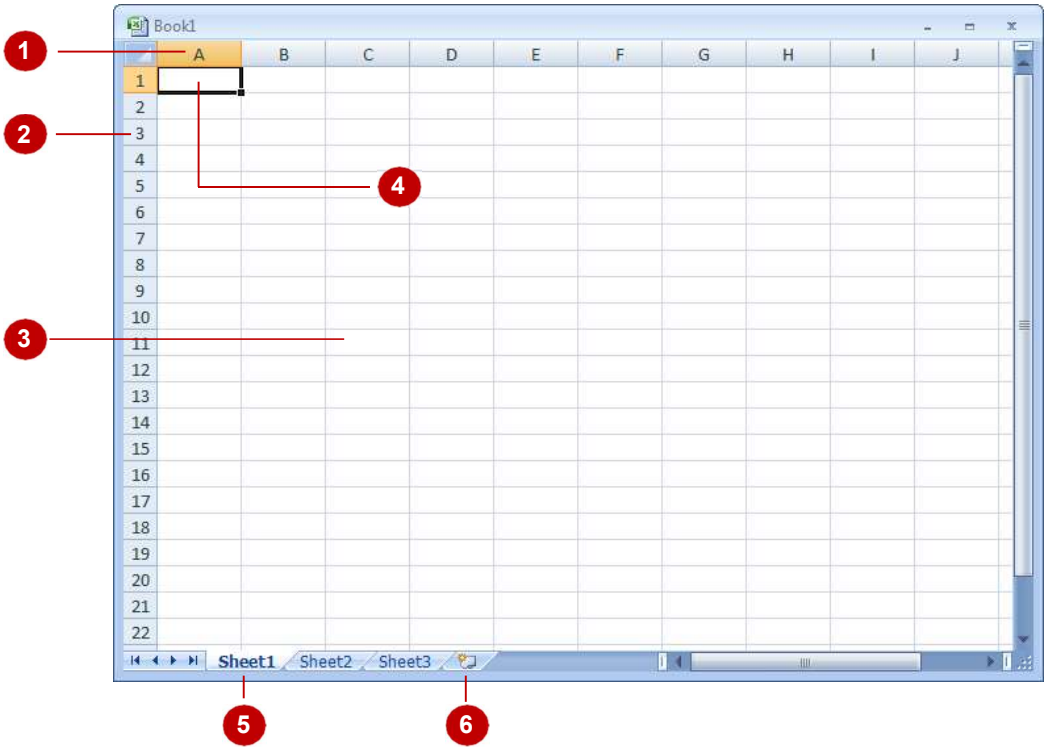
Excel Fundamentals

Contents

UNDERSTANDING WORKBOOKS

In Microsoft Excel the data you enter, whether it consists of numbers, text, or formulas, is stored in a file known as a ***workbook***. Workbooks are just like huge electronic books with pages (or ***sheets***) that have been ruled into columns and rows. Before using Excel it is helpful to know what the various parts and elements that make up a workbook are.



? A worksheet (or page) in a workbook contains 16,384 ***columns*** that are labelled using letters of the alphabet. The first column in a worksheet is labelled column ***A***, while the last is labelled ***XFD***

? A worksheet (or page) in a workbook contains 1,048,576 ***rows*** that are labelled using numbers from 1 to 1,048,576

3 Where a column and row intersect we get what is known as a ***cell***. You enter your data into these cells. Each cell in a worksheet can hold up to 32,767 characters – although it would be unrealistic to ever push it this far. Cells are referred to by their column and row labels. For example, in the screen above the cell we are pointing to is ***C11*** – this reference is known as the ***cell address*** and is most important as it is frequently used in commands and formulas

? When you start typing something, you want it to appear somewhere in the worksheet. As a consequence when the Status Bar shows ***Ready*** mode, at least one cell in the worksheet will be highlighted – this is known as the ***active cell***. In the screen above, the active cell is cell ***A1*** – notice that the column label and the row label also appears coloured to indicate the active cell. You can have more than one active cell – when this occurs you have what is known as a ***range***

A A workbook (as you would expect) is made up of pages known as ***worksheets***. You can have as many sheets in a workbook as your computer resources can accommodate. As a default, a new blank workbook normally has 3 worksheets labelled *Sheet1*, *Sheet2*, and *Sheet3*. Of course these labels are pretty boring and meaningless and can be changed to something more relevant

? The ***Insert Worksheet*** button here will insert another worksheet into the current workbook should you need it

NAVIGATING IN A FILE

Arrow Keys	Move one cell to the right, left, up or down
Tab	Move once cell to the right
Ctrl+Home	To beginning file
Ctrl+End	To end of typed information
Home	Beginning of a line
End	End of a line
Page Down	Down one screen
Page Up	Up one screen
F5	To a specific page
Scroll bars	Appear at the right and on the bottom of the screen. You may click the scroll arrows, drag the scroll box or click the scroll bar to move through the document.

TYPING TEXT OR NUMBERS INTO A WORKSHEET

Generally when you start a new spreadsheet project, the first task is to enter some headings into rows and columns. To type anything into a worksheet you need to make the cell into which you wish to enter the data active. This can be done in a number of ways but the most common is to click in it first before typing.

Try This Yourself:

Before you begin ensure that there is a blank workbook on the screen…

Click in cell ***A3*** to make this the active cell, type **Garden Settings** and press Enter

When you press Enter the next cell down automatically becomes the active cell. By the way, even though the text looks like it is in cells A3 and B3 it really only is in cell A3 – since there is nothing in B3, Excel allows the spill over to be displayed giving the illusion it is in 2 cells…

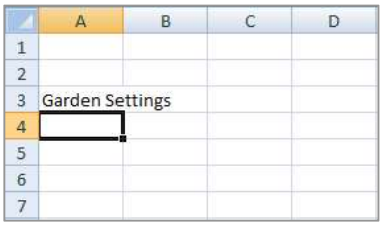
Type **Pool Covers** and press Enter

3 Repeat the above steps and enter the remaining text in column ***A*** as shown

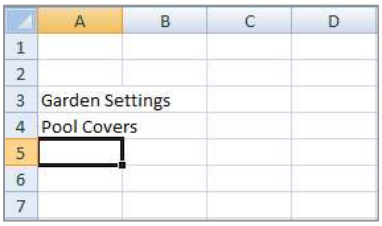
Click in cell ***B2*** to make this the active cell, type **UK** and press Tab

When you press Tab the cell to the right becomes the active cell…

A Enter the remaining text in row ***2*** as shown



1



2

3

	A	B	C	D	E
1					
2					
3	Garden Settings				
4	Pool Covers				
5	Fountains				
6	Large Tubs				
7	Fencing				
8					
9					

4

	A	B	C	D	E
1					
2		UK			
3	Garden Settings				
4	Pool Covers				
5	Fountains				
6	Large Tubs				
7	Fencing				
8					
9					

5

	A	B	C	D	E	F
1						
2		UK	AUS	NZ	SPAIN	
3	Garden Settings					
4	Pool Covers					
5	Fountains					
6	Large Tubs					
7	Fencing					
8						

For Your Reference…

To ***save a new document***:

1. Click on the ***File Tab*** and select **Save As**
2. Locate the storage folder in the ***Navigation pane***
3. Type a ***File name*** and click on **[Save]**

Handy to Know…

- In the exercise above we have named the workbook ***Garden Department Sales*** and filed it in ***C:\Course Files for Excel 2010***. Each time you start Excel it will most likely assume you want to file your workbooks in a folder called ***Documents*** which is associated with the user name you use on the computer.

TYPING SIMPLE FORMULAS IN A WORKSHEET

The whole idea behind Excel is to get it to perform calculations. In order for it to do this you need to type ***formulas*** in the worksheet. Usually these formulas reference existing numbers, or even other formulas, already in the worksheet using the cell addresses of these numbers rather than the actual value in them. Formulas must be typed beginning with an equal sign (**=**).

Try This Yourself:

Continue using the previous file with this exercise...

? Click in cell ***B8*** to make this the active cell

? Type **=B3+B4+B5+B6+B7** and examine what is happening on the screen

3 Press Tab to enter the formula and move to the next cell

Notice that a calculation has now been performed. We have entered a formula in B8 that says "add the values in B3, B4, B5, B6, and B7 and show them here"…

? Ensure that ***C8*** is the active cell, type **=SUM(C3:C7)** and press Tab

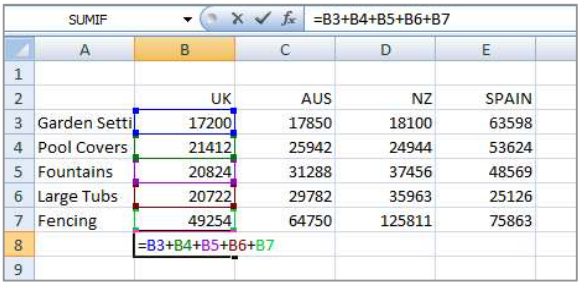
This is an alternative type of formula known as a "function". Again a calculation will appear in the cell…

A Click in cell ***B8*** and notice that the formula you typed appears in the Formula Bar, while the result of the calculation appears in the worksheet

? Repeat step ***5*** with cell ***C8***

A Click on the ***File Tab*** File and select **Save** to save the additions that have been made

2

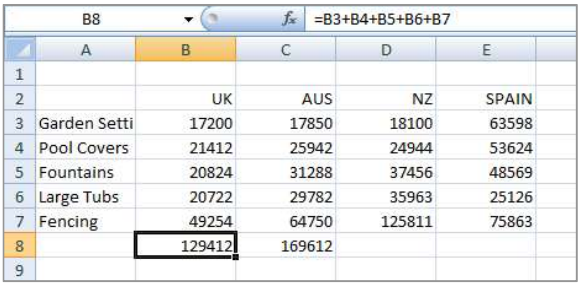


	A	B	C	D	E
1					
2		UK	AUS	NZ	SPAIN
3	Garden Setti	17200	17850	18100	63598
4	Pool Covers	21412	25942	24944	53624
5	Fountains	20824	31288	37456	48569
6	Large Tubs	20722	29782	35963	25126
7	Fencing	49254	64750	125811	75863
8		=B3+B4+B5+B6+B7			
9					

3

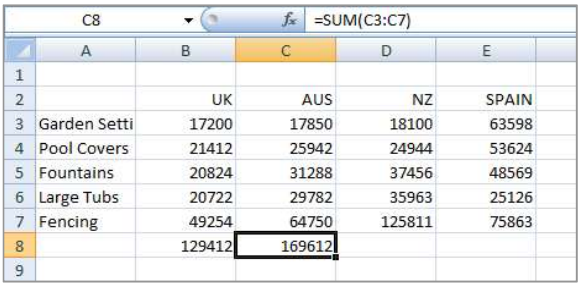
	A	B	C	D	E
1					
2		UK	AUS	NZ	SPAIN
3	Garden Setti	17200	17850	18100	63598
4	Pool Covers	21412	25942	24944	53624
5	Fountains	20824	31288	37456	48569
6	Large Tubs	20722	29782	35963	25126
7	Fencing	49254	64750	125811	75863
8		129412			
9					
10					

5



	A	B	C	D	E
1					
2		UK	AUS	NZ	SPAIN
3	Garden Setti	17200	17850	18100	63598
4	Pool Covers	21412	25942	24944	53624
5	Fountains	20824	31288	37456	48569
6	Large Tubs	20722	29782	35963	25126
7	Fencing	49254	64750	125811	75863
8		129412	169612		
9					

6



	A	B	C	D	E
1					
2		UK	AUS	NZ	SPAIN
3	Garden Setti	17200	17850	18100	63598
4	Pool Covers	21412	25942	24944	53624
5	Fountains	20824	31288	37456	48569
6	Large Tubs	20722	29782	35963	25126
7	Fencing	49254	64750	125811	75863
8		129412	169612		
9					

For Your Reference…

To ***enter a formula***:

1. Click the cell pointer on the desired cell and type the formula commencing with **=**
2. Press Enter, an arrow key or Tab to confirm the data entry and to move the cell pointer to another cell

Handy to Know…

Operators

+	**Addition**
-	**Subtraction**
*****	**Multiplication**
/	**Division**

FILLING A SERIES

A ***series*** refers to a sequence of ordered entries in adjacent cells, such as the days of the week or months of the year. The ***fill*** technique can be used to create these in a worksheet for you, reducing the amount of time taken for data entry, and ensuring that the spelling is correct. Excel provides days and months as special built-in ***series*** that you can access.

Try This Yourself:

Open File — *Before starting this exercise you MUST open the file E707 Filling_1.xlsx...*

Click on cell ***A4***

Move the mouse pointer to the small square (the ***fill handle***) at the bottom right corner of the cell until the mouse pointer appears as a thin, black cross

3 — Drag the mouse pointer to column ***F***

Excel will fill the range with the first six months of the year…

Click on cell ***A5*** and repeat steps ***2*** and ***3*** to create the series of months with their full names

You can also fill more than one row at a time…

A — Select the range ***A6:A12***

Repeat steps ***2*** and ***3*** to fill across to column ***F***

A — Examine each of the series created by the filling process

2

	A	B	C	D	E	F	G
1							
2							
3	**Normal Series**						
4	Jan						
5	January						
6	Mon						
7	Monday						
8	Quarter 1						
9	Qtr 1						
10	Q1						
11	1st Day						
12	Serial 002						

3

	A	B	C	D	E	F	G
1							
2							
3	**Normal Series**						
4	Jan	Feb	Mar	Apr	May	Jun	
5	January						
6	Mon						
7	Monday						
8	Quarter 1						
9	Qtr 1						
10	Q1						
11	1st Day						
12	Serial 002						

6

	A	B	C	D	E	F	G
1							
2							
3	**Normal Series**						
4	Jan	Feb	Mar	Apr	May	Jun	
5	January	February	March	April	May	June	
6	Mon	Tue	Wed	Thu	Fri	Sat	
7	Monday	Tuesday	Wednesda	Thursday	Friday	Saturday	
8	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Quarter 1	Quarter 2	
9	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	
10	Q1	Q2	Q3	Q4	Q1	Q2	
11	1st Day	2nd Day	3rd Day	4th Day	5th Day	6th Day	
12	Serial 002	Serial 003	Serial 004	Serial 005	Serial 006	Serial 007	
13							
14	**Growth Series**						

For Your Reference…

To ***fill*** a ***series***:

1. Click on the first cell in the series
2. Drag from the fill handle across as many columns as required

Handy to Know…

- As you drag the fill handle across, a ***tool tip*** appears below the fill pointer displaying the current value in the series. This is really handy when you want to end on a particular month, day or value.

INSERTING AND DELETING WORKSHEETS

Once you've decided on a structure for your workbook, you may find that there are some worksheets that can be ***deleted***. Alternatively, you may find that you need additional blank worksheets ***inserted***. However, remember that deletion of worksheets is permanent and can't be undone using ***Undo***, so always save your workbook before making these changes.

Try This Yourself:

Open File — *Before starting this exercise you MUST open the file E1324 Worksheet Techniques_1.xlsx…*

Examine the workbook – it currently contains one worksheet named ***Sheet1***

Click on the ***New Sheet*** icon at the end of the worksheet tabs

A new worksheet named Sheet2 will be inserted. You can also use the keyboard shortcut...

3 Press Shift + F11 to insert another new worksheet

This sheet is named Sheet3 and is inserted before the currently selected sheet. Now let's delete a sheet...

Right-click on the ***Sheet3*** worksheet tab to display the shortcut menu

A Select **Delete** to remove the worksheet

As the worksheet contains no data, the sheet will be deleted immediately. If a worksheet contains data, Excel will ask you to confirm your actions...

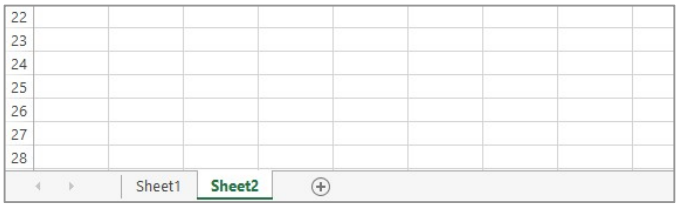
Repeat steps ***4*** and ***5*** to delete ***Sheet2***

1

22	*Motor Vehicles*	987	776	8,777	766	11,306
23	*Entertainment*	455	655	666	555	2,331
24						
25	**Overheads**	9,122	5,821	13,589	5,334	33,866
26						
27	**Total**	25,343	34,931	38,300	31,155	129,729
28						

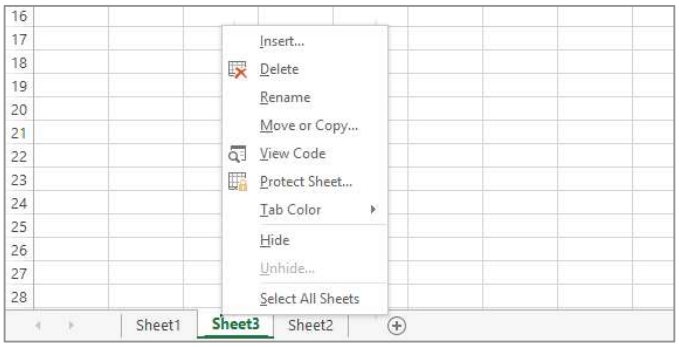
Sheet1

2



3

4



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For Your Reference…

To ***insert*** a ***new worksheet*** into a ***workbook***:

- Click on the ***New Sheet*** icon to the right of the worksheet tabs

To ***delete*** a ***worksheet*** from a ***workbook***:

- Right click on the worksheet tab, then select **Delete**

Handy to Know…

- To insert a worksheet between existing worksheets, right-click on the worksheet tab before which you want to insert a new sheet, then click on ***Insert*** to display the ***Insert*** dialog box. Select ***Worksheet*** and click on **[OK]**.

COPYING A WORKSHEET

Just as you can copy the contents of cells and ranges within a worksheet, you can ***duplicate*** worksheets within a workbook. This technique is ideal for replicating layouts. For example, if you have a budget workbook that contains data for several departments, you can create a worksheet for the first department and then copy it to create identical worksheets for other departments.

Try This Yourself:

Same File

Continue using the previous file with this exercise, or open the file E1324 Worksheet Techniques_1.xlsx...

Right-click on ***Sheet1*** to display the worksheet shortcut menu

Select **Move or Copy** to display the ***Move or Copy*** dialog box

3 Click on ***Create a copy*** so it appears ticked, then click on **[OK]**

The new worksheet is named Sheet1 (2). Let's create a "template" from this worksheet by deleting unwanted data...

Select the range ***B7:E9***, then press Del to clear it

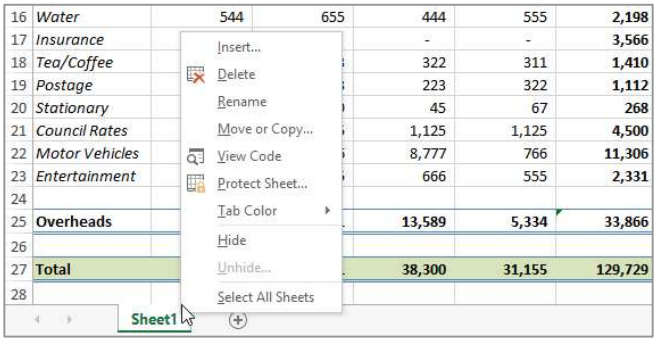
A Repeat step ***4*** to clear the ranges ***B14:E23***, ***G7:J9*** and ***G14:J23***, then press Ctrl + Home to return to cell ***A1***

Now we can copy this "template" to create additional worksheets...

