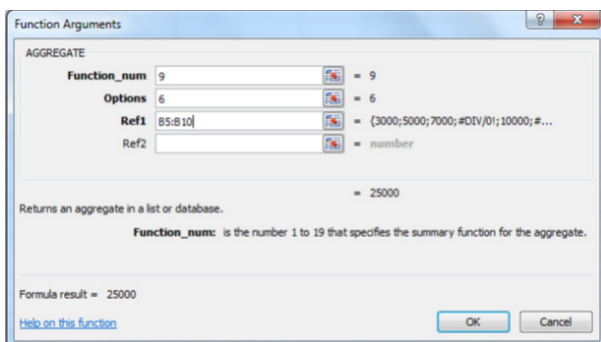
	A	B
1		
2	Sales Report	
3		
4	Month	Sales Amount
5	January	\$ 3 000.00
6	February	\$ 5 000.00
7	March	\$ 7 000.00
8	April	#DIV/0!
9	May	\$ 10 000.00
10	June	#DIV/0!
11	Total	

2. Select **B11** and enter; **=Sum(B5:B10)** and press **Enter**.
3. An error message will be displayed in the Total. Delete the error message in **cell B11**.
4. To overcome this limitation, we shall use the Aggregate function.
5. Select **cell B11**.
6. Select **Formulas, Insert Function** and search for the Aggregate function.
7. Select **OK**.

8. Select as below.



9. Enter as below.



10. Select **OK**.

11. The answer will be as below.

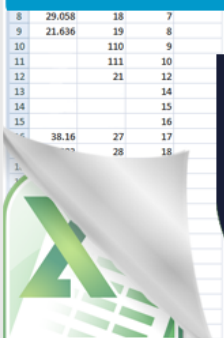
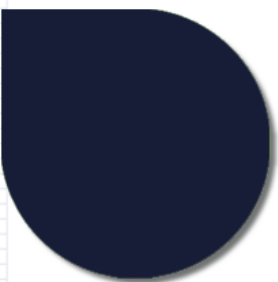
	A	B
1		
2	Sales Report	
3		
4	Month	Sales Amount
5	January	\$ 3 000.00
6	February	\$ 5 000.00
7	March	\$ 7 000.00
8	April	#DIV/0!
9	May	\$ 10 000.00
10	June	#DIV/0!
11	Total	\$ 25 000.00

The following numbers represent some function numbers than can be used in the formula above:

1=Average,2=Count,3=CountA,4=Max,5=Min,9=Sum

For Option numbers refer to the table below.

OPTION	BEHAVIOUR
0 or omitted	Ignore nested SUBTOTAL and AGGREGATE functions
1	Ignore hidden rows, nested SUBTOTAL and AGGREGATE functions
2	Ignore error values, nested SUBTOTAL and AGGREGATE functions
3	Ignore hidden rows, error values, nested SUBTOTAL and AGGREGATE functions
4	Ignore nothing
5	Ignore hidden rows
6	Ignore error values
7	Ignore hidden rows and error values

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Tip 40: TRIM Function

The Trim Function can be used to clean up data. Let's say you have imported data into Excel from another application with leading or trailing spaces.

The Trim Function Removes all spaces from text except for single spaces between words. Use TRIM on text that you have received from another application that may have irregular spacing.

Applies To: MS Excel 2003, 2007, 2010

1. For this example the screen shot given below will be used.

	A	B
1	Product Name(Before)	Product Name(After)
2	Maxilaku	
3	Gnocchi di nonna Alice	
4	Tunnbröd	
5	Pavlova	
6	Singaporean Hokkien Fried Mee	
7	Boston Crab Meat	
8	Inlagd Sill	
9	Chai	
10	Gudbrandsdalsost	
11	Queso Cabrales	
12	Chai	
13	Teatime Chocolate Biscuits	
14	Original Frankfurter grüne Soße	
15	Côte de Blaye	
16	Teatime Chocolate Biscuits	
17	Röd Kaviar	
18	Gumbär Gummibärchen	
19	Gorgonzola Telino	
20	Pâté chinois	
21	Gnocchi di nonna Alice	
22	Tourtière	
23	Gustafs Knäckebröd	
24	Perth Pasties	
25	Sasquatch Ale	
26	Wimmers gute Semmelknödel	
27	Chang	
28	Pavlova	
29	Sirop d'érable	
30	Louisiana Hot Spiced Okra	
31	Alice Mutton	

2. Select cell B2 and type **=Trim(A2)** then press **Enter**. Drag the formula down.

3. The result will be as follows.

	A	B
1	Product Name(Before)	Product Name(After)
2	Maxilaku	Maxilaku
3	Gnocchi di nonna Alice	Gnocchi di nonna Alice
4	Tunnbröd	Tunnbröd
5	Pavlova	Pavlova
6	Singaporean Hokkien Fried Mee	Singaporean Hokkien Fried Mee
7	Boston Crab Meat	Boston Crab Meat
8	Inlagd Sill	Inlagd Sill
9	Chai	Chai
10	Gudbrandsdalsost	Gudbrandsdalsost
11	Queso Cabrales	Queso Cabrales
12	Chai	Chai
13	Teatime Chocolate Biscuits	Teatime Chocolate Biscuits
14	Original Frankfurter grüne Soße	Original Frankfurter grüne Soße
15	Côte de Blaye	Côte de Blaye
16	Teatime Chocolate Biscuits	Teatime Chocolate Biscuits
17	Röd Kaviar	Röd Kaviar
18	Gumbär Gummibärchen	Gumbär Gummibärchen
19	Gorgonzola Telino	Gorgonzola Telino
20	Pâté chinois	Pâté chinois
21	Gnocchi di nonna Alice	Gnocchi di nonna Alice
22	Tourtière	Tourtière
23	Gustafs Knäckebröd	Gustafs Knäckebröd
24	Perth Pasties	Perth Pasties
25	Sasquatch Ale	Sasquatch Ale
26	Wimmers gute Semmelknödel	Wimmers gute Semmelknödel
27	Chang	Chang
28	Pavlova	Pavlova
29	Sirop d'érable	Sirop d'érable
30	Louisiana Hot Spiced Okra	Louisiana Hot Spiced Okra
31	Alice Mutton	Alice Mutton

As you can see from the data above, all spaces from the text except for single spaces between words have been removed.

Tip 41: Vlookup Approximate Value

Ever used the Vlookup with the approximate match? In this example we demonstrate how, by using the Vlookup with the approximate match, one can extract the correct trade discount percentage based on the quantity purchased.

If TRUE or 1 is specified in the Range_lookup argument text box, an exact or approximate match is returned. If an exact match is not found, the next largest value that is less than lookup_value is returned. (The Range_lookup argument text box can also be left blank).

The values in the first column of table_array must be placed in ascending sort order; otherwise, VLOOKUP may not give the correct value.

	A	B	C	D	E	F	G	H	I
1									
2	Quantity	Description	Unit Price	Trade Discount	Total Sales		Trade Discount Table For Spare Parts		
3	3	Item Description 1	\$ 100.00	0%	\$ 300.00		Quantity	Trade Discount	Category
4	10	Item Description 2	\$ 99.00	0%	\$ 990.00		0	0%	0 <= 20
5	40	Item Description 3	\$ 77.00	3%	\$ 2 987.60		20	1%	20 <= 40
6	45	Item Description 4	\$ 45.00	3%	\$ 1 964.25		40	3%	40 <= 60
7	67	Item Description 5	\$ 89.00	5%	\$ 5 664.85		60	5%	60 <= 80
8	89	Item Description 6	\$ 75.00	7%	\$ 6 207.75		80	7%	80 <= 100
9	103	Item Description 7	\$ 83.00	10%	\$ 7 694.10		100	10%	>= 100
10	90	Item Description 8	\$ 45.00	7%	\$ 3 766.50				
11	34	Item Description 9	\$ 99.00	1%	\$ 3 332.34				
12	55	Item Description 10	\$ 77.00	3%	\$ 4 107.95				
13	77	Item Description 11	\$ 95.00	5%	\$ 6 949.25				
14	23	Item Description 12	\$ 98.00	1%	\$ 2 231.46				

Applies To: MS Excel 2003,2007,2010

1. This tip will be based on the screen shot above.
2. Select cell D3.
3. Select the **Formulas Tab-Lookup** and **Reference-Vlookup**.
4. Enter as below.

Function Arguments

VLOOKUP

Lookup_value: A3 = 3

Table_array: \$G\$2:\$H\$8 = {"Quantity","Trade Discount";0,0;20,...

Col_index_num: 2 = 2

Range_lookup: 1 = TRUE

Looks for a value in the leftmost column of a table, and then returns a value in the same row from a column you specify. By default, the table must be sorted in an ascending order.

Range_lookup is a logical value; to find the closest match in the first column (sorted in

5. The original Table_array is G2:H8. Dollar signs have been added to the data range to make it absolute-hence we have \$G\$2:\$H\$8.

6. Select **OK** and copy the formula down.
7. To calculate the Total Sales:
 - a. Select **cell E3** and enter the formula: **=(A3*C3)-(D3*(A3*C3))**.
 - b. Copy the formula down.
8. The final result will be as below.

	A	B	C	D	E	F	G	H	I
1							Trade Discount Table For Spare Parts		
2	Quantity	Description	Unit Price	Trade Discount	Total Sales		Quantity	Trade Discount	Category
3	3	Item Description 1	\$ 100.00	0%	\$ 300.00		0	0%	0 <= 20
4	10	Item Description 2	\$ 99.00	0%	\$ 990.00		20	1%	20 <= 40
5	40	Item Description 3	\$ 77.00	3%	\$ 2 987.60		40	3%	40 <= 60
6	45	Item Description 4	\$ 45.00	3%	\$ 1 964.25		60	5%	60 <= 80
7	67	Item Description 5	\$ 89.00	5%	\$ 5 664.85		80	7%	80 <= 100
8	89	Item Description 6	\$ 75.00	7%	\$ 6 207.75		100	10%	>= 100
9	103	Item Description 7	\$ 83.00	10%	\$ 7 694.10				
10	90	Item Description 8	\$ 45.00	7%	\$ 3 766.50				
11	34	Item Description 9	\$ 99.00	1%	\$ 3 332.34				
12	55	Item Description 10	\$ 77.00	3%	\$ 4 107.95				
13	77	Item Description 11	\$ 95.00	5%	\$ 6 949.25				
14	23	Item Description 12	\$ 98.00	1%	\$ 2 231.46				



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Tip 42: Multiple Data Consolidations for PivotTables

As an effective tool for working with large volumes of data, PivotTables can be used to summarize, organize and view the same data in many different ways quickly and easily. However the data is usually in one data source/range. Therefore by using the multiple data consolidation ranges option it is possible to extract data from more than one data source. It must be explained that the data can be in different formats or arranged differently.