Repeat steps ***1*** to ***3*** three times to create three copies of the *template* worksheet – this time without data

The final worksheet should be named Sheet1 (5)

1



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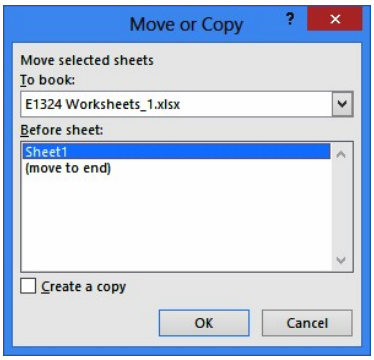

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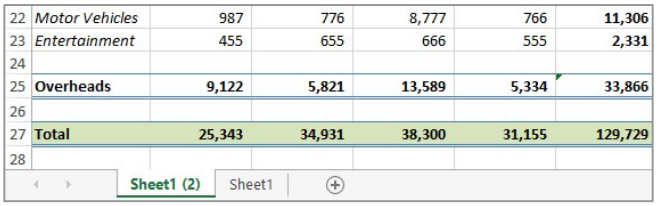

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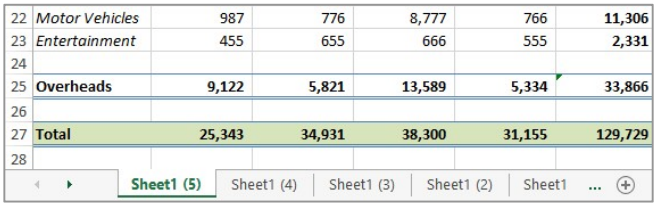


For Your Reference…

To ***copy*** a ***worksheet***:

1. Right-click on the worksheet to copy, then select ***Move or Copy***
2. Click on ***Create a copy*** so it appears ticked
3. Click on **[OK]**

Handy to Know…

- You can copy the current worksheet using the ***HOME*** tab by clicking on ***Format*** in the ***Cells*** group, then clicking on ***Move or Copy Sheet***.
- The ***Before sheet*** options in the ***Move or Copy*** dialog box allow you to position the copied worksheet where you want.

RENAMING A WORKSHEET

By default, Excel names worksheets as ***Sheet1***, ***Sheet2***, ***Sheet3***, etc. These names are fine if you are not planning to share the workbook, but changing these to something more relevant makes it much easier to understand the purpose of a worksheet. You can also adjust the horizontal scroll bar to make room for longer, more meaningful worksheet names.

Try This Yourself:

Same File — *Continue using the previous file with this exercise, or open the file E1324 Worksheet Techniques_2.xlsx...*

? Point to the vertical dots between the sheet names and the horizontal scroll bar, as shown

The pointer will change to a double-headed arrow...

? Click and drag the bar across to the right, to the end of column ***L***, then release the mouse button

3 Double-click on ***Sheet1 (5)*** to select the worksheet tab name

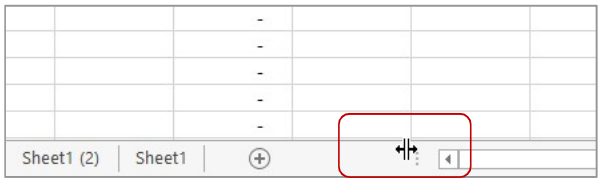
This will also place it into edit mode…

? Type **Comms**, then press Enter

A Repeat steps ***3*** and ***4*** to rename the other worksheets:

Sheet1 (4)	**Admin**
Sheet1 (3)	**Shop**
Sheet1 (2)	**IT**
Sheet1	**Maintenance**

1



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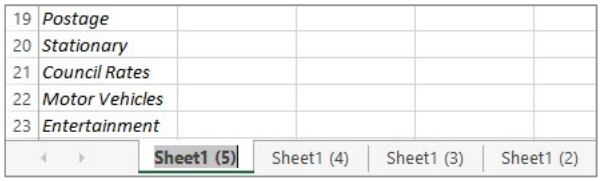

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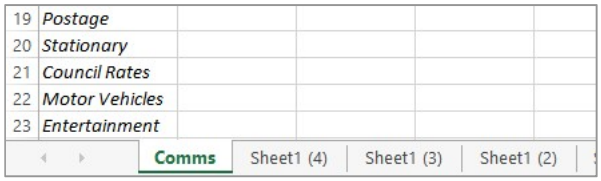


5

For Your Reference…

To ***rename*** a ***worksheet***:

1. Double click on the current name on the worksheet tab
2. Type the new name and press Enter

Handy to Know…

- You can rename a worksheet by right-clicking on the worksheet tab to display the shortcut menu and clicking on ***Rename***.
- A worksheet tab name can contain up to 31 characters including spaces, but it is better to keep it short and succinct.

MOVING OR COPYING A SHEET TO ANOTHER WORKBOOK

You can ***copy*** worksheets to other workbooks as required. For example, you might need to keep records for six different divisions – rather than send each division the entire set of records, you can copy their worksheet to another workbook and send them their data only. If worksheets exist in the other workbook, you will need to determine the order in which to place the copied worksheet.

Try This Yourself:

Same File — *Continue using the previous file with this exercise, or open the file E1324 Worksheet Techniques_6.xlsx...*

Click on the ***Maintenance*** worksheet tab

We'll copy this completed data to another workbook...

Right-click on the worksheet tab to display the shortcut menu, then click on ***Move or Copy*** to display the ***Move or Copy*** dialog box

3 — Click on the drop arrow for ***To book***, then select **(new book)**

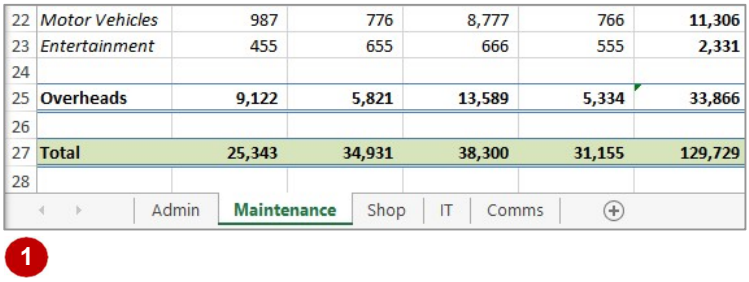
Click on ***Create a copy*** so it appears ticked

This will create a new workbook as well as making a copy of the worksheet...

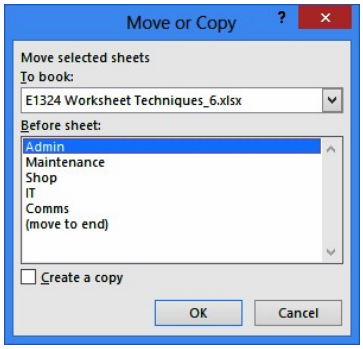
A — Click on **[OK]**

A new workbook will be created and Maintenance will be the only worksheet in the workbook…

Save the new workbook as ***Maintenance.xlsx***, then close it



1



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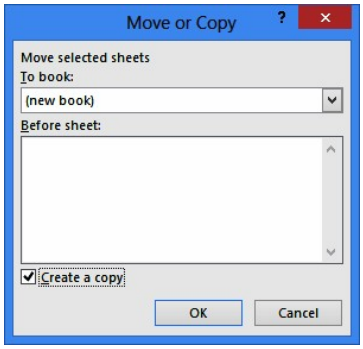
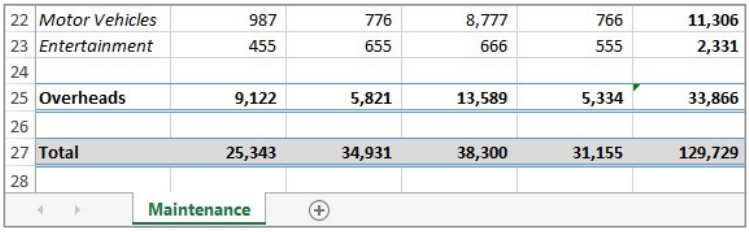


4



5

For Your Reference…

To ***copy*** a ***sheet*** to ***another workbook***:

1. Right click on the worksheet tab, then click on ***Move or Copy***
2. Select either ***(new book)*** or the name of another workbook in ***To book***
3. Tick ***Create a copy***, then click on **[OK]**

Handy to Know…

- To copy a worksheet into an existing workbook, make sure that you open the destination workbook first to ensure that it is listed in ***To book*** in the ***Move or Copy*** dialog box.

CHANGING WORKSHEET TAB COLOURS

To make it easier for you to distinguish between worksheets, Excel enables you to change the colours of worksheet tabs. This allows you, for example, to quickly distinguish between different financial years, departments or months. The ***active sheet*** appears as underlined in a gradient version of the selected colour, while inactive tabs will display a solid colour background.

Try This Yourself:

Same File — *Continue using the previous file with this exercise, or open the file E1324 Worksheet Techniques_7.xlsx...*

- Click on the ***Admin*** worksheet tab to select the worksheet
- Right-click on the worksheet tab to display the shortcut menu, then point to ***Tab colour***

  This will display a palette of colour options…

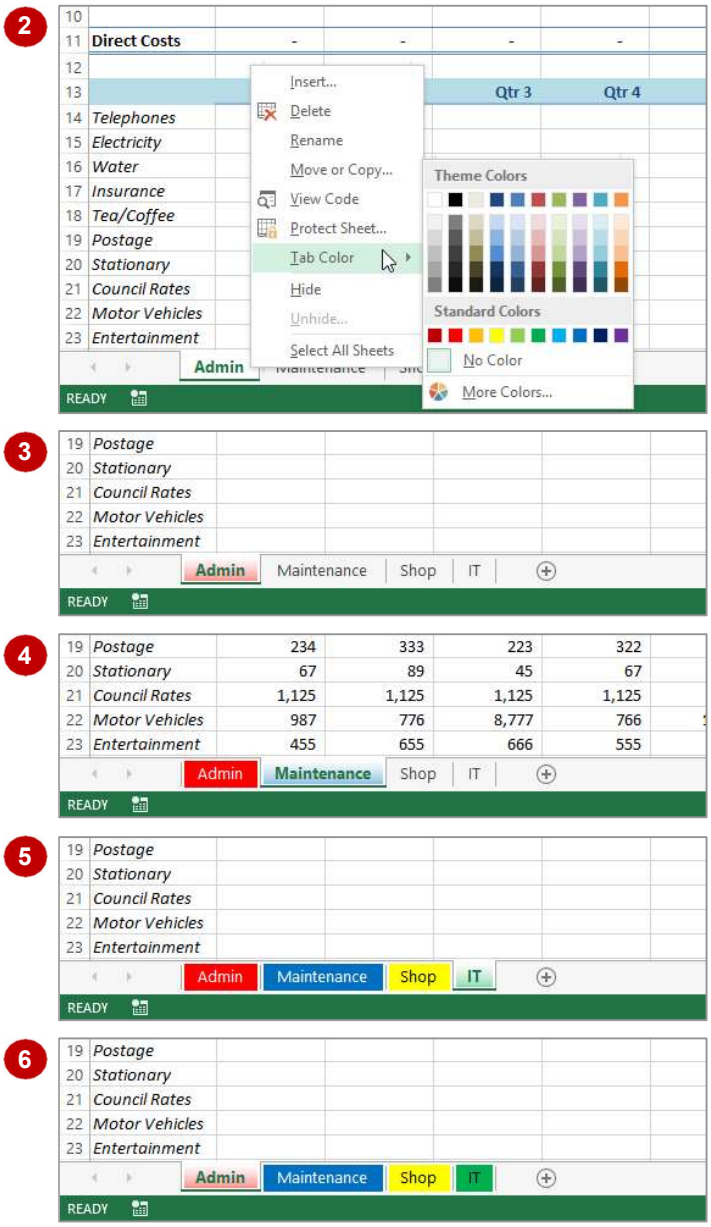
3. Click on ***Red*** under ***Standard colours*** to apply the colour to the tab
- Right-click on the ***Maintenance*** worksheet tab to display the shortcut menu, click on ***Tab colour***, then click on ***Blue*** under ***Standard colours***

  Notice how the Admin worksheet tab colour is now a solid rather than a gradient…

A. Repeat either technique to apply the following colours:

Shop	***Yellow***
IT	***Green***

- Click on the ***Admin*** worksheet tab to view the results



For Your Reference…

To ***change the colour*** of a ***worksheet tab***:

1. Right-click on the worksheet tab to display the shortcut menu
2. Point to ***Tab colour*** to display a palette of colour options
3. Click on the desired colour

Handy to Know…

- To apply the same colour to two or more sheets at once, select them first. Hold down Shift to select consecutive worksheets or hold down Ctrl to select non-consecutive worksheets.

GROUPING WORKSHEETS

Worksheet ***grouping*** enables you to make the same change at once to all selected worksheets. This feature is useful in situations where your worksheets have identical layouts or text. For example, if you want to format the heading for multiple worksheets, you simply ***group*** the worksheets, make a change to one worksheet and the other worksheets will reflect the change also.

Try This Yourself:

Same File

Continue using the previous file with this exercise, or open the file E1324 Worksheet Techniques_8.xlsx...

Click on the ***Admin*** worksheet tab, hold down Shift, then click on the ***Shop*** worksheet tab to select the first three worksheets

Click in cell ***A1*** to select the cell

3 Click on the ***HOME*** tab, then click on ***Italics*** in the ***Font*** group

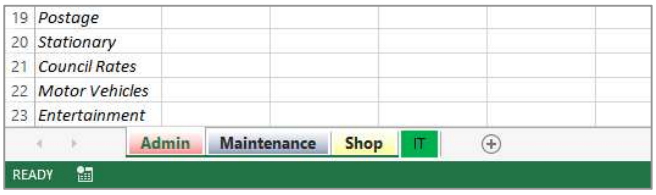
This will italicise the text in cell A1 on this and all other worksheets in the group…

Click on the ***Maintenance*** worksheet tab, then the ***Shop*** worksheet tab to see that the changes have been applied here

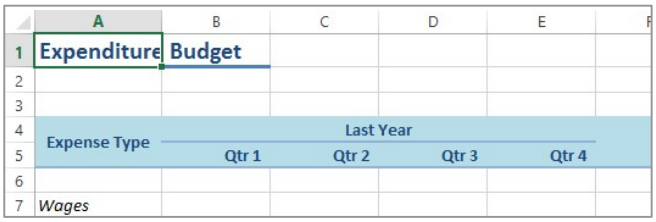
A Click on the ***IT*** worksheet tab to see that the changes have *not* been applied to this worksheet

Since this was not part of the grouped sheets the changes have not been applied here. Notice too that clicking on a tab deselects the previous grouping

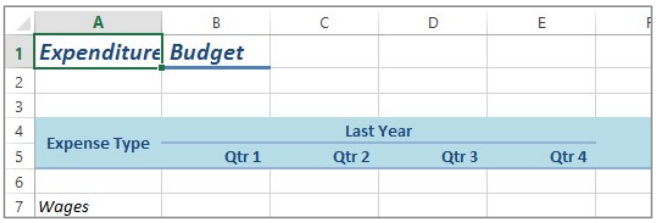
1



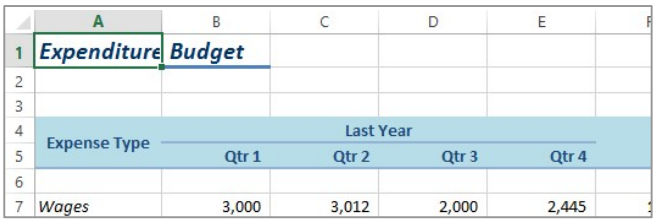
2



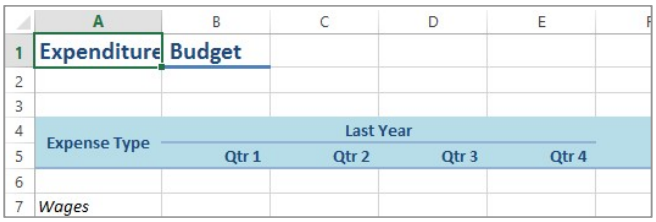
3



4



5



For Your Reference…

To ***group worksheet tabs***:

1. Click on the first worksheet tab
2. Hold down Shift, then click on the last worksheet tab

Handy to Know…

- To deselect a group, either click on the tab of a worksheet that is not in the group, or right-click on a tab and select **Ungroup Sheets**.
- Most formatting and text changes done on a worksheet in a group will be applied to other sheets in that grouping.

FREEZING ROWS AND COLUMNS

When you lay out your data in rows and columns, it is most likely that your headings end up at the top or to the left of your data. If you have a large amount of data, you may find that when you scroll across or down to particular cells, the headings scroll out of view. This problem can be resolved by ***freezing*** the rows and/or columns that hold the headings.

Try This Yourself:

Same File — *Continue using the previous file with this exercise, or open the file E1324 Worksheet Techniques_11.xlsx...*

Click on the ***Maintenance*** worksheet tab, then spend a few moments examining the worksheet

Depending on your screen, it is possible that you won't be able to see all of the figures on the screen at once...

Click in cell ***B6*** to select the cell

3. Click on the ***VIEW*** tab, click on ***Freeze Panes*** in the ***Window*** group, then select **Freeze Panes**

Thin black lines appear above and to the left of the selected cell. This indicates that the areas above and to the left are frozen...

Scroll to the right until ***Yearly Average*** in column ***L*** appears next to column ***A***

A. Scroll down until ***Overheads*** in row ***25*** is below row ***5***

Press Ctrl + Home to move to cell ***B6*** – this is our temporary home cell, as the cells above and to the left are frozen

A. On the ***VIEW*** tab, click on ***Freeze Panes*** in the ***Freeze Panes*** group, then click on ***Unfreeze Panes*** to unfreeze the rows and columns

	A	B	C	D	E	F
1	***Expenditure Budget***					
2						
3						
4	Expense Type	Last Year				Total
5		Qtr 1	Qtr 2	Qtr 3	Qtr 4	
6						
7	*Wages*	3,000	3,012	2,000	2,445	**10,457**
8	*Raw Materials*	12,963	25,632	22,445	23,232	**84,272**
9	*Freight*	258	466	266	144	**1,134**
10						
11	**Direct Costs**	**16,221**	**29,110**	**24,711**	**25,821**	**95,863**
12						

3

	A	L	M	N	O	P	Q	R
1	***Expenditure***							
2								
3								
4	Expense Type	Yearly Average						
5								
6								
7	*Wages*	*10,693*						
8	*Raw Materials*	*95,624*						
9	*Freight*	*3,257*						
10								
11	**Direct Costs**	**109,573**						
12								

4

	A	L	M	N	O	P	Q	R
1	***Expenditure***							
2								
3								
4	Expense Type	Yearly Average						
5								
25	**Overheads**	**29,900**						
26								
27	**Total**	**139,473**						
28								
29								
30								
31								

5

For Your Reference…

To ***freeze panes*** in a ***worksheet***:

1. Click in the cell below and to the right of the area you want to freeze/unfreeze
2. Click on the ***VIEW*** tab
3. Click on ***Freeze Panes*** in the ***Window*** group, then select **Freeze Panes**

Handy to Know…

- If you want to freeze only the rows above the selected cell (leaving all columns unfrozen), select the cell in column ***A*** of that row – e.g. to freeze rows ***1*** to ***6***, click in cell ***A7***. The same applies to freezing only columns and leaving the rows unfrozen: select the cell in row ***1***.

SELECTING RANGES

A ***contiguous range*** is any group of selected cells that form either a square or a rectangle. A single cell that is selected is also considered to be a range. Ranges can be selected using the mouse, the keyboard or a combination of the two. Once selected, you can use the range for input, or apply formatting, or copy the cells as required.