Applies To: MS Excel 2003, 2007 and 2010

1. Enter the data given below in the three worksheets; sheet 1, sheet 2 and sheet 3 respectively

Sheet 1

	A	B
1	Product	Sales 2010
2	Annatto Seed	\$22 000
3	Anise Seeds	\$95 000
4	Asafoetida Powder	\$70 000
5	Basil Leaf	\$60 000
6	Bay Leaf	\$98 000
7	Caraway Seed	\$30 000
8	Cardamom Seed	\$25 000
9	Garlic	\$20 000

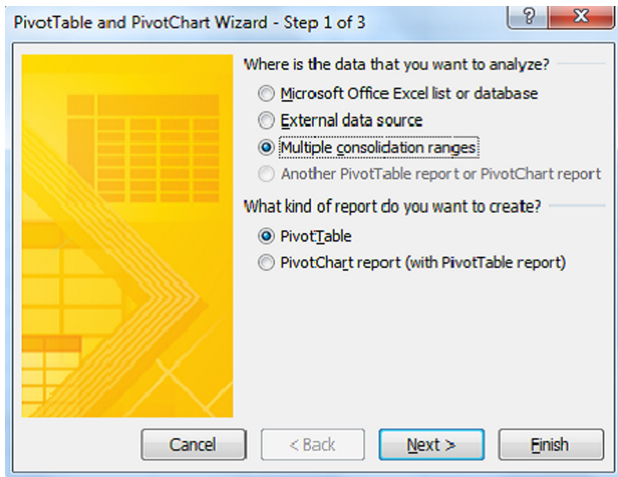
Sheet 2

	A	B
1	Product	Sales 2010
2	Annatto Seed	\$11 771
3	Anise Seeds	\$87 970
4	Asafoetida Powder	\$11 312
5	Basil Leaf	\$58 842
6	Bay Leaf	\$99 665
7	Caraway Seed	\$19 426
8	Cardamom Seed	\$22 772
9	Garlic	\$17 990

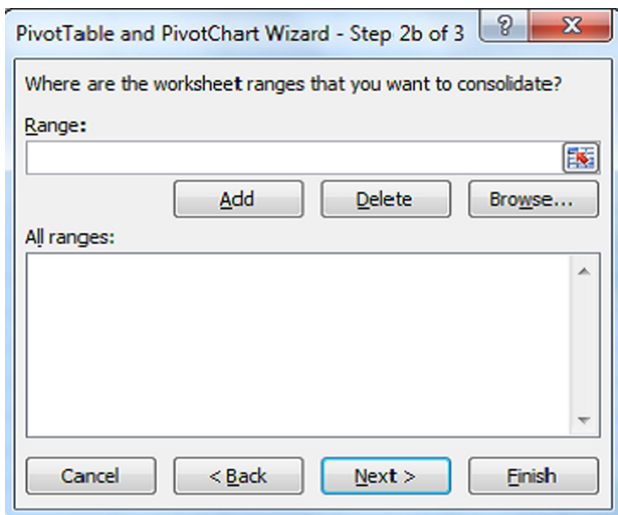
Sheet 3

	A	B
1	Product	Sales 2010
2	Annatto Seed	\$18 000
3	Anise Seeds	\$45 000
4	Asafoetida Powder	\$13 000
5	Basil Leaf	\$66 000
6	Bay Leaf	\$80 000
7	Caraway Seed	\$25 000
8	Cardamom Seed	\$25 000
9	Garlic	\$20 000

2. Insert/Select **sheet 4**.
3. For Excel 2007 and 2010 press **ALT + D** and then **press/type P**.
4. For Excel 2003, XP, 2000 and 97; click the **Data menu** and then **PivotTable & PivotChart Report**.
5. The screen shot below will be displayed.



6. Select **Multiple consolidation ranges** and **PivotTable** then click **Next**.
7. Select **create a single page field for me** and then click **Next**. The screen shot below will be displayed.



8. Click on the **red arrow(Edit Reference Icon)** under **Range** and select the **data range A1:B9** on sheet 1.
9. Press **Enter** and click the **add button**.
10. Repeat steps 8 & 9 for data on sheet 2 and sheet 3.
11. Click on the **Next** button and select **Existing Worksheet** then click **Finish**.

As you can see a PivotTable with a multiple data consolidation range has been created. One can easily select the data to be displayed by selecting the appropriate option. The page option allows a user to select data for the respective worksheet. The worksheets are given as item 1, Item 2 and Item 3.

Tip 43: Slicers

In earlier versions of Microsoft Excel, you can use report filters to filter data in a PivotTable report but it is not easy to see the current filtering state when you filter on multiple items. In Microsoft Excel 2010, you have the option to use slicers to filter the data.