Try This Yourself:

Open File — *Before starting this exercise you MUST open the file E705 Ranges_1.xlsx...*

? Click on cell ***B7*** to select it

Because it is the only cell selected it is the active cell…

? Hold down the Shift key and click in cell ***E10***

Even though a range has been selected, the active cell is B7 – it appears in a different colour and its contents appear in the formula bar. You can keep the range selected and change the active cell within the range using the keyboard…

3 Press Enter several times and watch the various cells become active through the selection

? Click in cell ***B7***, hold down the mouse button, and drag down to cell ***C10*** before releasing the mouse

The previous selection has disappeared and the range B7 to C10 is now selected…

A Press Ctrl and Home to deselect the selected cells and return the cell pointer to cell ***A1***

1

	A	B	C	D	E	F
1	**Alpheius Global Enterprises**					
2	**Annual Sales**					
3	**Health Services**					
4						
5		**Week 1**	**Week 2**	**Week 3**	**Week 4**	**Week 5**
6	***Midweek***					
7	**Tuesday**	21,412	25,942	24,944	53,624	35,241
8	**Wednesday**	20,824	31,288	37,456	48,569	45,214
9	**Thursday**	20,722	29,782	35,963	25,126	75,963
10	**Friday**	49,254	64,750	125,811	75,863	15,429
11						
12	**Subtotal**	**112,212**	**151,762**	**224,174**	**203,182**	**171,847**
13						

2

		Week 1	Week 2	Week 3	Week 4	Week 5
6	***Midweek***					
7	**Tuesday**	21,412	25,942	24,944	53,624	35,241
8	**Wednesday**	20,824	31,288	37,456	48,569	45,214
9	**Thursday**	20,722	29,782	35,963	25,126	75,963
10	**Friday**	49,254	64,750	125,811	75,863	15,429
12	**Subtotal**	**112,212**	**151,762**	**224,174**	**203,182**	**171,847**

3

		Week 1	Week 2	Week 3	Week 4	Week 5
6	***Midweek***					
7	**Tuesday**	21,412	25,942	24,944	53,624	35,241
8	**Wednesday**	20,824	31,288	37,456	48,569	45,214
9	**Thursday**	20,722	29,782	35,963	25,126	75,963
10	**Friday**	49,254	64,750	125,811	75,863	15,429
12	**Subtotal**	**112,212**	**151,762**	**224,174**	**203,182**	**171,847**

4

		Week 1	Week 2	Week 3	Week 4	Week 5
6	***Midweek***					
7	**Tuesday**	21,412	25,942	24,944	53,624	35,241
8	**Wednesday**	20,824	31,288	37,456	48,569	45,214
9	**Thursday**	20,722	29,782	35,963	25,126	75,963
10	**Friday**	49,254	64,750	125,811	75,863	15,429
12	**Subtotal**	**112,212**	**151,762**	**224,174**	**203,182**	**171,847**

For Your Reference…

To ***select ranges*** with the ***mouse***:

1. Click in the left-most cell of the range
2. Hold down the Shift key and click in the last cell, Or
3. Drag the mouse pointer to the bottom right corner of the range

Handy to Know…

- When a range has been selected it can be used as an ***input range***. You can then enter data into the active cell and move the active cell to either the cell below by pressing Enter, or the adjacent cell by pressing Tab.

SELECTING ROWS

If you want to make changes to an ***entire row***, such as bolding all of the headings in a row or changing the font of all the cell entries, you must first select the row. This is done by clicking on the row header to the left of the row. Remember that any changes you make will apply to every cell in the row all the way across to column XFD, so be careful!

Try This Yourself:

Same File — *Continue using the previous file with this exercise, or open the file E705 Ranges_1.xlsx...*

Press Ctrl + Ctrl to make cell ***A1*** the active cell

Move the mouse pointer to the row heading for row ***5***

Notice that the mouse pointer changes to a black arrow that points towards the row…

3 — Click once on row heading ***5*** to select the entire row

Click in cell ***B7***and press Enter + Enter

This is the key combination for selecting an entire row…

A — Click on the row header for row ***7*** to select this row

Hold down Ctrl and click on the row header for row ***10***

All rows from 7 to 10 will be selected…

A — Click in the row header for row ***5***, then hold down the left mouse button and drag down the row headers to row ***10***

This is another technique for selecting rows, but it does require a steady hand!

2

	A	B	C	D	E
1	**Alpheius Global Enterprises**				
2	**Annual Sales**				
3	**Health Services**				
4					
5		**Week 1**	**Week 2**	**Week 3**	**Week 4**
6	***Midweek***				
7	**Tuesday**	21,412	25,942	24,944	53,624
8	**Wednesday**	20,824	31,288	37,456	48,569
9	**Thursday**	20,722	29,782	35,963	25,126
10	**Friday**	49,254	64,750	125,811	75,863

3

4					
5		**Week 1**	**Week 2**	**Week 3**	**Week 4**
6	***Midweek***				
7	**Tuesday**	21,412	25,942	24,944	53,624
8	**Wednesday**	20,824	31,288	37,456	48,569
9	**Thursday**	20,722	29,782	35,963	25,126
10	**Friday**	49,254	64,750	125,811	75,863

4

4					
5		**Week 1**	**Week 2**	**Week 3**	**Week 4**
6	***Midweek***				
7	**Tuesday**	21,412	25,942	24,944	53,624
8	**Wednesday**	20,824	31,288	37,456	48,569
9	**Thursday**	20,722	29,782	35,963	25,126
10	**Friday**	49,254	64,750	125,811	75,863

6

4					
5		**Week 1**	**Week 2**	**Week 3**	**Week 4**
6	***Midweek***				
7	**Tuesday**	21,412	25,942	24,944	53,624
8	**Wednesday**	20,824	31,288	37,456	48,569
9	**Thursday**	20,722	29,782	35,963	25,126
10	**Friday**	49,254	64,750	125,811	75,863

7

4					
5		**Week 1**	**Week 2**	**Week 3**	**Week 4**
6	***Midweek***				
7	**Tuesday**	21,412	25,942	24,944	53,624
8	**Wednesday**	20,824	31,288	37,456	48,569
9	**Thursday**	20,722	29,782	35,963	25,126
10	**Friday**	49,254	64,750	125,811	75,863

For Your Reference…

To ***select*** an entire ***row***:

1. Click on the row header of the row that you want to select

OR

1. Click in any cell in the row and press Home + Shift

Handy to Know…

- When ***every cell*** in a row or column is selected, the corresponding row or column header is filled in dark blue. When only ***some*** of the cells are selected, the row or column header is filled in orange. These indicators help you locate the active cell(s) on the worksheet.

SELECTING COLUMNS

If you want to make changes to an ***entire column***, such as bolding all of the headings in a column or changing the font of all the cell entries, you must first select the column. This is done by clicking on the column header directly above the column. Remember that any changes you make will apply to every cell in the column all the way down to row 1,048,576!

Try This Yourself:

Same File — *Continue using the previous file with this exercise, or open the file E705 Ranges_1.xlsx...*

? Press Space + Shift to make cell ***A1*** the active cell

? Move the mouse pointer to the column heading for column ***B***

Notice that the mouse pointer changes to a black arrow pointing down the column…

3 Click once to select the column

This time the row headers change to orange to indicate that at least one cell (but not all) in each row is selected…

? Click in cell ***D6*** and press Shift + Space

This key combination also selects an entire column…

A Click on the column header for column ***B*** to select it

? Hold down Ctrl and click on the column header for column ***D***

This time, columns B, C, and D are all selected…

A Click in the column header for column ***A***, then hold down the left mouse button and drag the mouse pointer across the column headings to column ***E***

2

	A	B	C	D	E	F
1	**Alpheius Global Enterprises**					
2	**Annual Sales**					
3	**Health Services**					
4						

3

	A	B	C	D	E	F
1	**Alpheius Global Enterprises**					
2	**Annual Sales**					
3	**Health Services**					
4						
5		**Week 1**	**Week 2**	**Week 3**	**Week 4**	**Week**
6	***Midweek***					
7	**Tuesday**	21,412	25,942	24,944	53,624	35
8	**Wednesday**	20,824	31,288	37,456	48,569	45
9	**Thursday**	20,722	29,782	35,963	25,126	75
10	**Friday**	49,254	64,750	125,811	75,863	15
11						

4

	A	B	C	D	E	F
1	**Alpheius Global Enterprises**					
2	**Annual Sales**					
3	**Health Services**					
4						
5		**Week 1**	**Week 2**	**Week 3**	**Week 4**	**Week**
6	***Midweek***					
7	**Tuesday**	21,412	25,942	24,944	53,624	35
8	**Wednesday**	20,824	31,288	37,456	48,569	45
9	**Thursday**	20,722	29,782	35,963	25,126	75
10	**Friday**	49,254	64,750	125,811	75,863	15
11						

6

	A	B	C	D	E	F
1	**Alpheius Global Enterprises**					
2	**Annual Sales**					
3	**Health Services**					
4						
5		**Week 1**	**Week 2**	**Week 3**	**Week 4**	**Week**
6	***Midweek***					
7	**Tuesday**	21,412	25,942	24,944	53,624	35
8	**Wednesday**	20,824	31,288	37,456	48,569	45
9	**Thursday**	20,722	29,782	35,963	25,126	75
10	**Friday**	49,254	64,750	125,811	75,863	15
11						

For Your Reference…

To ***select*** an entire ***column***:

1. Click on the column heading of the column that you want to select

OR

1. Click in any cell in the column and press Home + Ctrl

Handy to Know…

- Make sure that you check your worksheet carefully after you've made changes to entire columns. Remember that all of the cells in that column are affected – even those in rows below the visible area.

UNDERSTANDING FORMATTING

In Excel there are always two aspects to a number: how the number presents on the screen (known as ***formatting***) and the underlying value of the number. Take 2% as an example – on the screen it is formatted to appear as a number with a percentage sign, whereas the real value in the cell is .02.

Number Formatting – The *Veil* Placed Over Numbers

All calculations in Excel are performed using numbers – this is only logical. So, when you want to perform a calculation, you type the numbers in various cells, then create formulas to reference those numbers. How do you show what those numbers represent? For example, how do you show you are working with *currency*, or *percentages*, or even *dates* (which in Excel are really *numbers*)?

Excel allows you to show these representations using ***number formatting***. With number formatting you change the way a number looks so that it makes immediate sense to the reader of your worksheet. The underlying value of number, however, remains unchanged. For example, instead of showing sales tax in a worksheet as ***.1*** you show it as ***10%***, to show ***12889.95*** as currency it would appears ***$12,889.95*** or ***€12,889.95*** (depending upon the currency you are working with), and to show ***44104*** as a date you show it as ***30-Sep-2020*** (remember, dates are actually *numbers* representing the number of days from January 1, 1900).

The following worksheet contains formatted numbers:

	A	B	C	D	E	F	G	H	I
1	**Sales Earnings**								
2									
3	**Employee No**	**First Name**	**Last Name**	**Date Started**	**Height (Mtr)**	**Weight (Kg)**	**Total Sales**	**Com'n %**	**Commission**
4	2344	John	Smith	03-Oct-03	1 6/7	69.30	$8,220,266.00	2%	164,405.32
5	3433	Mary	Henry	12-Apr-04	2 1/9	75.22	$12,771,833.00	2%	255,436.66
6	3233	Harry	Ulin	02-Mar-99	1 4/5	87.90	$35,324,399.00	2%	706,487.98
7	5445	Jim	Harrison	04-Jul-92	2 1/5	95.66	$17,338,194.00	2%	346,763.88
8	3333	Larry	Graham	14-May-05	2	89.44	$9,670,630.00	2%	193,412.60
9	4444	David	Jenkins	06-Feb-07	1 2/3	68.30	$6,152,310.00	3%	184,569.30
10	3332	Ian	Quinn	26-Mar-95	1 6/7	69.32	$36,973,644.00	3%	1,109,209.32
11	9887	Horace	Smyth	23-Dec-01	1 7/9	80.48	$10,755,146.00	3%	322,654.38
12	4646	Yolanda	Victor	05-Jun-89	1 5/8	80.52	$5,061,883.00	4%	202,475.32
13	5555	Quentin	Engels	03-Apr-01	1 8/9	78.40	$13,329,586.00	5%	666,479.30
14									

With the formatting removed from the numbers the worksheet looks as follows:

	A	B	C	D	E	F	G	H	I
1	**Sales Earnings**								
2									
3	**Employee No**	**First Name**	**Last Name**	**Date Started**	**Height (Mtr)**	**Weight (Kg)**	**Total Sales**	**Com'n %**	**Commission**
4	2344	John	Smith	37897	1.85	69.3	8220266	0.02	164405.32
5	3433	Mary	Henry	38089	2.1	75.22	12771833	0.02	255436.66
6	3233	Harry	Ulin	36221	1.797	87.9	35324399	0.02	706487.98
7	5445	Jim	Harrison	33789	2.21	95.66	17338194	0.02	346763.88
8	3333	Larry	Graham	38486	1.935	89.44	9670630	0.02	193412.6
9	4444	David	Jenkins	39119	1.65	68.3	6152310	0.03	184569.3
10	3332	Ian	Quinn	34784	1.862	69.32	36973644	0.03	1109209.32
11	9887	Horace	Smyth	37248	1.77	80.48	10755146	0.03	322654.38
12	4646	Yolanda	Victor	32664	1.62	80.52	5061883	0.04	202475.32
13	5555	Quentin	Engels	36984	1.9	78.4	13329586	0.05	666479.3
14									

Formatting can also be applied as you type. For example, if you type ***30/9/2020*** Excel will place the number ***44104*** in the cell but will format this number as a date and show it as you typed it. There are also a range of number formatting options on the ribbon that allow you to apply formatting to numbers after they have been entered into a worksheet.

APPLYING GENERAL FORMATTING

The ***Number Format*** command in the ***Number*** group on the ***HOME*** tab contains a drop arrow that provides a gallery of the more commonly used number formats. You can apply these formats easily and quickly to a selected cell or range of cells in the worksheet.

Try This Yourself:

Open File *Before starting this exercise you MUST open the file E1315 Number Formatting_1.xlsx…*

Click in cell ***D4***, hold down Shift, then click in cell ***D13*** to select the range containing dates

Click on the ***HOME*** tab, then click on the drop arrow for ***Number Format*** in the ***Number*** group to see a gallery of number formats

3 Click on ***Long Date*** to make the short dates in the selected range appear as long dates

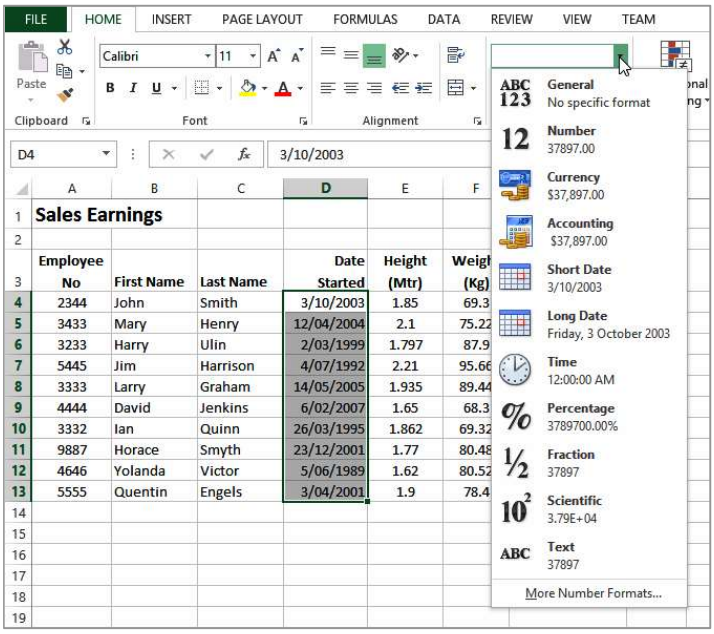
Click in cell ***E4***, hold down Shift, then click in cell ***E13*** to select the range containing units of measure

A Click on the drop arrow for ***Number Format***, then select **Number** to display these as numbers with ***2*** decimal places

Repeat the above steps to change ***G4:G13*** to **Currency**

A Repeat the above steps and change the following ranges as shown:

H4:H14 Percentage
I4:I4 Accounting
G15:I15 Currency



Sales Earnings

Employee No	First Name	Last Name	Date Started	Height (Mtr)	Weigh (Kg)
2344	John	Smith	3/10/2003	1.85	69.3
3433	Mary	Henry	12/04/2004	2.1	75.22
3233	Harry	Ulin	2/03/1999	1.797	87.9
5445	Jim	Harrison	4/07/1992	2.21	95.66
3333	Larry	Graham	14/05/2005	1.935	89.44
4444	David	Jenkins	6/02/2007	1.65	68.3
3332	Ian	Quinn	26/03/1995	1.862	69.32
9887	Horace	Smyth	23/12/2001	1.77	80.48
4646	Yolanda	Victor	5/06/1989	1.62	80.52
5555	Quentin	Engels	3/04/2001	1.9	78.4

2

Date Started	Height (Mtr)	Weight (Kg)	Total Sales	Com'n %	Commission
Friday, 3 October 2003	1.85	69.3	$8,220,266.00	2.00%	$ 164,405.32
Monday, 12 April 2004	2.10	75.22	$12,771,833.00	2.00%	$ 255,436.66
Tuesday, 2 March 1999	1.80	87.9	$35,324,399.00	2.00%	$ 706,487.98
Saturday, 4 July 1992	2.21	95.66	$17,338,194.00	2.00%	$ 346,763.88
Saturday, 14 May 2005	1.94	89.44	$9,670,630.00	2.00%	$ 193,412.60
Tuesday, 6 February 2007	1.65	68.3	$6,152,310.00	3.00%	$ 184,569.30
Sunday, 26 March 1995	1.86	69.32	$36,973,644.00	3.00%	$ 1,109,209.32
Sunday, 23 December 2001	1.77	80.48	$10,755,146.00	3.00%	$ 322,654.38
Monday, 5 June 1989	1.62	80.52	$5,061,883.00	4.00%	$ 202,475.32
Tuesday, 3 April 2001	1.90	78.4	$13,329,586.00	5.00%	$ 666,479.30
			$155,597,891.00		$4,151,894.06

7

For Your Reference…

To ***apply general formatting*** to ***numbers***:

1. Select the range to format
2. Click on the ***HOME*** tab, then click on the drop arrow for ***Number Format*** in the ***Number*** group
3. Click on the desired number format

Handy to Know…

- Excel may appear to round values up or down as necessary – however, the value in the cell does not change. Sometimes you'll see minor rounding discrepancies.
- The ***Currency*** format shows the currency format and symbol appropriate to the country your computer is configured for.

CHANGING FONTS

The appearance that you choose for your text is referred to as the ***font*** or ***typeface***. Font traditionally refers to a combination of typeface, style and size in points (e.g. Arial Bold 12 pt).

In Excel 2007, ***font*** just refers to the typeface or shape of the letters. Typical classic fonts include Times New Roman, Arial, Century Gothic and COPPERPLATE.

Try This Yourself:

Same File *Continue using the previous file with this exercise, or open the file E722 Font Formatting_1.xls...*

Click in cell ***A1*** to make the cell with the main heading the active cell

Click on the drop arrow next to the ***Font*** command Space in the ***Font*** group on the ***Home*** tab to display a gallery of available fonts

3 Point to **Arial Narrow**, then **Book Antiqua**, **Garamond** and **Gill Sans MT**

If you don't have these fonts, try different ones. As you point to each font, the preview will change...

Scroll to and click on *Comics Sans MS*, or another font of your choice if you don't have this one

This time the font formatting has changed in the cell and is no longer just a preview – it won't change again unless you make another font selection.

1

	A	B	C	D
1	Alpheius Global Enterprises			
2	Revenue			
3				
4		London	Dublin	Melbourne
5				
6	January	1,050,254	1,547,000	1,488,369
7	February	1,524,294	1,685,548	1,599,854
8	March	3,521,487	2,985,448	2,741,221
9	1st Quarter	6,096,035	6,217,996	5,829,444
10				

4

	A	B	C	D
1	Alpheius Global Enterprises			
2	Revenue			
3				
4		London	Dublin	Melbourne
5				
6	January	1,050,254	1,547,000	1,488,369
7	February	1,524,294	1,685,548	1,599,854
8	March	3,521,487	2,985,448	2,741,221
9	1st Quarter	6,096,035	6,217,996	5,829,444
10				

For Your Reference…

To ***apply font formatting***:

1. Select the text
2. Click on the drop arrow Shift for ***Font***
3. Point to a font to preview it
4. Click on the font to apply it

Handy to Know…

- You can jump directly to a font. For example, if you want to preview Garamond, click on the name of the font in the ***Font*** command and press Ctrl. Excel will jump to the fonts that start with ***G*** and ***Live Preview*** will display the text temporarily. Keep typing the name until you reach the required font.

CHANGING FONT SIZE

One way that text can be emphasised is by changing the ***size*** of the font. For example, if your normal text is 11 pt, you may like to make the headings 13 pt or larger. Font size may also be changed for small detailed items, such as comments or a caption. Main headings in a worksheet usually appear in a slightly larger font size compared to the rest of the data.

Try This Yourself:

Same File *Continue using the previous file with this exercise, or open the file E722 Font Formatting_2.xlsx...*

Click in cell ***A1*** to make the cell with the main heading the active cell

Click on the drop arrow next to the ***Font Size*** command Space in the ***Font*** group on the ***Home*** tab to display a gallery of available sizes

3 Point to various sizes and notice how ***Live Preview*** shows you how the heading will look

Click on ***16*** to change the heading to ***16*** pt

You can also change the font size of parts of a document, and you can use the Mini toolbar...

A Click in cell ***A2***

Click with the right-mouse button to display the mini-toolbar and the shortcut menu

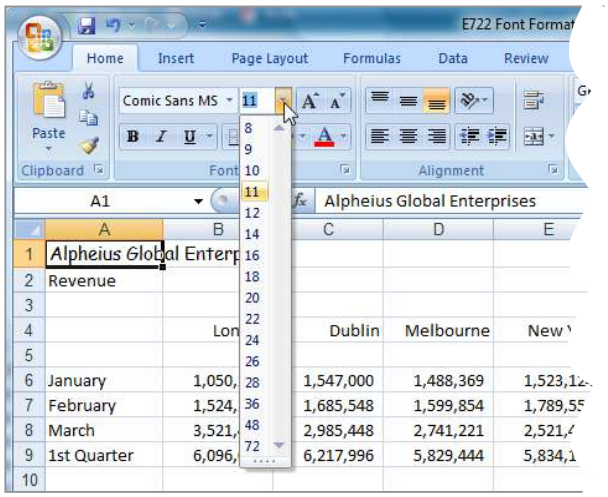
A Click on the drop arrow next to ***Font Size*** Calibri and click on ***14***

Click in cell ***A3*** to hide the toolbar

1

	A	B	C	D	E
1	Alpheius Global Enterprises				
2	Revenue				
3					
4		London	Dublin	Melbourne	New York

2



	A	B	C	D	E
1	Alpheius Global Enterp				
2	Revenue				
3					
4		Lon		Dublin	Melbourne
5					
6	January	1,050,		1,547,000	1,488,369
7	February	1,524,		1,685,548	1,599,854
8	March	3,521,		2,985,448	2,741,221
9	1st Quarter	6,096,		6,217,996	5,829,444
10					

8

	A	B	C	D	E
1	Alpheius Global Enterprises				
2	Revenue				
3					
4		London	Dublin	Melbourne	New York
5					
6	January	1,050,254	1,547,000	1,488,369	1,523,124
7	February	1,524,294	1,685,548	1,599,854	1,789,552
8	March	3,521,487	2,985,448	2,741,221	2,521,447
9	1st Quarter	6,096,035	6,217,996	5,829,444	5,834,123
10					

For Your Reference…

To ***change font size***:

1. Select the cell or range that you want to change
2. Click on the drop arrow of ***Font Size***
3. Click on the required font size

Handy to Know…

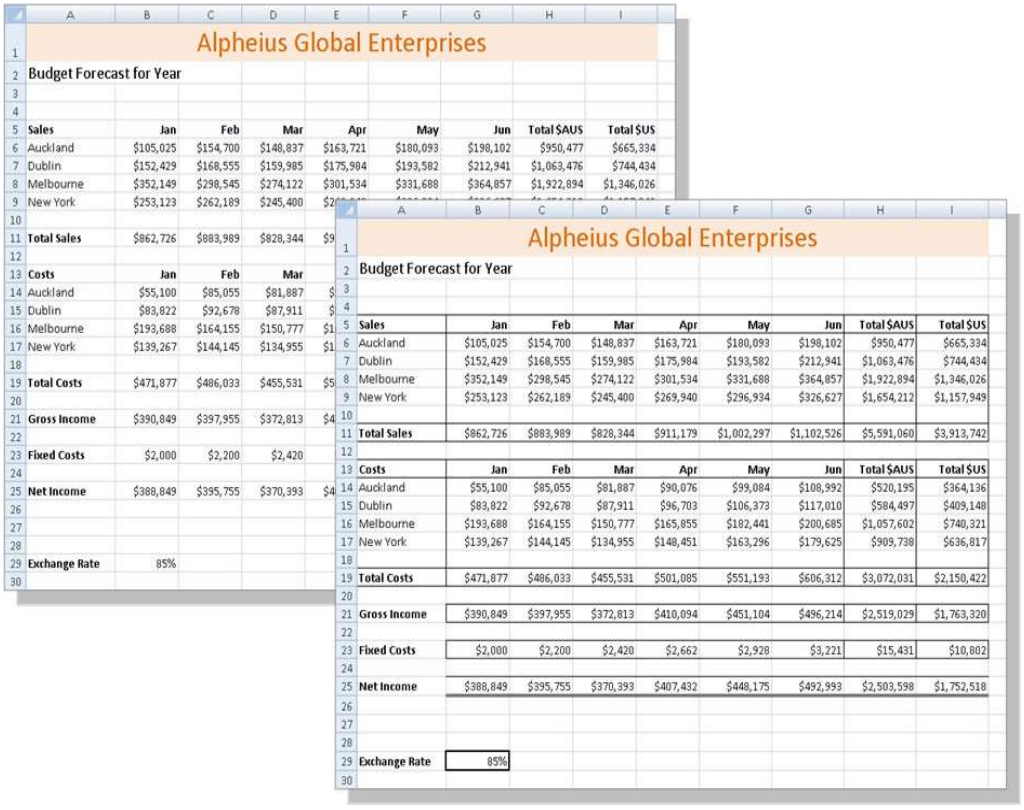
- You may have noticed that the text didn't change size when you used the mini toolbar until you actually clicked on a different font size. This is because ***Live Preview*** doesn't work with the mini toolbar.

UNDERSTANDING BORDERS

Borders are lines that are placed around the edges of individual cells or ranges. The lines may be thin, thick, solid, dashed, black or coloured, or even double lines. The reason for using borders is that the lines can be used to group together data or indicate totals, or to draw the user's attention to critical cells that may need special data entry. Here are some examples.

A Worksheet without and with Borders

Borders can be used to apply a structure. Here's the same worksheet shown without borders and then with borders applied. The use of borders helps to highlight the totals and separate them from the other data.



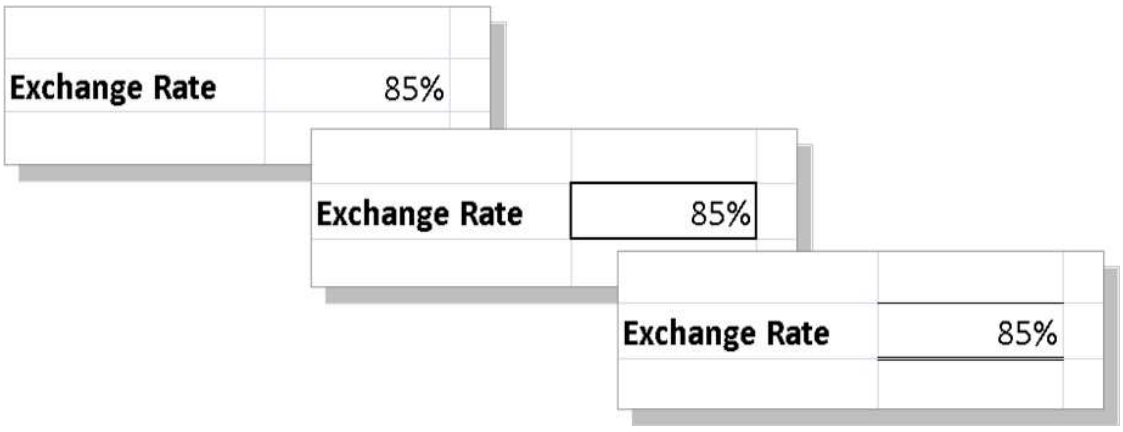
Alpheius Global Enterprises

Budget Forecast for Year

Sales	Jan	Feb	Mar	Apr	May	Jun	Total $AUS	Total $US
Auckland	$105,025	$154,700	$148,837	$163,721	$180,093	$198,102	$950,477	$665,334
Dublin	$152,429	$168,555	$159,985	$175,984	$193,582	$212,941	$1,063,476	$744,434
Melbourne	$352,149	$298,545	$274,122	$301,534	$331,688	$364,857	$1,922,894	$1,346,026
New York	$253,123	$262,189	$245,400	$269,940	$296,934	$326,627	$1,654,212	$1,157,949
Total Sales	$862,726	$883,989	$828,344	$911,179	$1,002,297	$1,102,526	$5,591,060	$3,913,742
Costs	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Total $AUS**	**Total $US**
Auckland	$55,100	$85,055	$81,887	$90,076	$99,084	$108,992	$520,195	$364,136
Dublin	$83,822	$92,678	$87,911	$96,703	$106,373	$117,010	$584,497	$409,148
Melbourne	$193,688	$164,155	$150,777	$165,855	$182,441	$200,685	$1,057,602	$740,321
New York	$139,267	$144,145	$134,955	$148,451	$163,296	$179,625	$909,738	$636,817
Total Costs	$471,877	$486,033	$455,531	$501,085	$551,193	$606,312	$3,072,031	$2,150,422
Gross Income	$390,849	$397,955	$372,813	$410,094	$451,104	$496,214	$2,519,029	$1,763,320
Fixed Costs	$2,000	$2,200	$2,420	$2,662	$2,928	$3,221	$15,431	$10,802
Net Income	$388,849	$395,755	$370,393	$407,432	$448,175	$492,993	$2,503,598	$1,752,518
Exchange Rate	85%							

Border Variations

Borders can be applied to all four sides of a cell, or to individual sides of a cell. The following examples show a cell without a border, with an outside border and a top and double bottom border.



APPLYING A BORDER TO A RANGE

You can apply a border to a ***range*** of cells. This allows you to place an outline around them to indicate that the cells are somehow related to each other, or to place borders between cells to indicate that they are in separate groups. Borders can be used in ranges of cells to create a more form-like appearance. The borders available for single cells can also be applied to ranges.

Try This Yourself:

Same File — *Continue using the previous file with this exercise, or open the file E730 Applying Borders_2.xlsx...*

Select the range ***A5:A11***

Click on the drop arrow for ***Borders*** and select **Outside Borders**

3 Click away from the range to see the border

An outline has been placed around the cells...

Repeat steps ***1*** and ***2*** to apply an outline border to each of the following ranges in the order that they are listed:

B5:B11, ***C5:C11***, ***D5:D11***, ***E5:E11***, ***F5:F11***, ***G5:G11***, ***H5:H11***, ***I5:I11***, ***A5:I5***, ***A11:I11***

B13:B19, ***C13:C19***, ***D13:D19***, ***E13:E19***, ***F13:F19***, ***G13:G19***, ***H13:H19***, ***I13:I19***, ***A13:I13***, ***A19:I19***

You can hold down 11 *and select several of these ranges at once before applying the border...*

A Click away from the last selected range to see the result

1

	Sales	Jan	Feb	Mar	Apr
6	Auckland	$105,025	$154,700	$148,837	$163,721
7	Dublin	$152,429	$168,555	$159,985	$175,984
8	Melbourne	$352,149	$298,545	$274,122	$301,534
9	New York	$253,123	$262,189	$245,400	$269,940
11	**Total Sales**	$862,726	$883,989	$828,344	$911,179

3

	Sales	Jan	Feb	Mar	Apr
6	Auckland	$105,025	$154,700	$148,837	$163,721
7	Dublin	$152,429	$168,555	$159,985	$175,984
8	Melbourne	$352,149	$298,545	$274,122	$301,534
9	New York	$253,123	$262,189	$245,400	$269,940
11	**Total Sales**	$862,726	$883,989	$828,344	$911,179

5

Alpheius Global Enterprises

Budget Forecast for Year

	Sales	Jan	Feb	Mar	Apr	May	Jun	Total $AUS	Total $US
6	Auckland	$105,025	$154,700	$148,837	$163,721	$180,093	$198,102	$950,477	$807,906
7	Dublin	$152,429	$168,555	$159,985	$175,984	$193,582	$212,941	$1,063,476	$903,955
8	Melbourne	$352,149	$298,545	$274,122	$301,534	$331,688	$364,857	$1,922,894	$1,634,460
9	New York	$253,123	$262,189	$245,400	$269,940	$296,934	$326,627	$1,654,212	$1,406,080
11	**Total Sales**	$862,726	$883,989	$828,344	$911,179	$1,002,297	$1,102,526	$5,591,060	$4,752,401
13	**Costs**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Total $AUS**	**Total $US**
14	Auckland	$55,100	$85,055	$81,887	$90,076	$99,084	$108,992	$520,195	$442,165
15	Dublin	$83,822	$92,678	$87,911	$96,703	$106,373	$117,010	$584,497	$496,822
16	Melbourne	$193,688	$164,155	$150,777	$165,855	$182,441	$200,685	$1,057,602	$898,961
17	New York	$139,267	$144,145	$134,955	$148,451	$163,296	$179,625	$909,738	$773,278
19	**Total Costs**	$471,877	$486,033	$455,531	$501,085	$551,193	$606,312	$3,072,031	$2,611,227
21	**Gross Income**	$390,849	$397,955	$372,813	$410,094	$451,104	$496,214	$2,519,029	$2,141,175
23	**Fixed Costs**	$2,000	$2,200	$2,420	$2,662	$2,928	$3,221	$15,431	$13,117
25	**Net Income**	$388,849	$395,755	$370,393	$407,432	$448,175	$492,993	$2,503,598	$2,128,058
29	**Exchange Rate**	85%							

For Your Reference…

To ***apply*** a ***border*** to a ***range***:

1. Select the range
2. Click on the drop arrow for ***Borders*** 11 in the ***Font*** group on the ***Home*** tab
3. Click on the border option of your choice

Handy to Know…

- You can copy a border between cells, for example, from one table to another, using ***Paste Special***. Select the cells, click on ***Copy*** 11, click on the first cell of the second range and click on the drop arrow for ***Paste***. Select **Paste Special**, click on ***Formats*** and then click on **[OK].**

WRAPPING AND MERGING TEXT

Microsoft Excel will allow long cell entries to spill across to other adjacent cells to the right as long as those cells are empty. If those cells contain data the spill-over will be chopped off. If you need to place long text entries in a cell you can arrange for Microsoft Excel to wrap the text within the cell and also merge that cell with others to accommodate the longer text entry.

Try This Yourself:

Open File — *Before starting this exercise you MUST open the file E723 Cell Alignment_9.xlsx...*

Click in cell ***A5***

This cell contains a long text entry that spills across several columns…

Click on the ***Expand Formula Bar*** tool Ctrl to the right of the formula bar to see all of the text

3 Click on the ***Wrap Text*** command in the ***Alignment*** group on the ***Home*** tab to wrap the text in cell ***A5***

Notice how the row height has now increased…

Hold down the key and click in cell ***E5*** to select the range ***A5:E5***

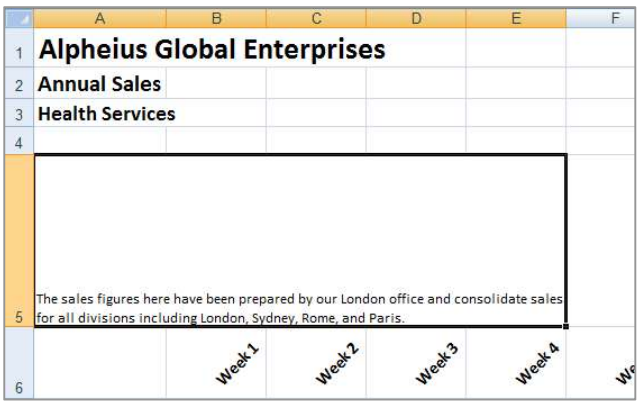
A Click on the drop arrow for ***Merge & Centre*** in the ***Alignment*** group and select **Merge Cells** to merge the cells in the range

Move the mouse pointer to the bottom of the row ***5*** heading border and drag the row height up until you reach ***30*** points

1

3

5



For Your Reference…

- To wrap text - click in the cell to merge and click on the ***Wrap Text*** command in the ***Alignment*** group on the ***Home*** tab
- To merge text - click on the drop arrow Shift for ***Merge & Centre*** in the ***Alignment*** group and select **Merge Cells**

Handy to Know…

- In the example above, wrapping forced the text into one cell and Excel expanded the row height so that all of the text was accommodated. We then merged the text across several horizontal cells in the exercise above so that we could reduce the row height to a more acceptable level.

PRACTICE EXERCISE

Font Formatting

Tasks:

Before starting this exercise you MUST have completed all of the topics in the chapter Font Formatting…

1. Open the workbook called ***PE_Font Formatting.xlsx*** (it can be found in the same folder as the student files)
2. Format the heading in cell ***A1*** as ***Cambria***, ***36 pt***, ***bold***, ***Orange Accent 2***
3. Format the other headings as bold, italic or underline as shown on the following page
4. Use ***Orange, Accent 2, Lighter 80%*** to fill the area behind the headings as shown on the following page
5. Add the superscript [1] in cell ***H3*** and in cell ***B27*** with the following comment

   [1] Fee may be reduced as the result of Government Assistance

Your completed worksheet should appear as shown on the following page...

6. Use the ***Save As*** command to save the workbook as ***PE_Font Formatting (Completed).xlsx***

Sandy Cove Holiday Program

Reservations for January 2009							Fee per Child per Day[1]	$33.00
				Age Group				
Date	**Day**	**5-6**	**7-8**	**9-12**	**13-14**	**Total**		**Fees**
6/01/2014	Monday	10	14	15	8	47		$1,551.00
7/01/2014	Tuesday	9	14	12	7	42		$1,386.00
8/01/2014	Wednesday	11	15	13	8	47		$1,551.00
9/01/2014	Thursday	12	16	12	10	50		$1,650.00
10/01/2014	Friday	11	15	15	12	53		$1,749.00
13/01/2014	Monday	15	18	20	14	67		$2,211.00
14/01/2014	Tuesday	14	19	17	12	62		$2,046.00
15/01/2014	Wednesday	16	20	18	13	67		$2,211.00
16/01/2014	Thursday	17	17	17	15	66		$2,178.00
17/01/2014	Friday	16	20	20	17	73		$2,409.00
20/01/2014	Monday	16	20	20	13	69		$2,277.00
21/01/2014	Tuesday	14	18	17	12	61		$2,013.00
22/01/2014	Wednesday	16	20	18	14	68		$2,244.00
23/01/2014	Thursday	18	19	17	15	69		$2,277.00
24/01/2014	Friday	17	20	20	17	74		$2,442.00
Total Children		**81**	**97**	**92**	**71**	**341**		$11,253.00

[1]Fee may be reduced as the result of Government Assistance

PRACTICE EXERCISE

Cell Alignment

Tasks: **Completed:**

Before starting this exercise you MUST have completed all of the topics in the chapter Cell Alignment…

- Open the workbook called ***PE_Cell Alignment1.xlsx*** (it can be found in the same folder as the student files) ☐
- Right-align the fees ☐
- Left align the range ***B6:B21*** ☐
- Centre align cells ***B23***, ***B25*** and ***B27*** ☐
- Use the ***Save As*** command to save the workbook as ***PE_Cell Alignment1 (Completed).xlsx*** ☐

	A	B	C	D	E	F
1		Hedgehog - Garden Maintenance Service				
2		Fee Calculator				
3						
4		Please type x for the Service Required				
5						
6		**Maintenance Type**	**Service Required**	**Fee**		
7						
8		Garden	x	$50.00		
9		Hedge	x	$75.00		
10		Lawns				
11		Tree				
12		All				
13						
14		**Frequency**				
15						
16		Weekly				
17		Fortnightly				
18		Monthly				
19		Quarterly	x			
20		Six Monthly				
21		Annually				
22						
23		**Fee per visit**	$125.00			
24						
25		**Annual Fee**	$500.00			
26						
27		**Discounted Annual Fee**	$475.00			
28						

PRACTICE EXERCISE

Number Formatting

Tasks: **Completed:**

Before starting this exercise you MUST have completed all of the topics in the chapter Number Formatting…

- Open the workbook called ***PE_Number Formatting.xlsx*** (it can be found in the same folder as the student files) ☐
- On the ***Cargo*** worksheet, apply formatting to the dates and figures so that they appear as shown in sample A on the next page ☐

  This will involve applying a date format, thousands separator, setting the number of decimals and applying the currency format...