Slicers provide buttons that you can click to filter PivotTable data. In addition to quick filtering, slicers also indicate the current filtering state, which makes it easy to understand what exactly is shown in a filtered PivotTable report.

Row Labels	Sum of Order Amount
USA	28573.82
Callahan	28573.82
Qtr2	28573.82
Grand Total	28573.82

Country
USA
Canada

Salesperson
Buchanan
Callahan
Deoroko
Doddsworth
Fulmer
King

Order Date
Qtr1
Qtr2
Qtr3
Qtr4
<7/18/2008
>5/2/2011

Applies To: MS Excel 2010

1. Create a slicer
 - a. Click the PivotTable for which to create a slicer.
 - b. On the Options, in the Sort & Filter group, click **Insert Slicer**.
 - c. In the Insert Slicers dialogue box, click the **check box** for the fields for which you want to create a slicer.
 - d. Click **OK**.
2. Formatting Multiple Slicers

If you are formatting multiple slicers, or wish to hide a slicer, you can use the Selection and Visibility pane

- a. On the Options tab, in the Arrange group, click **Selection Pane**.

Tip 44: Creating a Sparkline

In Microsoft Excel 2010, a sparkline is a tiny chart in a worksheet cell that provides a visual representation of data. Use sparklines to show trends in a series of values, such as seasonal increases or decreases, economic cycles, or to highlight maximum and minimum values. Position a sparkline near its data for greatest impact.

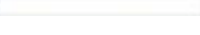
Applies To: MS Excel 2010

1. Select an empty cell or group of empty cells in which you want to insert one or more sparklines.
2. On the **Insert tab**, in the **Sparklines** group, click the type of sparkline that you want to create: Line, Column, or Win Loss.



3. In the Data Range box, type the range of the cells that contain the data on which you want to base the sparklines.

Note You can click  to temporarily collapse the dialog box, select the range of cells that you want on the worksheet, and then click  to restore the dialog box to its normal size.

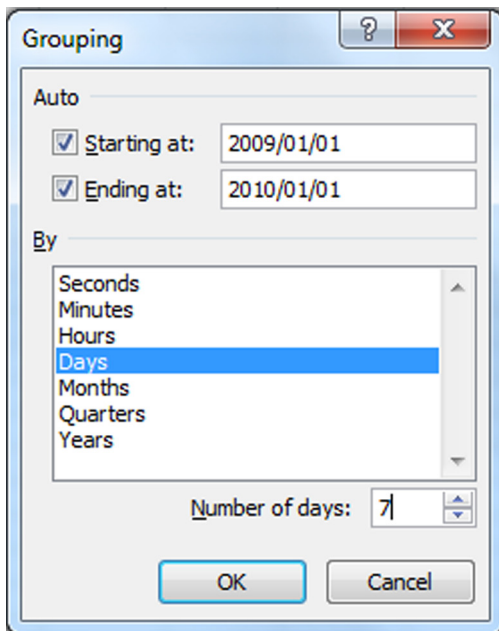
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1															
2															
3	Sum of Product Sales	Column Labels													
4	Row Labels	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Grand Total	
5	East Coast	18159.9	14570.8	8543	10638	12700.5	7654.45	17274.05	10516.7	19067.18	13822.05	7850.8	21182.15	161979.58	
6	North Coast	14980.3	8324.2	10588	6656.35	12686.1	9641.55	12394.6	8999.3	20443.94	13622.82	16073.15	21202.09	155812.4	
7	South Coast	10549.5	9615.4	7909.3	8353.7	17791.95	9809.6	12335	16518.4	10072.05	17796.55	9320.4	17018.4	147090.25	
8	West Coast	23003.1	8696.8	12939.6	30051.34	13445.15	11982.4	13461.28	13947.29	10149.85	25087.08	12669.01	18073.62	193506.52	
9	Grand Total	66692.8	41287.2	39978.9	55699.39	56823.7	39088	55464.93	49981.69	59733.62	70328.5	45913.36	77476.26	658388.75	

Tip 45: Grouping Data In a PivotTable By Days of the Week

Let's say you have a Pivot Table with date values and you want to analyse the dates by months or quarters. Then this can be easily done by using the Grouping feature in the PivotTable.

Applies To: MS Excel 2003, 2007 and 2010

1. Select the **Date field** in the PivotTable.
2. From the **Options** tab, in the **Group** group, select the **Group Selection** button.
3. Under By, select **Days**.
4. Next to Number of Days, select **7 Days**.
5. Select **OK**.



Tip 46: Combinational Chart

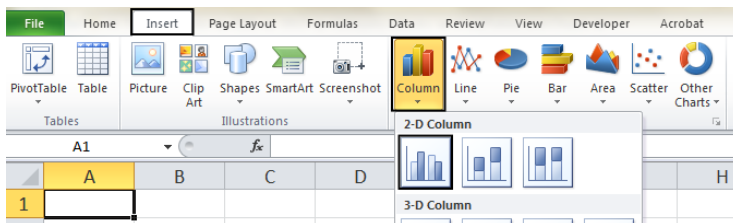
If you want to create a chart that has both a line series and a column series, then a combinational chart is what you need. If you want to have both a line and a column graph in one chart, follow the steps below.