3. On the ***Purchases*** worksheet, apply formatting so that the figures appear as shown in sample B on the following page ☐

   The currency formats should be $, € Euro (€ 123), R English (South Africa) and ETB Amharic (Ethiopia) respectively. You'll need to widen the columns a little to make room for the characters added by the formatting...

- Use the ***Save As*** command to save the workbook as ***PE_Number Formatting (Completed).xlsx*** ☐

A

	A	B	C	D	E	F
1	African Adventure					
2	Cargo Fees Summary					
3						
4						
5	Trip Dates	2014		7/02/2014	22/02/2014	
6						
7	Item		Kg	Cost per Kg	$2.58	$AUD
8						
9	Art		2,547	$6,571.26		
10	Fabric		1,780	$4,592.40		
11	Clothing		685	$1,767.30		
12	Furniture		4,850	$12,513.00		
13	Pottery		3,850	$9,933.00		
14						
15	Total		13,712	$35,376.96		
16						
17						

B

	A	B	C	D	E	F	G	H
1	African Adventure							
2	Purchase Summary							
3								
4					Conversion Rate as at February 2014			
5					0.6511	9.714	17.464	
6		2013	2014					
7	Item	$ AUD	$ AUD	% Inc	Euros	Rand	Birr	
8								
9	Art	$45,832.00	$69,048.00	50.65%	€ 44,957.00	R 670,732.00	ETB1,205,854.00	
10	Fabric	$75,486.00	$81,310.00	7.72%	€ 52,941.00	R 789,845.00	ETB1,419,998.00	
11	Clothing	$66,892.00	$75,026.00	12.16%	€ 48,849.00	R 728,803.00	ETB1,310,254.00	
12	Furniture	$87,563.00	$118,336.00	35.14%	€ 77,049.00	R 1,149,516.00	ETB2,066,620.00	
13	Pottery	$25,874.00	$37,755.00	45.92%	€ 24,582.00	R 366,752.00	ETB659,353.00	
14								
15	Total	$301,647.00	$381,475.00		€ 248,378.00	R 3,705,648.00	ETB6,662,079.00	
16								
17								

UNDERSTANDING FUNCTIONS

Imagine having to create a formula that calculated the monthly payments on a loan, or the average of over 100 cells – these would require complex or long formulas that would be time consuming to develop. This is the role of hundreds of arithmetic functions that have been pre-programmed in Excel for you.

Functions Overview

Functions are simply pre-programmed formulas already provided for you in Excel which can perform calculations covering a wide range of categories including statistics, date and time arithmetic, financial calculations, lists, engineering, and more.

Just like normal formulas that you create, functions must start with an ***equal sign***. The equal sign is then followed by the ***name*** of the function (usually a descriptive name which indicates the purpose of the function). Most functions also require additional information known as ***arguments*** which are supplied to the function in brackets after the function name. Functions are therefore written as follows:

=*name*(*arguments*)

The arguments are quite often cell or range references that contain values that can be used in the function. For example, the commonest function is the ***SUM*** function which, as its name suggests, is used to sum or add values together. If you wanted to add all of the values in the cells from ***B10*** to ***D15*** you would write this function as:

=SUM(B10:D15)

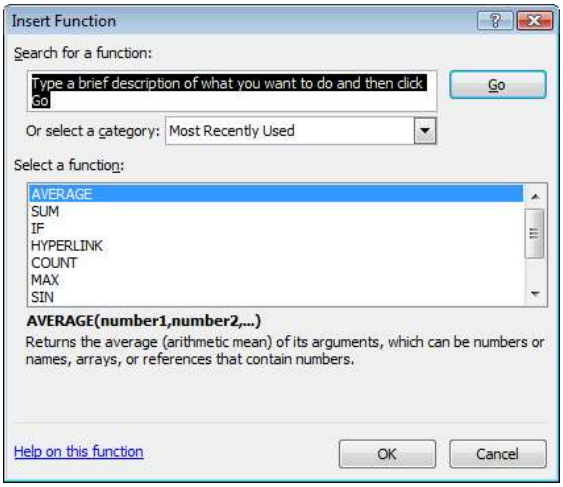
As you can see this is much simpler than writing your own referential formula which would look like:

=B10+B11+B12+B13+B14+B15+D10+D11+D12+D13+D14+D15

Imagine writing and proofing a formula where you had to add 200 cells!

Typing Functions

If you are familiar with the function that you need you can type it into a cell exactly the same way you type any other formula. If you are not sure if Excel has a function or you can't quite remember how it is written you can use the ***Insert Function*** tool on the Formula Bar to assist you. When you click on this tool the ***Insert Function*** dialog box will be presented to you which lists the most recently used or common functions and also allows you to search for other functions that you might need.



The ***Insert Function*** dialog box will also type the function out for you and then provide you with a further dialog box to guide you through the process of specifying the arguments that the function needs to perform its calculation.

USING THE SUM FUNCTION TO ADD

One of the most used functions is the ***SUM*** function. This function allows you to add the values in a range of cells. The function is written as: **=SUM(range or ranges to add)**. You can type the function, and then use the pointing technique to fill in the arguments. Excel then paints marquees around the cells involved helping you to track your progress.

Try This Yourself:

Open File — *Before starting this exercise you MUST open the file E710 Formulas_4.xlsx...*

Click on ***B9*** then type **=sum(** to start the formula

Click on ***B6*** to point to this cell as the start, hold down the → key and click on ***B8***

Notice the relative addressing details, 3R x 1C, that appear in the tool tip…

3 — Type **)** and press ↑ to complete the function

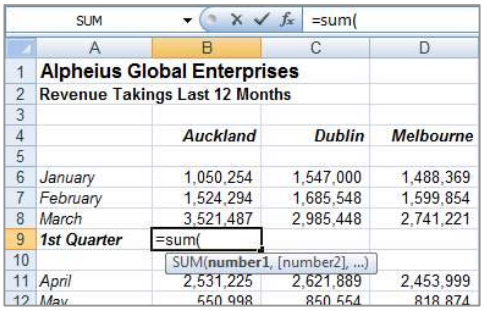
Click on ***B9***, then move the mouse pointer to the fill handle on the lower right corner of the cell and drag across to ***E9*** to fill the selected range with the equivalent functions

A — Click on the ***Copy*** command ↓ on the ***Clipboard*** group on the ***Home*** tab

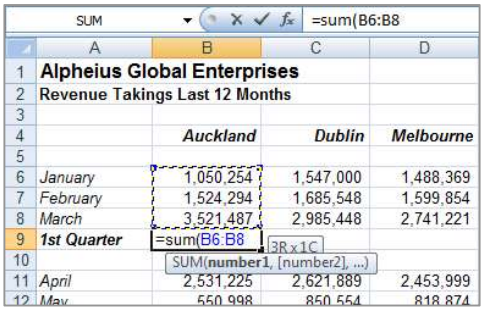
Click on ***B14***, hold down fx and then click on cells ***B19*** and ***B24***

A — Release Shift and press Enter to paste equivalent functions into the worksheet

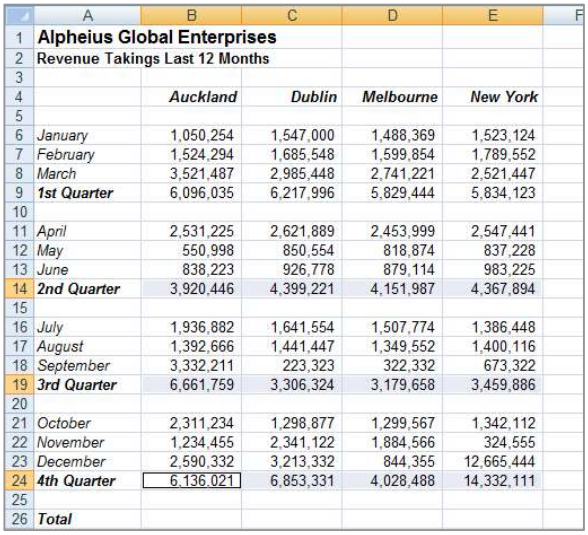
1



2



7



For Your Reference…

To ***type*** a ***sum function*** for a ***contiguous range***:

1. Type **=sum(**
2. Select the range of cells
3. Type **)**
4. Press ↵

Handy to Know…

- You can also use the ***Sum*** command in the ***Editing*** group on the ***Home*** tab of the ***Ribbon*** to have Excel automatically enter a sum function based on a range of cells.
- You can also type the name of a function in upper or lowercase – it is not case sensitive.

CALCULATING AN AVERAGE

The ***AVERAGE*** function allows you to average the values in a range of cells. It is written in much the same way as the ***SUM*** function, for example, ***=AVERAGE(range of cells to average)***. The average function can be applied using the ***Functions Wizard***, a part of Excel that steps you through the process of creating a function or you can type it in yourself if you are comfortable with it.

Try This Yourself:

Same File — *Continue using the previous file with this exercise, or open the file E710 Formulas_6.xlsx...*

Click on ***B29*** then click on the ***Insert Function*** tool to display the ***Insert Function*** dialog box

Click on ***AVERAGE*** in ***Select a function*** then click on **[OK]** to display the ***Function Arguments*** dialog box

3 Click on the ***Range Selector*** tool for ***Number1*** to roll up the wizard, then hold down Ctrl and select the following ranges

B6:B8
B11:B13
B16:B18
B21:B23

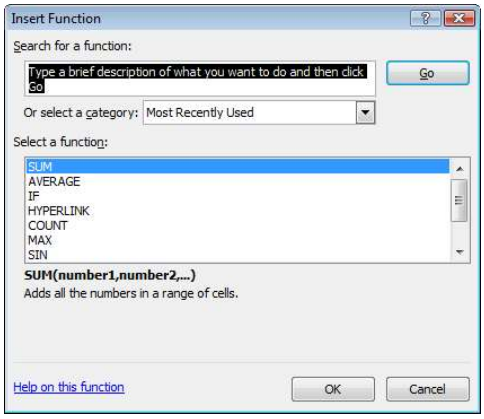
Press Enter to complete the range specifications, then click on **[OK]** to complete the process

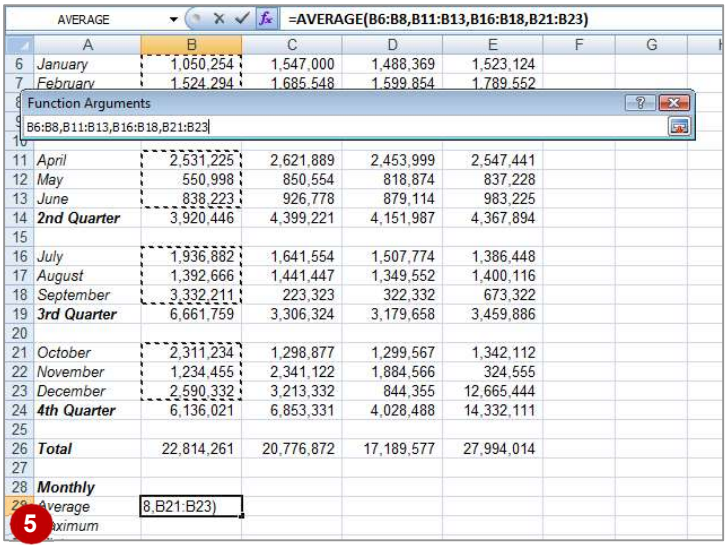
Let's use the AutoSum function…

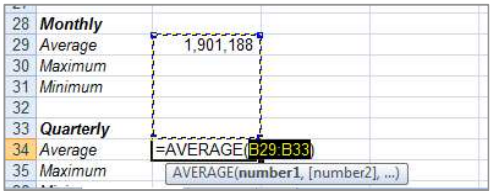
A Click on ***B34***, then click on the drop arrow for the ***Sum*** command Σ on the ***Editing*** group, then select **Average**

Click on ***B9***, hold down Ctrl and click on ***B14***, ***B19*** and ***B24***, then press Enter to complete the formula

1







For Your Reference…

To ***insert*** an ***average function***:

1. Click in the cell then click on the ***Insert Function*** tool
2. Click on ***AVERAGE*** in ***Select a function***
3. Insert the required ranges then click on **[OK]**

Handy to Know…

- You can type queries like "How do I work out the monthly payment for a car loan?" into the ***Search*** box in the ***Insert Function*** dialog box. Once you have selected a function from the ***Select a function*** list, the ***Function Arguments*** dialog box will help you to enter the values into the function.

FINDING A MINIMUM VALUE

The ***Minimum*** or ***MIN*** function allows you to extract the lowest value from a range of values. It is written in much the same way as the ***SUM*** function. For example, **=MIN(range of cells)**.

The function can be applied using the ***Function Wizard***, or by typing the function in detail directly into the cell.

Try This Yourself:

Same File — *Continue using the previous file with this exercise, or open the file E710 Formulas_8.xlsx...*

Click on ***B31*** then click on the ***Insert Function*** tool to display the ***Insert Function*** dialog box

Click on the drop arrow for the ***Or select a category*** box and click on ***Statistical***

3 Scroll down and click on ***MIN*** in ***Select a function*** then click on **[OK]** to display the ***Function Arguments*** dialog box

Click on the ***Range Selector*** tool to roll up the wizard, then hold down Ctrl and select the following ranges:

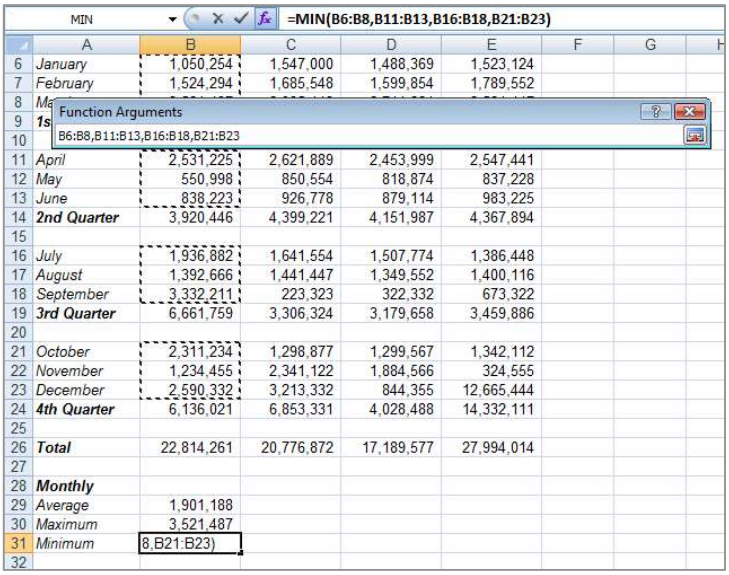
B6:B8 **B16:B18**
B11:B13 **B21:B23**

A Press Enter to complete the range specifications, then click on **[OK]** to complete the process

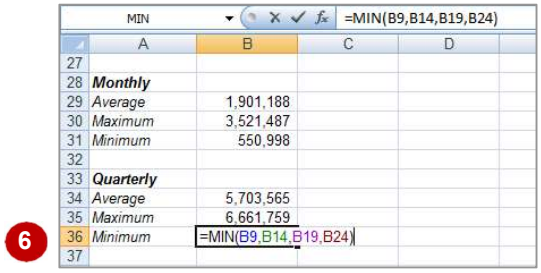
Let's simply type the function this time…

Click on ***B36*** and type **=MIN(B9,B14,B19,B24)**

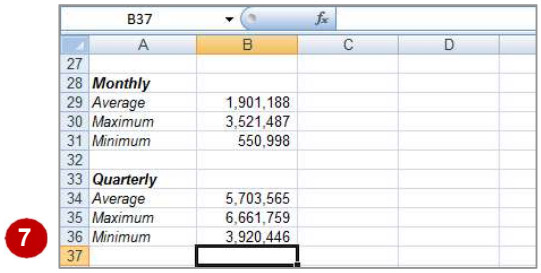
A Press Enter to complete the formula



4



6



7

For Your Reference…

To ***insert*** a ***minimum function***:

1. Click in the cell then click on the ***Insert Function*** tool
2. Click on ***MIN*** in ***Select a function***
3. Insert the required ranges then click on **[OK]**

Handy to Know…

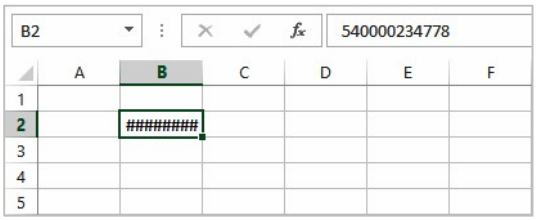
- You might use a ***Minimum*** function in real life to find the lowest value in a large range of numbers. For example, in a large inventory it can be used to work out which product is the slowest seller.

COMMON ERROR MESSAGES

Microsoft Excel has some in-built messages that can assist you when something goes wrong with a formula. These messages appear in the cell that contains the formula, and sometimes also other formula cells that depend upon it. The messages are always prefixed with a hash sign (#) and appear with a code. The more common error messages are listed below.

A Line of Hash (#) Signs

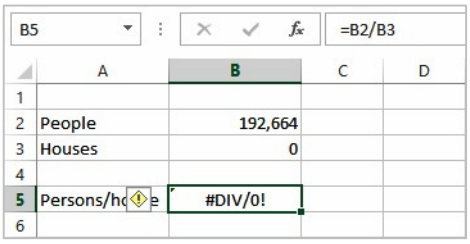
Sometimes referred to as "tramlines", a line of hash signs usually occurs because a column is not wide enough to display the numbers in the cell or formula. Widening the column will correct this problem – you can drag the column heading until the value in the cell appears as it should.



#DIV/0!

This message means you are trying to divide a value by zero – this is mathematically impossible. In the example at the left we are trying to find the average number of persons per household. All is fine as long as there is a value greater than zero in cell B3 (Houses). As soon as we change this to a zero an error message appears in the formula cell (B5).

To prevent the error you will need to enter a value greater than zero into cell B3, the *divisor* cell.

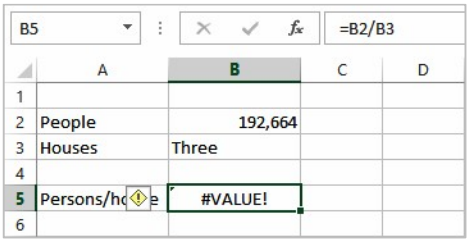


#VALUE!