Applies To: MS Excel 2003, 2007, and 2010

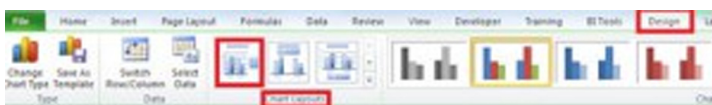
1. Refer to the data given below

	A	B	C	D
1		NO OF Computers Sold	Average Price	
2	January	40	\$ 200	
3	February	50	\$ 300	
4	March	75	\$ 250	
5	April	85	\$ 350	
6	May	45	\$ 200	
7	June	70	\$ 250	
8	July	45	\$ 300	
9				

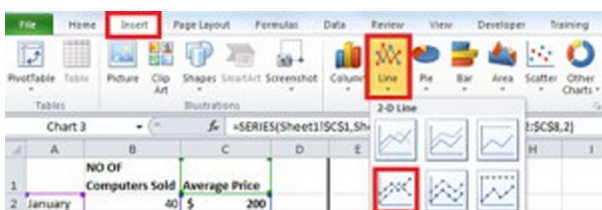
2. Select any cell within the data range.
3. Select as below.



4. The following chart will be displayed.
5. To insert the heading select the chart and select as below.

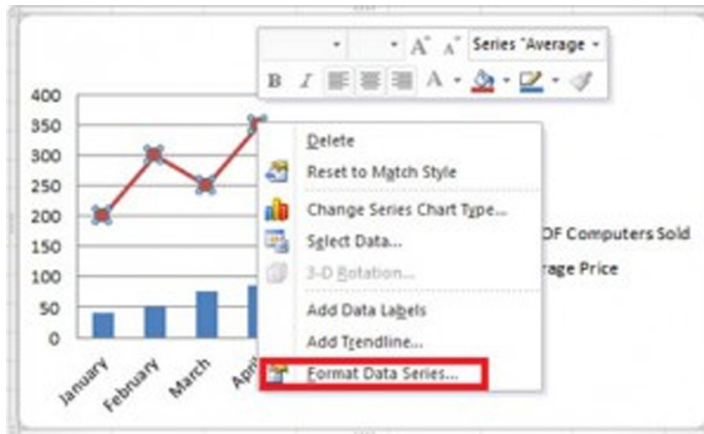


6. Select the average price bars(series) in the chart and as below



7. Two charts (line and column will be displayed).

8. Right click on the line graph and select as below.



9. Select **Secondary axis** and then the close button.

10. The following chart will be displayed.



Two graphs with separate axis have been combined in one chart. Therefore one can easily interpret the different sets of data in the chart.

Tip 47: Creating an Excel Graph From Scratch

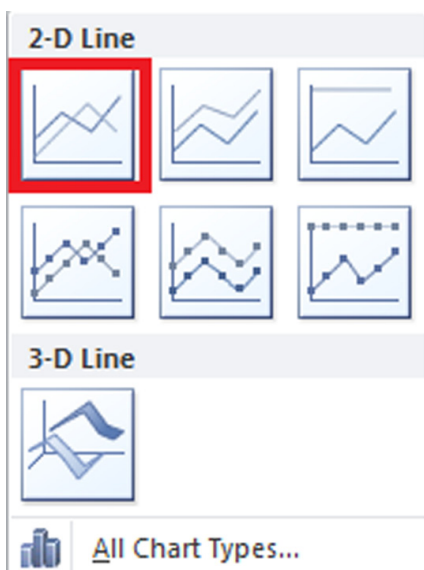
Ever tried to create an Excel graph from scratch? You can actually add your own Legend Entries (Series) and Horizontal (Category) Axis Labels. The location of the data should not hinder you from creating a graph. In the example below we explain how one can create a Sales Vs Purchases graph from scratch with the data located in different parts of the worksheet.

Applies To: MS Excel 2003, 2007 and 2010

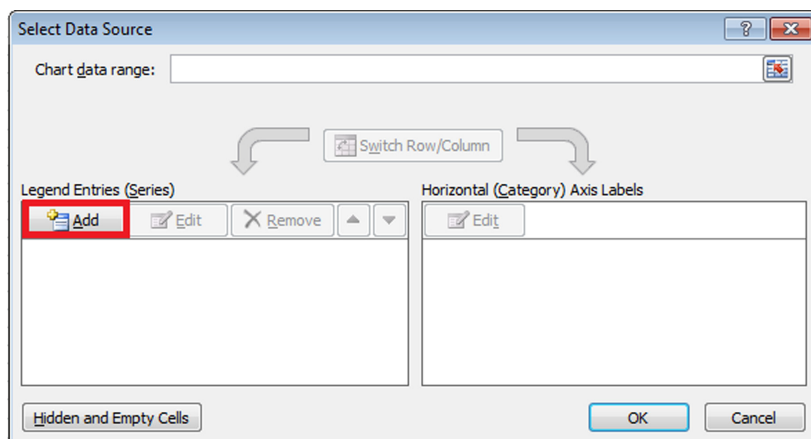
1. This tip will be based on the screen shot below