In this message Excel is advising that something in the formula is not a value and therefore a calculation can't be made.

A close examination of the example at the left shows cell B3 contains the word "three". Therefore the formula in cell B5 is trying to divide 192,664 (in cell B2) with a word, which doesn't make sense.

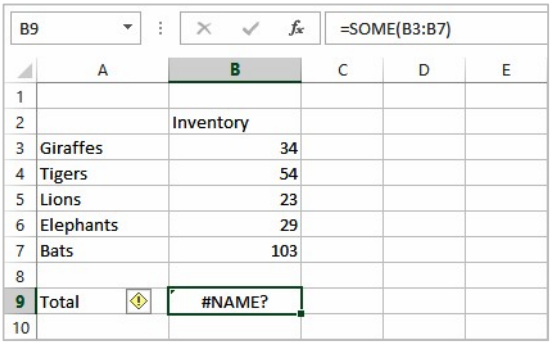
To fix the error, a value (a number) will need to be entered in cell B3.



#NAME?

This message appears when text is found in a formula that can't be matched to either a legitimate function or range name.

In the example to the left, the formula has been entered as *=SOME(B3:B7)* – there is no such function as ***SOME***, and presumably the author should have typed *=SUM(B3:B7)*.



PRACTICE EXERCISE

Formulas And Functions

Tasks: **Completed:**

Before starting this exercise you MUST have completed all of the topics in the chapter Formulas And Functions…

- Open the workbook called ***PE_Formulas And Functions.xlsx*** (it can be found in the same folder as the student files) ☐
- Create a formula that calculates the gross pay for each employee, then use a function to calculate the total of the gross pay ☐

  The total for Gross Pay should appear in E14...
- Create a formula that calculates the tax as being 20% of the gross pay for each employee, then create a total for the tax ☐
- Create a formula to calculate the net pay for each employee and then a total of the net pay ☐
- Create a formula that calculates the superannuation as being 8% of the gross pay for each employee, then create a total for superannuation ☐
- Use functions to determine the average, maximum and minimum values for each column, setting the number of decimal places to 2 ☐

  Your worksheet should appear as shown on the following page...
- Use the ***Save As*** command to save the workbook as ***PE_Formulas And Functions (Completed).xlsx*** ☐

	A	B	C	D	E	F	G	H	I
1	**Clever Quentin's Used Cars**								
2	**Weekly Payroll**								
3	Department: Vehicle Sales								
4									
5									
6	**First Name**	**Last Name**	**Hours**	**Rate**	**Gross Pay**	**Tax**	**Net Pay**	**Superannuation**	
7	Virginia	Bernard	16	25.90	414.40	82.88	331.52	33.15	
8	Catherine	Harvest	24	16.40	393.60	78.72	314.88	31.49	
9	Steve	Jones	40	28.50	1,140.00	228.00	912.00	91.20	
10	Sam	McGregor	40	25.70	1,028.00	205.60	822.40	82.24	
11	Sandra	O'Shea	35	29.60	1,036.00	207.20	828.80	82.88	
12	Eddie	Smith	40	28.50	1,140.00	228.00	912.00	91.20	
13									
14	**Totals**				5,152.00	1,030.40	6,182.40	412.16	
15									
16	**Average**		32.5	25.77	858.67	171.73	686.93	68.69	
17	**Maximum**		40	29.60	1,140.00	228.00	912.00	91.20	
18	**Minimum**		16	16.40	393.60	78.72	314.88	31.49	
19									
20									

UNDERSTANDING QUICK ANALYSIS

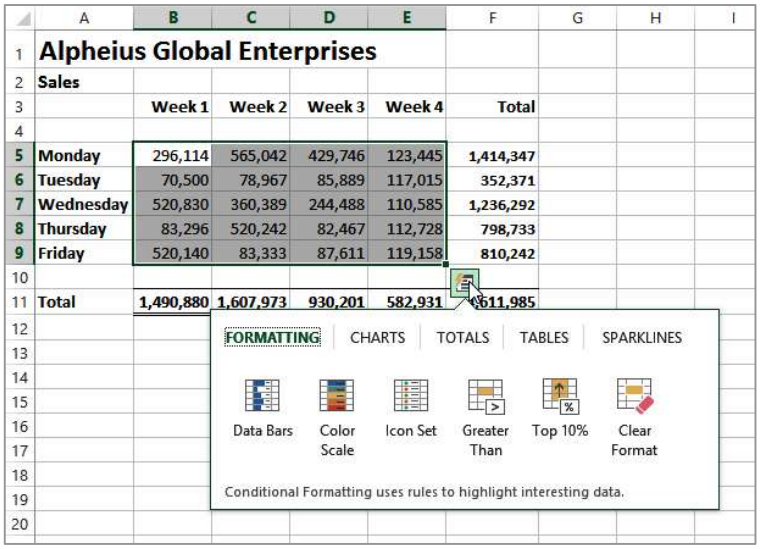
The ***Quick Analysis*** tools were developed in response to the fact that users weren't using or even aware of the more powerful analytical tools found in Excel. So Excel decided to combine ***Live Preview*** with some of these tools to create the ***Quick Analysis*** tools.

The Quick Analysis Button

The ***Quick Analysis*** button appears when a range is selected in a worksheet. Clicking on the button displays the ***Quick Analysis*** gallery which contains quick analysis tools that can be applied to the selected data.

The tools have been organised along tabs at the top – ***FORMATTING***, ***CHARTS***, ***TOTALS***, ***TABLES***, and ***SPARKLINES***.

When you click on a tab, options specific to that tab are presented.



Using Quick Analysis Tools With Live Preview

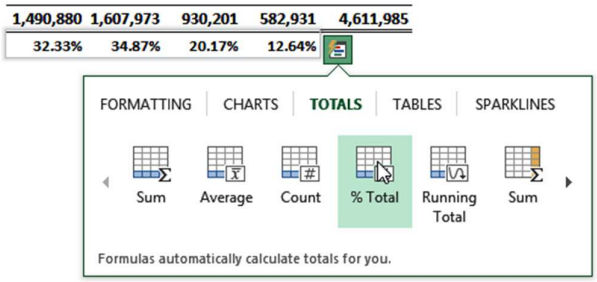
Most of the ***Quick Analysis*** tools in the ***Quick Analysis*** gallery provide a Live Preview of the changes in the worksheet when you point to an option.

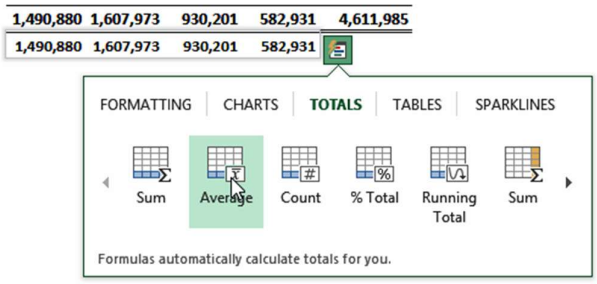
This is very useful if you are not sure of the formatting or type of analysis you require as it provides you with a preview of what the data would look like if you selected that specific option.

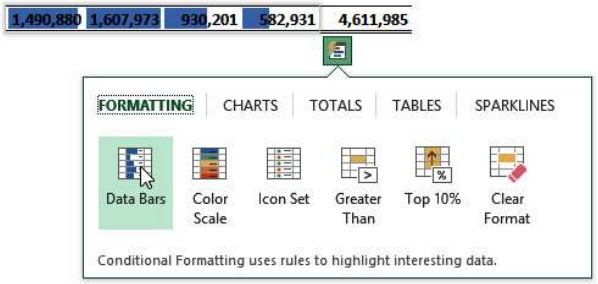
At the right we have selected only the totals from the worksheet shown above. We have pointed to options from the ***TOTALS*** tab (*% Total* and *Average*) and from the ***FORMATTING*** tab (*Data Bars*).

Live Preview has either presented another row of analysed data or has formatted the selection accordingly.

All of these tools are also available on the ribbon but using the ***Quick Analysis*** tools is much quicker.







QUICK FORMATTING

The first tab in the ***Quick Analysis*** gallery is ***FORMATTING***. This tab provides access to the conditional formatting tools of Excel. These are the tools that allow you to analyse data by colouring it or presenting it in a slightly different way. In the ***Quick Analysis*** gallery you can apply data bars, colour high and low values, values over or below a value, and more.

Try This Yourself:

Open File — *Before starting this exercise you MUST open the file E1355 Quick Analysis_1.xlsx…*

Click in cell ***B5***, hold down Shift, then click in cell ***E9*** to select the range ***B5:E9***

Point to the bottom of the selected range so that the ***Quick Analysis*** button appears, as shown, then click on it to see the ***Quick Analysis*** gallery

3 — On the ***FORMATTING*** tab, point to ***Data Bars*** to see data bars representing the size of the selected values

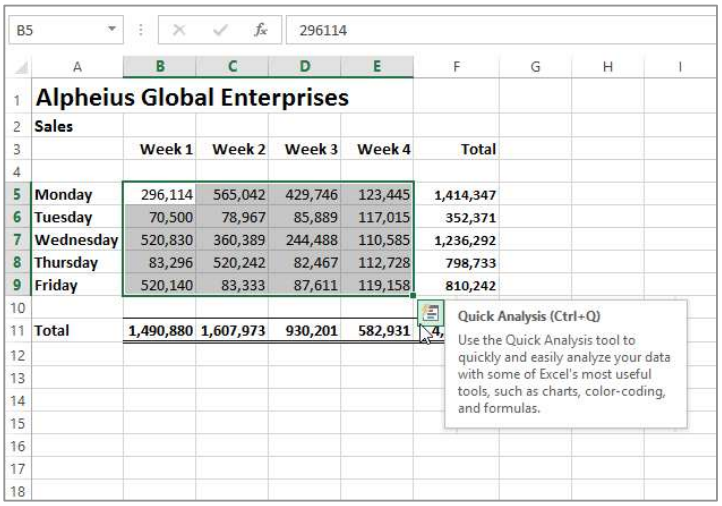
Point to ***Colour Scale*** to see colours used to signify the scale of values (from red for low to green for high)

A — Point to ***Top 10%*** to see the top 10% of values

Click on ***Greater Than*** to see the ***Greater Than*** dialog box

A — Type **200000** in ***Format cells that are GREATER THAN***, then click in cell ***A1*** to see the changes

2



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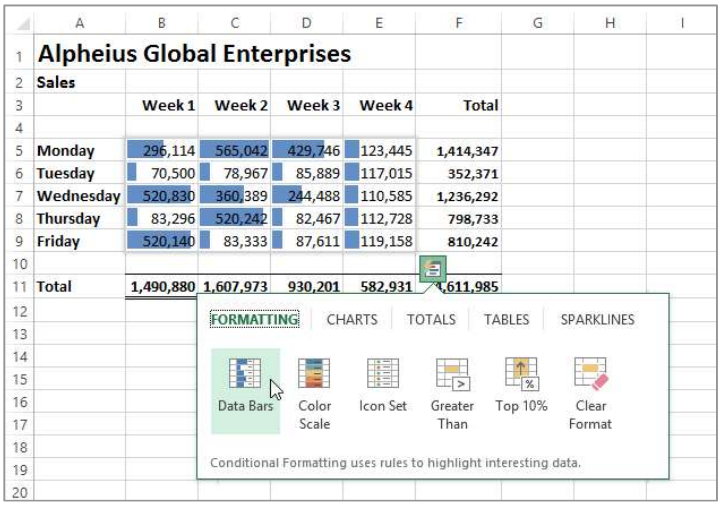


6

For Your Reference…

To ***apply Quick Formatting*** in a ***worksheet***:

1. Select the range to be formatted, then click on the ***Quick Analysis*** button
2. Choose the desired formatting from the ***FORMATTING*** tab

Handy to Know…

- ***Quick Formatting*** applies conditional formatting, not the standard formatting.
- The ***Clear Format*** option in the ***Quick Analysis*** gallery will clear any conditional formatting that has been applied.

QUICK CHARTING

Charts aren't all that difficult to create in Excel, especially with the ***Recommended Charts*** feature. However, deciding what style and type of chart can be daunting. Fortunately the ***Charts*** tools provide a way of seeing what the different charts will look like without having to first create the chart.

Try This Yourself:

Same File *Continue using the previous file with this exercise, or open the file E1355 Quick Analysis_2.xlsx...*

Click in cell ***A3***, hold down Shift, then click in cell ***E9*** to select the range ***A3:E9***

Click on the ***Quick Analysis*** button, then click on the ***CHARTS*** tab to see a range of recommended chart types for this range

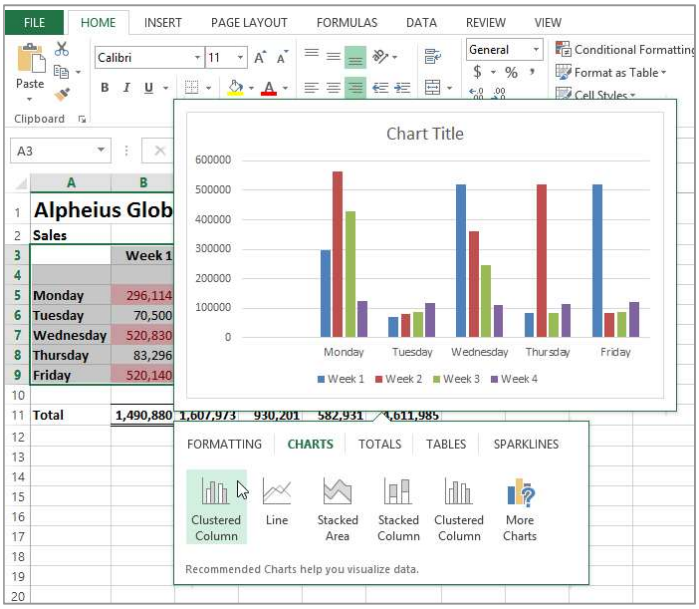
3 Point to ***Clustered Column*** to see a Live Preview of the chart with the ***Week*** as the legend

Point to ***Line***, then ***Stacked Area***, then ***Stacked Column*** to see how these options appear in Live Preview

A Point to the second ***Clustered Column*** to see a preview of the chart with the ***Days*** as the legend

Click on the second ***Clustered Column*** to create a chart in the worksheet

3



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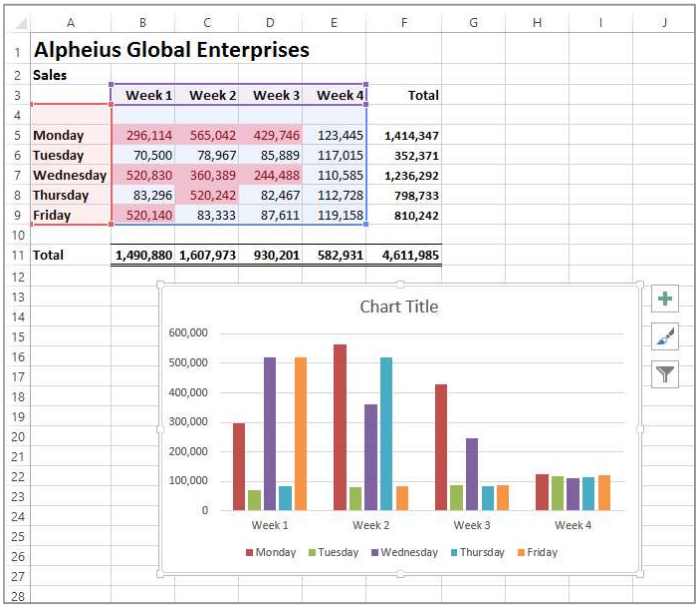


For Your Reference…

To ***use*** the ***Quick Charting tools***:

1. Select the range to be charted, then click on the ***Quick Analysis*** button
2. Choose the desired option from the ***CHARTS*** tab

Handy to Know…

- When creating a chart you'll need to ensure that the range you select includes the labels to be used on the chart.

QUICK TOTALS

The ***TOTALS*** tab in the ***Quick Analysis*** gallery has some useful tools and options to help you build your worksheet. You can use the options to analyse data and perform alternate arithmetic operations (e.g. *AVERAGE* instead of *SUM*) or use the options to create the totals and calculations in the first place.

Try This Yourself:

Open File *Before starting this exercise you MUST open the file E1355 Quick Analysis_3.xlsx…*

Click in cell ***B5***, hold down Shift, then click in cell ***E9*** to select the range ***B5:E9***

Click on the ***Quick Analysis*** button, then click on the ***TOTALS*** tab to see the calculation options for this range

3 Point to ***Vertical Sum*** to see a preview of the totals for each column

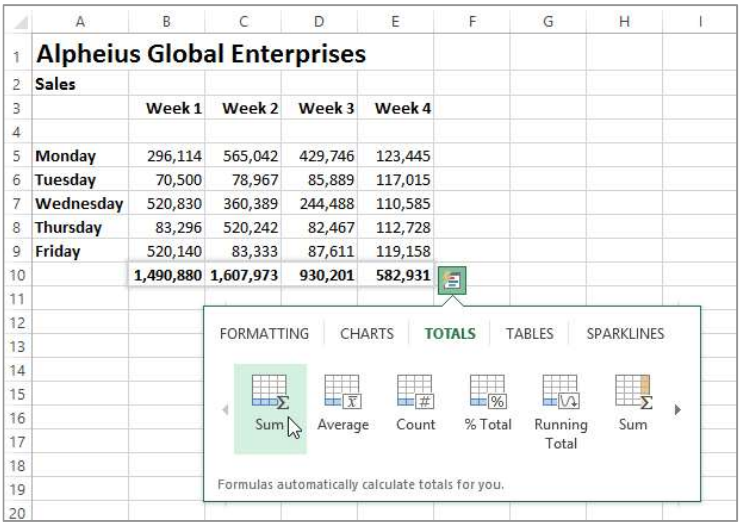
Point to ***Horizontal Sum*** to see a preview of the totals for each row

A Point to the other options and study the results – do not click on any at this stage

Click on ***Vertical Sum*** to create column totals

A Click on the ***Quick Analysis*** button again, click on the ***TOTALS*** tab, then click on ***Horizontal %*** to see the percentages for each day of the week

3



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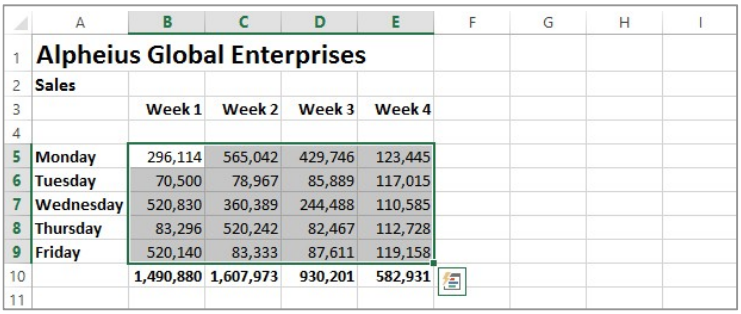

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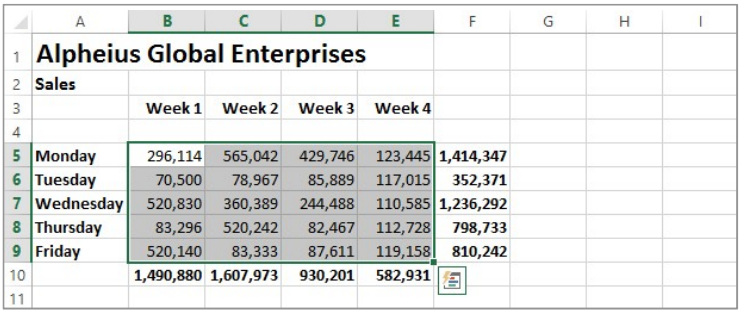


For Your Reference…

To ***create Quick Totals*** in a ***worksheet***:

1. Select the range to be totalled/calculated and click on the ***Quick Analysis*** button
2. Choose the desired calculation methodology from the ***TOTALS*** tab

Handy to Know…

- Always check any operation that performs calculations and embeds formulas for you to ensure that the correct cells and ranges are included in totals.