	A	B	C	D
1	Analysis of Monthly Sales & Purchases by Branch			
2				
3				
4	Sales	East	West	Total Sales
5	March	71973.28	55500.00	127473.28
6	April	41242.21	23340.00	64582.21
7	May	62072.53	11119.30	73191.83
8	June	53177.57	67070.11	120247.68
9	July	56476.58	12300.88	68777.46
10	August	56718.75	46660.35	103379.10
11	September	57806.72	53555.79	117362.51
12	October	65998.15	23330.00	89328.15
13	November	54007.50	32220.46	86227.96
14	December	52961.04	34230.00	87191.04
15	January	67310.62	36920.63	104231.25
16	February	38300.09	24601.75	62901.84
17		678045.04	426849.27	1104894.31
18				
19				
20				
21	Purchases	East	West	Total Purchases
22	March	22873.08	34005.77	56878.85
23	April	23389.60	24400.99	47790.59
24	May	28629.90	45000.77	73630.67
25	June	20738.00	48970.67	69708.67
26	July	19925.35	29760.00	49685.35
27	August	24444.44	26600.80	51045.24
28	September	16952.50	19450.59	36403.09
29	October	21469.55	31578.20	53047.75
30	November	22744.87	35890.00	58634.87
31	December	19014.56	23820.60	42835.16
32	January	33075.73	14300.40	47376.13
33	February	15913.55	23820.60	39734.15
34		269171.13	357599.39	626770.52

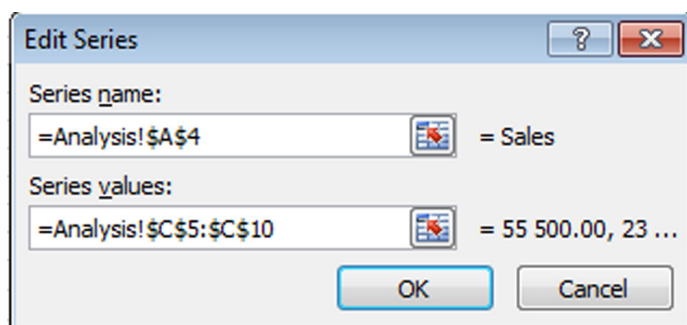
2. Select any blank cell on the worksheet.
3. From the **Insert** tab, in the **Charts** group, select **Line**.
4. Select **2-D Line** as below:



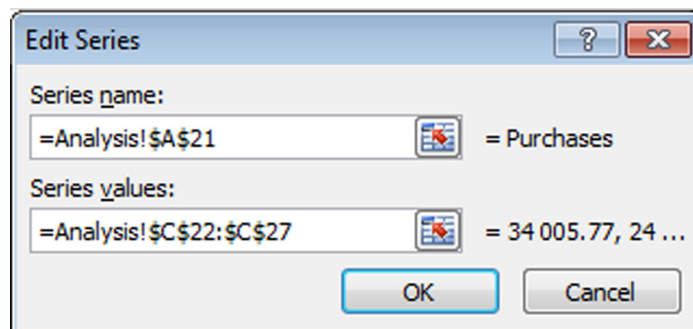
5. A blank chart will be inserted.
6. Select the **blank chart**.
7. From the **Design** tab, in the **Data** group, select **Select Data**.
8. Select the **Add** button in the Legend Entries (Series) box.



9. Select as below.



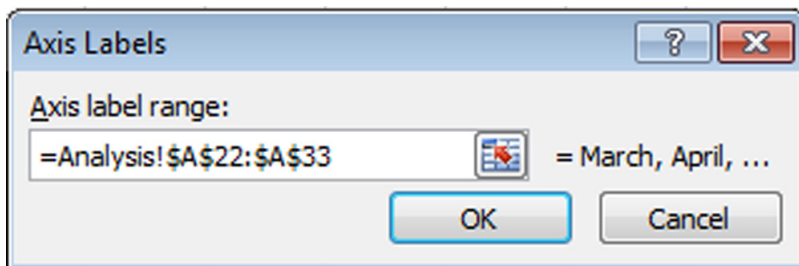
10. Select **OK**.
11. Select **Add** as below.