QUICK SPARKLINES

Sparklines are mini charts that are embedded into a worksheet, usually immediately adjacent to the data. ***Sparklines*** are only relatively new in Excel and probably haven't gained the acceptance or understanding that Microsoft would like. So, you'll now find them in the ***Quick Analysis*** tools where you can easily implement them without too much head scratching.

Try This Yourself:

Open File — *Before starting this exercise you MUST open the file E1355 Quick Analysis_4.xlsx…*

Click in cell ***B5***, hold down Shift, then click in cell ***E9*** to select the range ***B5:E9***

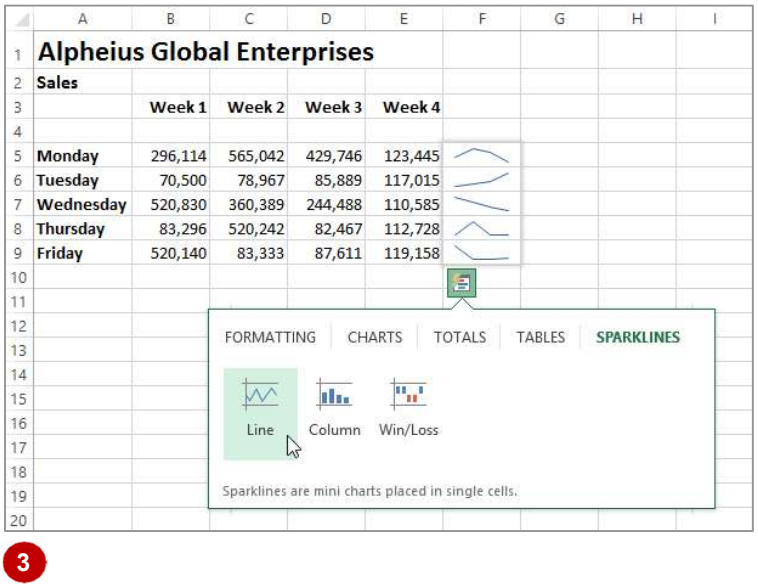
Click on the ***Quick Analysis*** button, then click on the ***SPARKLINES*** tab

3 — Point to ***Line*** to display a line drawing showing trends for each row across the four weeks

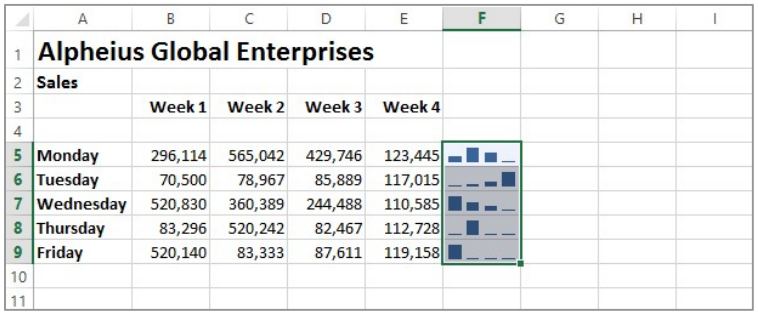
Point to ***Column*** to display the trend as columns rather than a continuous line

A — Click on ***Column*** to add *Sparklines* in column ***F***

Notice that after the Sparklines have been created the SPARKLINE TOOLS tab on the ribbon is now available so that you can further enhance or modify the Sparklines



3



5

For Your Reference…

To ***use Quick Sparklines*** in a ***worksheet***:

1. Select the range to be analysed, then click on the ***Quick Analysis*** button
2. Choose the desired ***Sparkline*** from the ***SPARKLINES*** tab

Handy to Know…

- The ***Win/Loss*** is a special type of ***Sparkline*** that shows positives above an imaginary line and negatives below it. You need to have values range from the negative to the positive to make any good use of it.

QUICK TABLES

In computer terminology a ***table*** is created when data is organised into rows and columns. You'd think then that a worksheet would be a table – but it is not in the Excel definition. In Excel a table does have columns and rows of continuous data. But it must also have headings which provide filter buttons. Creating a table is not hard, but it is much easier using ***Quick Tables***.

Try This Yourself:

Open File

Before starting this exercise you MUST open the file E1355 Quick Analysis_5.xlsx…

Click in any cell containing data

Hold down Ctrl + Shift, then press 8 to select all of the non-empty cells around the current cell

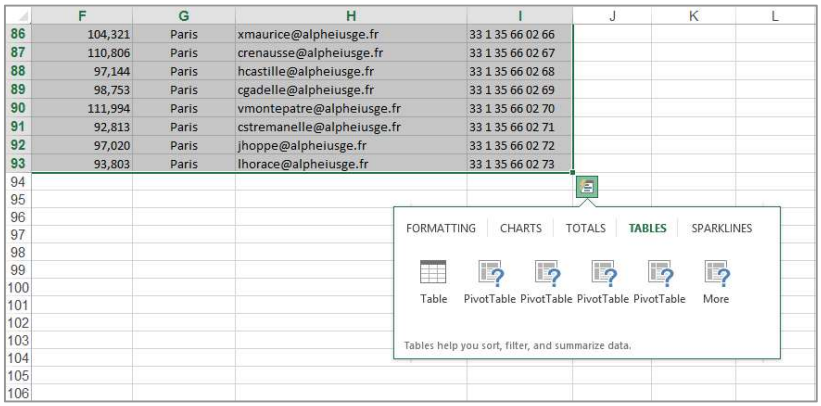
3 Using the scroll bars, scroll to the bottom right corner of the selection, click on the ***Quick Analysis*** button, then click on the ***TABLES*** tab

Click on ***Table*** to turn the selected range into a table

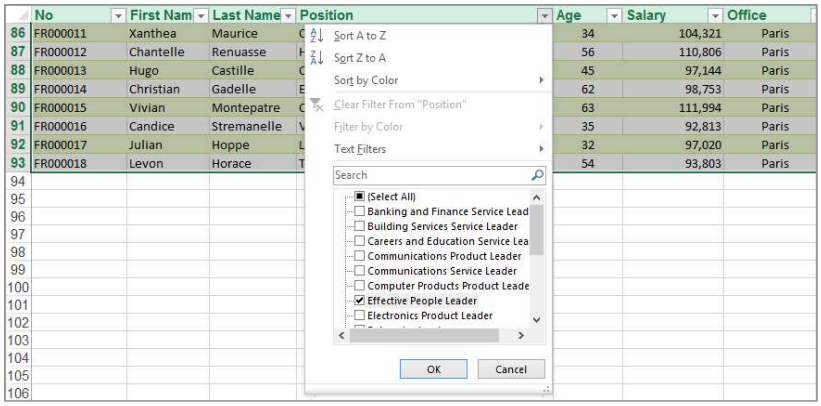
A Scroll across and on the drop arrow for ***Position*** to see sorting and filtering options

Click on ***Select All*** to remove the tick, then click on ***Effective People Leader*** so it appears ticked

A Click on **[OK]** to see only those people with this position title



3



6

	A	B	C	D	E	F	G
3	No	First Name	Last Name	Position	Age	Salary	Office
5	NZ0000002	Mary	Campbell	Effective People Leader	56	89,670	Auckland
23	IR0000002	Suzanne	O'Dowd	Effective People Leader	54	98,637	Dublin
41	AU000002	Harry	Jones	Effective People Leader	37	109,980	Melbourne
59	US000002	Marty	Zimmstein	Effective People Leader	34	88,773	New York
77	FR000002	Chantelle	Poiret	Effective People Leader	23	110,967	Paris

7

For Your Reference…

To ***use Quick Tables*** to ***create*** a ***table***:

1. Select the entire data to be used as a table
2. Click on the ***Quick Analysis*** button
3. Click on the ***TABLES*** table, then click on ***Table***

Handy to Know…

- A drawback of using ***Quick Tables*** is that all of the data must be selected first. Using the normal operation to create a table (the ***Table*** command on the ***INSERT*** tab of the ribbon) only one cell in the table needs to be selected.

PRACTICE EXERCISE

The Quick Analysis Tools

Tasks: **Completed:**

Before starting this exercise you MUST have completed all of the topics in the chapter The Quick Analysis Tools…

- Open the workbook ***PE_Quick Analysis.xlsx*** (it can be found in the same folder as the student files) ☐
- Use the ***Quick Analysis*** tools to apply a colour scale to the data in the worksheet ☐
- 3 Use the ***Quick Analysis*** tools to create a chart for the ***Overheads*** data. This chart should be a clustered column chart that has the column headings as the x axis, and displays the legend at the bottom of the chart. Make the chart title ***Cost of Overheads***. ☐
- Reposition the chart below the data ☐
- A Use the ***Quick Analysis*** tools to create ***Sparklines*** for the ***Qtr1*** to ***Qtr4*** and ***Total*** columns for ***Overheads*** ☐

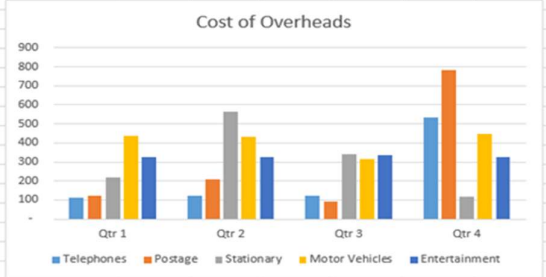
Your worksheet should appear as shown on the following page…

- Use the ***Save As*** command to save the workbook as ***PE_Quick Analysis (Completed).xlsx*** ☐

Aesop's Bookshop

Expenditures Budget

Expense Type	2013 Qtr 1	Qtr 2	Qtr 3	Qtr 4	Total
Wages	19,987	12,090	16,775	20,551	69,403
Raw Materials	6,348	42,032	33,412	51,948	133,740
Freight	3,009	4,418	4,334	2,263	14,024
Direct Costs	29,344	58,540	54,521	74,762	217,167
	Qtr 1	**Qtr 2**	**Qtr 3**	**Qtr 4**	**Total**
Telephones	110	120	122	533	885
Postage	120	207	90	782	1,199
Stationary	221	564	339	115	1,239
Motor Vehicles	436	434	316	446	1,632
Entertainment	327	327	337	326	1,317
Overheads	1,214	1,652	1,204	2,202	6,272
Total	30,558	60,192	55,725	76,964	223,439



PRINTING A WORKSHEET

Traditionally, ***printing*** means producing your document on paper, but in today's Web and online world it might mean printing to the Web or to another file. Excel gives you a lot of control over what and how much to print, as well as enabling you to select the printer to use. You can print one or multiple copies of a document, one or multiple pages and even collate copies.

Try This Yourself:

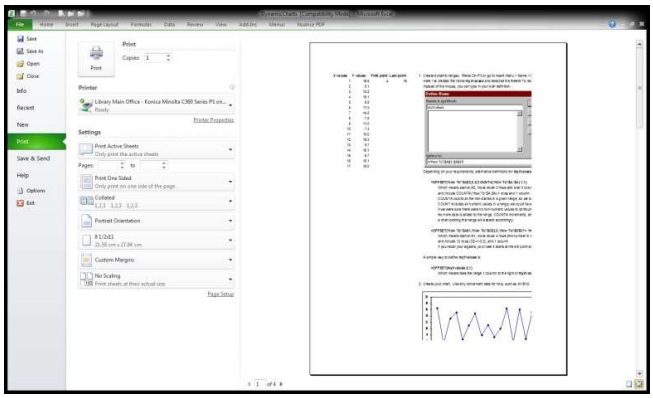
Continue using the previous file with this exercise...

Click on **File Tab** then select **Print** to display the ***Print*** dialog box

Your dialog box may appear a little different to the one shown, as the available options will depend on the make and model of printer that you are using...

Click on **Print** to print the pages

1



For Your Reference…

To ***close a workbook***:

1. Click on the ***File Tab*** and select **Close**

Handy to Know…

- If you save your workbook using the close command, the workbook will be closed without the prompting message above.
- Excel allows you to have a number of workbooks open at the same time. When you close a workbook when others are still open one of the others will then appear.

THE CHARTING PROCESS

Charts provide a way of seeing trends in the data in your worksheet. The charting feature in Excel is extremely flexible and powerful and allows you to create a wide range of charts from any of the ***Insert*** commands in the ***Charts*** group on the

Inserting Charts

The first step when creating a chart is to select the data from the worksheet that you want to chart. It is important to remember that the selected range (which can be either contiguous or non-contiguous), should include *headings* (e.g. names of months, countries, departments, etc). These become *labels* on the chart. Secondly, the selected range should not (normally) include totals as these are inserted automatically when a chart is created.

The second step is to create a chart using the ***INSERT*** tab on the ribbon. You can choose a ***Recommended Chart*** where Excel analyses the selected data and suggests several possible chart layouts.

Alternatively you can create the chart yourself from scratch by choosing one of the ***Insert*** commands in the ***Charts*** group. Charts that you create in Excel can be either *embedded* into a worksheet, or they can exist on their own sheets, known as ***chart sheets***.

Embedded Charts

Charts that appear within a worksheet are known as embedded charts. A chart is really an object that sits on top of the worksheet – unlike numbers and letters, charts are not actually placed into worksheet cells.

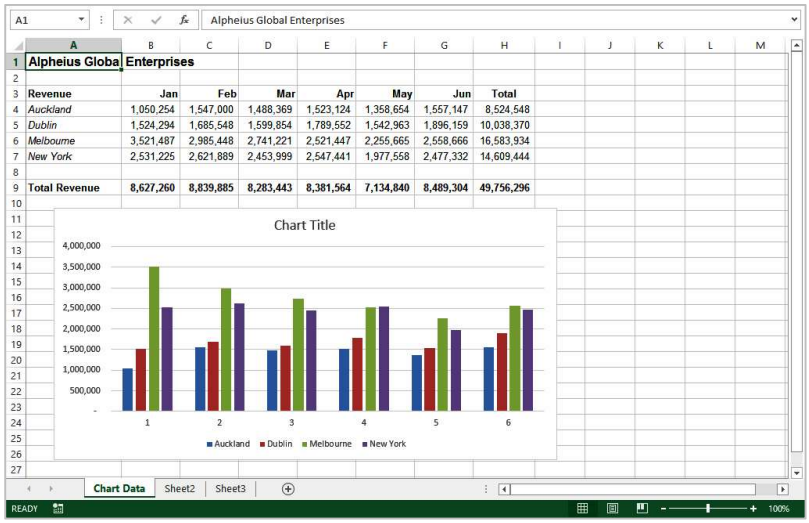
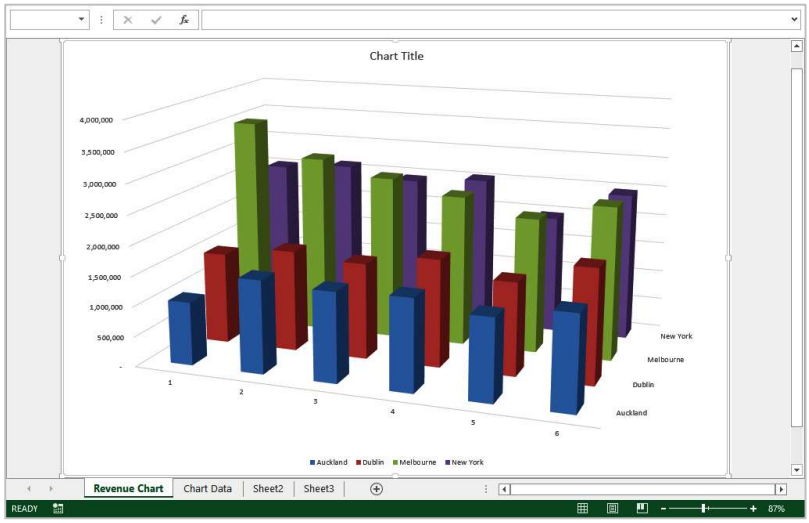


Chart Sheets

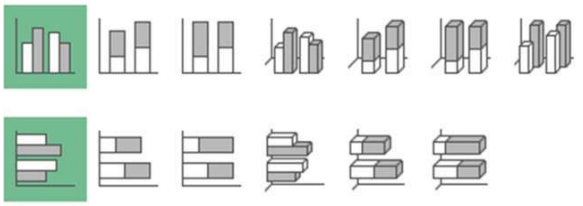
If you want to keep your chart separate from the data you can move the chart to its own sheet. Chart sheets make it easier and more convenient to work with your chart because you'll see more of it on the screen – since the data is not there!



CHOOSING THE RIGHT CHART

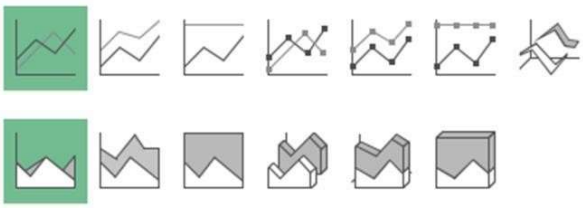
A chart is far more effective at communicating results, outcomes or trends than a table of figures displaying the same information. Different ***chart types*** have been created to communicate different types of information. Some charts show simple relationships between values, while others are designed for quite technical purposes. Here is a summary of the use of different chart types.

Column, Bar



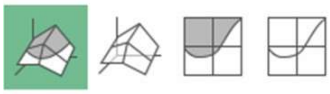
These chart types, either in 2D or 3D, are used to compare values across categories. For example, they could compare the populations of different countries.

Line, Area



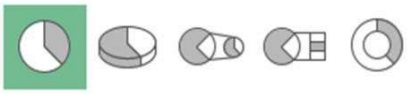
Lines in 2D or 3D are useful for showing trends such as sales or employment figures. An area chart is a line chart with the area below the line filled in.

Surface



The surface chart plots trends in two dimensions. You could use this to plot departmental sales figures over time. The chart then shows you the trends between departments, as well as the sales trends over time.

Pie, Doughnut



If you want to show proportion, such as the sales figures from different departments that make up a total, then the pie and doughnut charts are for you. The only variation between the doughnut chart and the pie chart is that the doughnut chart can display more than one series of values.

Stock

The stock chart type has been designed to show the stock figures for a day, and the trend over time. At its simplest, you can plot the high, low and close figures, and at its most complex, the volume, open, high, low, and close. It can be adapted to show the relationships between any five sets of values.

XY (Scatter)

Scatter diagrams are used to display the relationship between two variables. For example, you could research the age and price of a series of cars, and plot the values you find. You could also investigate the height and weight relationship of a group of people.

Radar

A radar diagram is designed to show the change in values from a central point. For example, it can be used to show mobile telephone coverage, including multiple networks and multiple measurements.

USING A RECOMMENDED CHART

If you are undecided about the best type of chart for the data you have selected to graph, then you may wish to use Excel's ***Recommended Charts*** feature. This feature analyses your selected data and presents you with what it considers to be the best way to chart that data. Several alternatives are presented and you simply choose the one you like most.