12. Select **OK**.

13. Select the **Edit button** in the Horizontal (Category) Axis Labels.

14. Select as below.



15. Select **OK**.

16. Select **OK**.

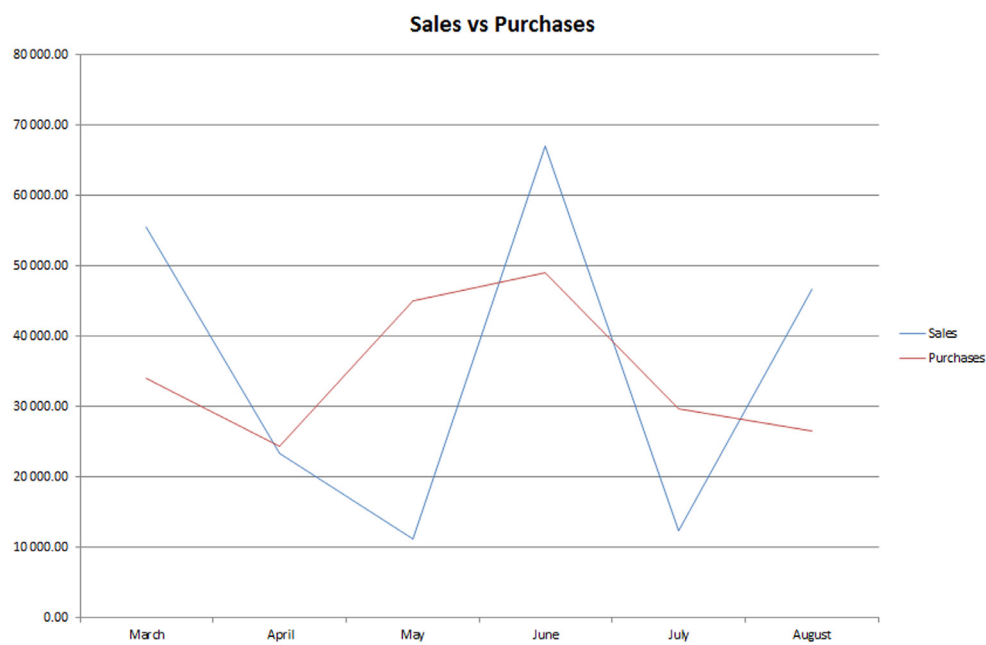
17. From the **Layout tab**, in the **Labels group**, select **Chart Title**.

18. Select **Above Chart**.

19. In the **Chart Title box**, enter **Sales vs Purchases**.

20. Right click on the chart and select **Move Chart**.

21. Select **New Sheet**. A comparison Line graph as below will be displayed.



Tip 48: The Watch Window

When cells are not visible on a worksheet, you can watch those cells and their formulas in the Watch Window. The Watch Window makes it convenient to inspect, audit, or confirm formula calculations and results in large worksheets. By using the Watch Window, you don't need to repeatedly scroll or go to different parts of your worksheet.

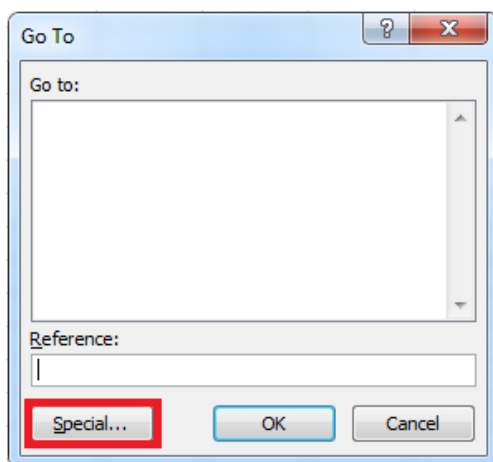
This toolbar can be moved or like any other toolbar. For example, you can dock it on the bottom of the window. The toolbar keeps track of the following properties of a cell: workbook, sheet, name, cell, value, and formula.

Note: You can have only one watch per cell.

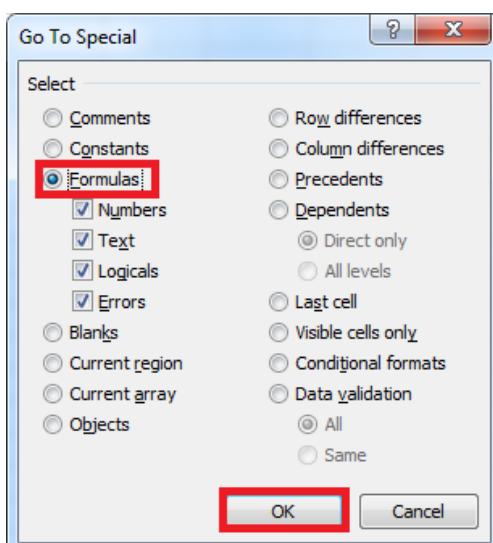
Applies To: MS Excel 2003, 2007, 2010 and 2013

Add Cells to the Watch Window

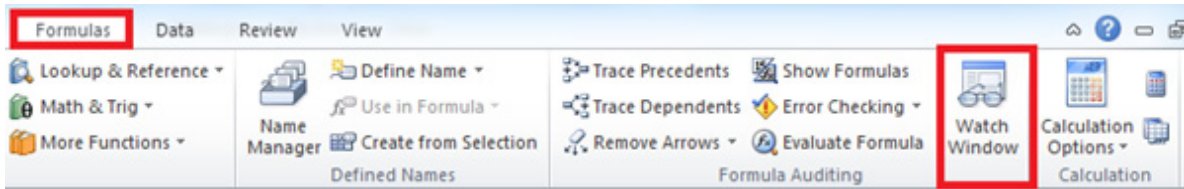
1. Select the cells that you want to watch.
 - To select all cells on a worksheet with formulas,
 - Press **F5**.
 - Select **Special**.



- Then select as below.



- To add the Watch Window, select as below.



- Click **Add**.
- Move the Watch Window toolbar to the top, bottom, left, or right side of the window.
- To change the width of a column, drag the boundary on the right side of the column heading.
- To display the cell that an entry in Watch Window toolbar refers to, double-click the entry.

Note: Cells that have external references to other workbooks are displayed in the Watch Window toolbar only when the other workbooks are open.

Watch Window					
Add Watch... Delete Watch					
Book	Sheet	Name	Cell	Value	Formula
Fossil_Suppliers.xlsx	Analysis		B17	\$678 045.04	=SUM(B5:B16)
Fossil_Suppliers.xlsx	Analysis		C17	\$426 849.27	=SUM(C5:C16)
Fossil_Suppliers.xlsx	Analysis		B18	\$71 973.28	=MAX(B5:B16)
Fossil_Suppliers.xlsx	Analysis		C18	\$67 070.11	=MAX(C5:C16)
Fossil_Suppliers.xlsx	Analysis		B19	\$38 300.09	=MIN(B5:B16)
Fossil_Suppliers.xlsx	Analysis		C19	\$11 119.30	=MIN(C5:C16)
Fossil_Suppliers.xlsx	Analysis		B20	\$56 503.75	=AVERAGE(B5:B16)
Fossil_Suppliers.xlsx	Analysis		C20	\$35 570.77	=AVERAGE(C5:C16)

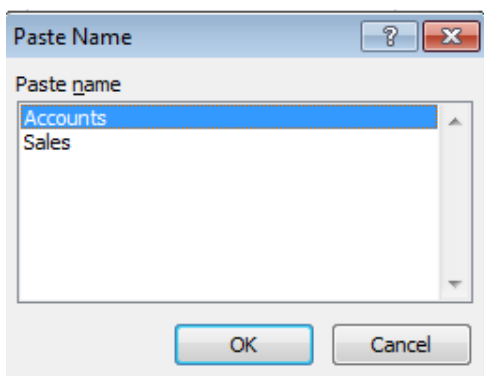
	A	B	C	D	E	F	G	H	I	J
11	September	\$ 57 806.72	\$ 59 555.79							
12	October	\$ 65 998.15	\$ 23 330.00							
13	November	\$ 54 007.50	\$ 32 220.46							
14	December	\$ 52 961.04	\$ 34 230.00							
15	January	\$ 67 310.62	\$ 36 920.63							
16	February	\$ 38 300.09	\$ 24 601.75							
17	Sum	\$ 678 045.04	\$ 426 849.27							
18	Max	\$ 71 973.28	\$ 67 070.11							
19	Min	\$ 38 300.09	\$ 11 119.30							
20	Average	\$ 56 503.75	\$ 35 570.77							

Tip 49: Quickly Accessing a List of Named Ranges

Once you have named the ranges in your Microsoft Excel worksheet, you may need to use them in such things as Formulae, Data Validation or Pasting a List. By pasting a list, you will get a list of the Named Ranges and which cells they refer to.

Applies To MS Excel 2003, 2007, 2010

1. To use in a Function:
 - a. Once you are at the desired point in the function (VLOOKUP – Table_array).
 - b. Press **F3**.
 - c. Select the desired Named Range.
 - d. Select **OK**.
2. To use in Data Validation:
 - a. Once you are at the desired point in the data validation e.g. Source dialogue box.
 - b. Press **F3**.
 - c. Select the desired Named Range.
 - d. Select **OK**.
3. To Paste a List on Named Ranges:
 - a. Select a cell in the worksheet where you would like the list to be pasted.
 - b. Press **F3**.
 - c. Select **Paste List**.

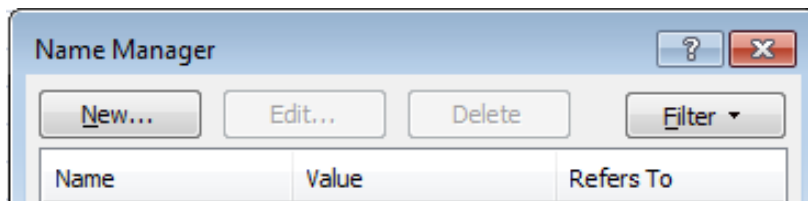


Tip 50: Naming a Range of Cells

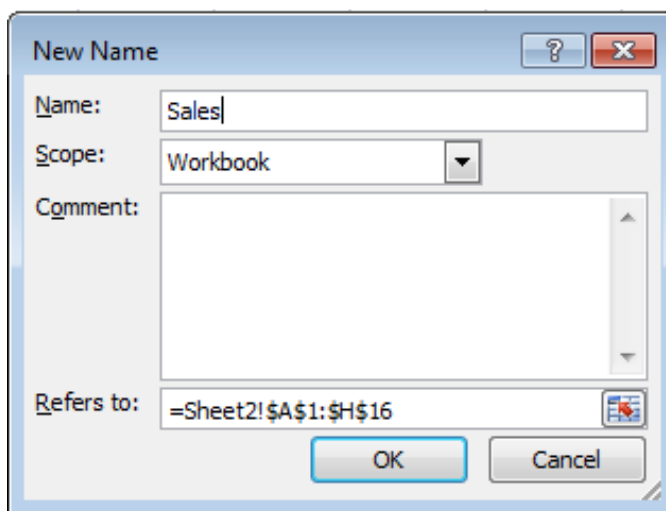
A range of cells can be given a name, which can then be used in place of the actual cell references in other formulae.

Applies To MS Excel 2003, 2007, 2010

1. Select the desired range of cells.
2. On the keyboard, **press Ctrl + F3**.
3. Select **New**.



4. In the Name box, enter in the desired Named Range.
5. In the Scope box, select where you would like the Named Range to be available.
6. In the Refers to box, ensure you have the correct range..
7. Select **OK**, Close.



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