Try This Yourself:

Open File — *Before starting this exercise you MUST open the file E1317 Charting_1.xlsx…*

Click in cell ***A3***, hold down Shift, then click in cell ***G7*** to select the range ***A3:G7***

Click on the ***INSERT*** tab, then click on ***Recommended Charts*** in the ***Charts*** group

The Insert Chart dialog box will display with a number of recommended chart options…

3 — Click on each of the alternatives in the left pane to see a preview of how the chart will appear in the right pane and spend a few moments reading the descriptions

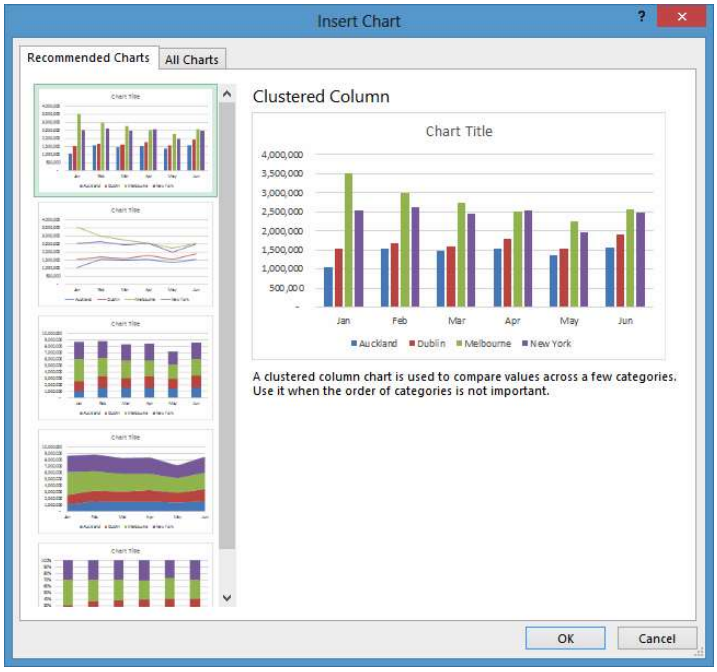
Click on ***Line chart*** (the second alternative in the left pane), then click on **[OK]** to embed the chart in the worksheet

A — Point to the top border of the chart, then click and drag the chart immediately below the data

Click in cell ***A1*** to deselect the chart

	A	B	C	D	E	F	G	H
1	**Alpheius Global Enterprises**							
2								
3	**Revenue**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Total**
4	*Auckland*	1,050,254	1,547,000	1,488,369	1,523,124	1,358,654	1,557,147	8,524,548
5	*Dublin*	1,524,294	1,685,548	1,599,854	1,789,552	1,542,963	1,896,159	10,038,370
6	*Melbourne*	3,521,487	2,985,448	2,741,221	2,521,447	2,255,665	2,558,666	16,583,934
7	*New York*	2,531,225	2,621,889	2,453,999	2,547,441	1,977,558	2,477,332	14,609,444
8								
9	**Total Revenue**	**8,627,260**	**8,839,885**	**8,283,443**	**8,381,564**	**7,134,840**	**8,489,304**	**49,756,296**
10								

1 — *You can also use the Quick Analysis tool that appears at the bottom right corner of a selected range to create a quick chart. However, this method will not allow you to preview a wide variety of charts.*



2

For Your Reference…

To ***use*** the ***Recommended Charts feature***:

1. Select the data to be charted
2. Click on the ***INSERT*** tab, then click on ***Recommended Charts*** in the ***Charts*** group
3. Click on the desired chart and click on **[OK]**

Handy to Know…

- When selecting data for a chart you should include headings (e.g. names of the month, regions, etc.) but not the totals derived from the data. In the example above the names of the months and the cities are selected but the total revenue and the regional totals are not.

CREATING A NEW CHART FROM SCRATCH

The easiest way to create a chart is by using the ***Recommended Chart*** feature. However, you can create a chart yourself from scratch using ***INSERT*** tab of the ribbon. This may be faster if you have a specific style of chart in mind.

Try This Yourself:

Open File — *Before starting this exercise you MUST open the file E1317 Charting_1.xlsx…*

Click in cell ***A3***, hold down Shift, then click in cell ***G7*** to select the range ***A3:G7***

Note that we have selected the data including headings but excluding the totalling…

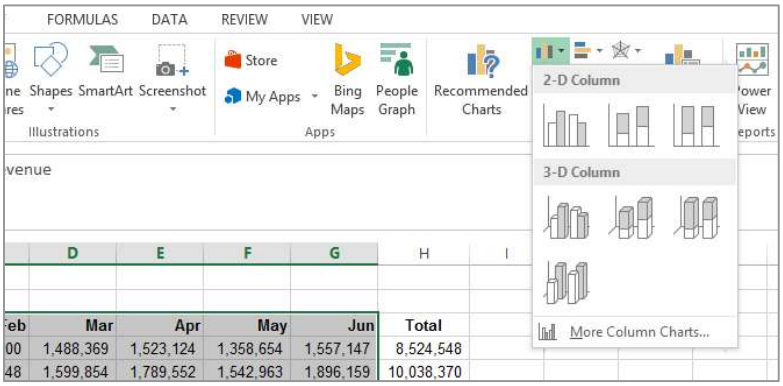
Click on the ***INSERT*** tab, then click on ***Insert Column Chart*** in the ***Charts*** group to see a gallery of ***Column*** chart types

3 — Under ***2-D Column***, click on ***Clustered Column***

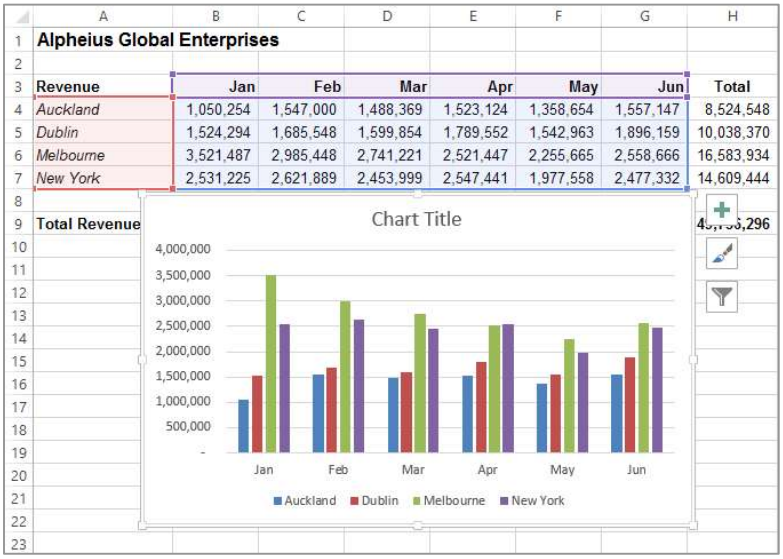
The chart will be embedded in the worksheet. The chart will be active (selected) and you'll see additional tabs on the ribbon for working with the chart…

Point to the chart, then click to select it and drag the chart so that it is underneath the data, as shown

A — Click in cell ***A1*** to deselect the chart



2



4

For Your Reference…

To ***create a chart*** from ***scratch***:

1. Select the range to chart
2. Click on the ***INSERT*** tab, then click on the appropriate ***Insert*** command in the ***Charts*** group
3. Click on the desired chart type

Handy to Know…

- When a chart gallery appears after you've used the ***Insert chart*** command, you can point over each image in the gallery to see a Live Preview of the chart in the worksheet. This will help you to select the right chart for your needs.

WORKING WITH AN EMBEDDED CHART

By default, new charts are placed in the active worksheet, which is usually the one that contains the data. Charts are placed over the top of the worksheet, ***embedded*** as ***objects***. When you want to work with a chart you must select it – this can be done by clicking on the chart. The chart itself is made up of many objects and these too can be selected by clicking on them.

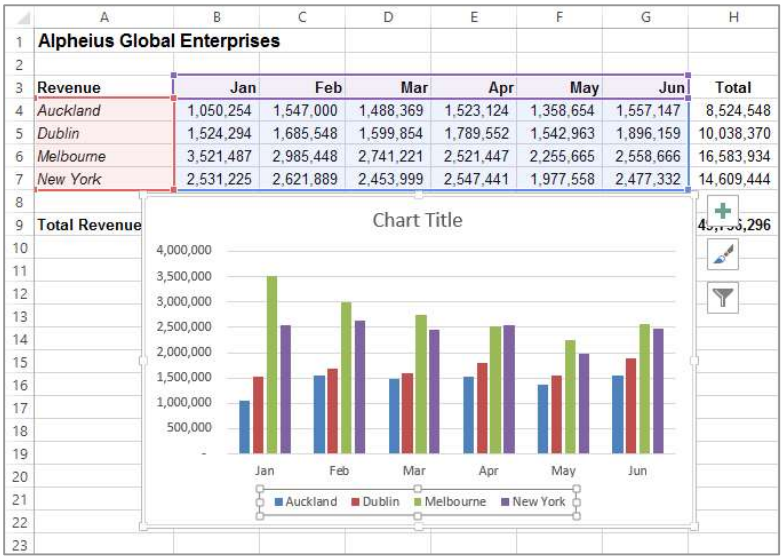
Try This Yourself:

Same File — *Continue using the previous file with this exercise, or open the file E1317 Charting_2.xlsx...*

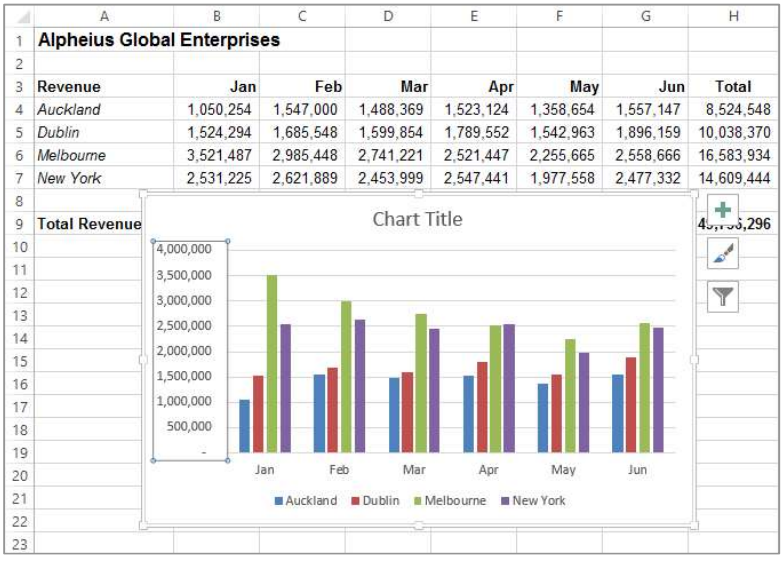
- Point to the border of the chart and click once to select the chart as an object

  The border of the chart will thicken to indicate that the chart is selected, the range of data used for the chart will be coloured, the ribbon will show chart-specific tabs and commands, and additional tools will appear to the right of the chart…

- Click on the chart ***legend*** to make it the active object in the chart
- 3 Click on the **vertical axis** to make it the active object
- Click on the **horizontal axis** to make it the active object
- A Click on the border of the chart to make the overall chart the active object again – notice that the range of data has been coloured again
- Click in cell ***A1*** to deselect the chart



2



3

For Your Reference…

To ***select a chart*** and its ***objects***:

1. Click on the border of the chart to select an embedded chart
2. Click on the various objects of a chart to select them

Handy to Know…

- Once an object is selected, be it a chart, a legend on the chart, or the like, you can right-click on the object to see a shortcut menu specific to the selected object.

RESIZING A CHART

There are two main ways to resize a chart if you are not satisfied with its current size. A chart that has been selected can be resized by dragging one of the sizing handles around its border.

These handles appear with dots in them. You can also resize a chart using commands in the ***Size*** group on the ***CHART TOOLS: FORMAT*** tab that appears when the chart is selected.

Try This Yourself:

Same File

Continue using the previous file with this exercise, or open the file E1317 Charting_3.xlsx...

Click on the chart to select it

Point to the sizing handle on the left border of the chart until the mouse pointer changes to a double arrow

3 Hold down the left mouse button and drag left until the chart appears as shown

You can also resize a chart from the ribbon…

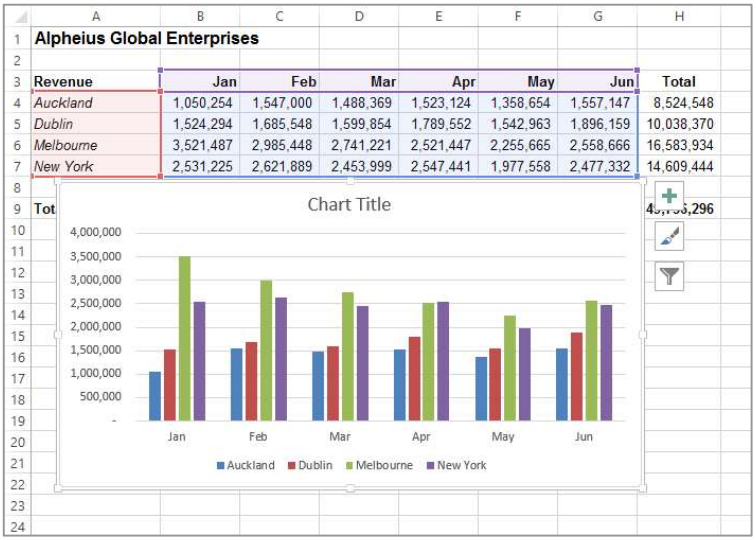
Click on the ***CHART TOOLS: FORMAT*** tab

A Click on the up spinner arrow for ***Shape Height*** in the ***Size*** group until it shows ***8.5 cm***

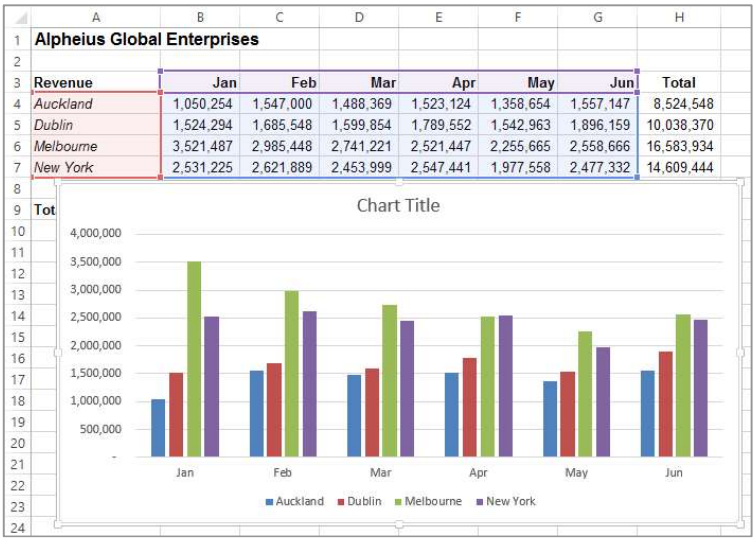
Click on the up spinner arrow for ***Shape Width*** in the ***Size*** group until it shows ***17 cm***

A Click in cell ***A1*** to deselect the chart

3



4



For Your Reference…

To ***resize*** a ***chart***:

1. Select the chart, then click on and drag a sizing handle on the border of the chart, or Click on the ***CHART TOOLS: FORMAT*** tab, then click on up/down spinner arrows for ***Shape Height*** and ***Shape Width*** in the ***Size*** group

Handy to Know…

- If you wish to change the size of a chart quickly and easily, clicking on and dragging the resize handles is the best option whereas if you want to resize a chart to a specific size it is best to resize the chart using the tools in the ***Size*** group on the ***CHART TOOLS: FORMAT*** tab.

REPOSITIONING A CHART

It's unlikely that a chart embedded in the worksheet by Excel will be exactly where you would like it to be. You can easily relocate a chart to a more appropriate position by clicking on and dragging the border of the chart to the desired location. The chart obviously must be selected before it can be dragged to a new position.

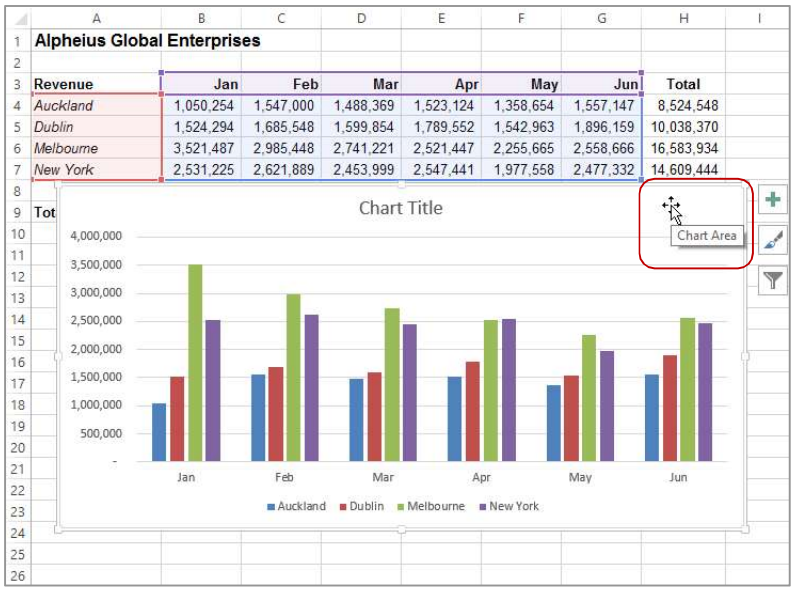
Try This Yourself:

Same File

Continue using the previous file with this exercise, or open the file E1317 Charting_4.xlsx...

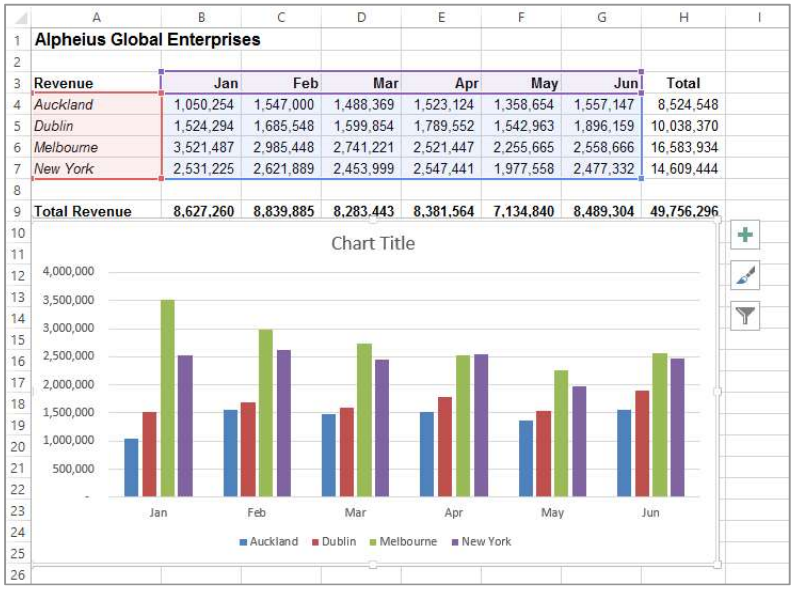
- Click on the chart to select it
- Point to the border of the chart until the mouse pointer changes to a four-headed arrow
- 3 Hold down the left mouse button and drag the chart below the data so that the ***Total Revenue*** row in the worksheet is visible
- Click in cell ***A1*** to deselect the chart

2



Revenue	Jan	Feb	Mar	Apr	May	Jun	Total
Auckland	1,050,254	1,547,000	1,488,369	1,523,124	1,358,654	1,557,147	8,524,548
Dublin	1,524,294	1,685,548	1,599,854	1,789,552	1,542,963	1,896,159	10,038,370
Melbourne	3,521,487	2,985,448	2,741,221	2,521,447	2,255,665	2,558,666	16,583,934
New York	2,531,225	2,621,889	2,453,999	2,547,441	1,977,558	2,477,332	14,609,444

3



Revenue	Jan	Feb	Mar	Apr	May	Jun	Total
Auckland	1,050,254	1,547,000	1,488,369	1,523,124	1,358,654	1,557,147	8,524,548
Dublin	1,524,294	1,685,548	1,599,854	1,789,552	1,542,963	1,896,159	10,038,370
Melbourne	3,521,487	2,985,448	2,741,221	2,521,447	2,255,665	2,558,666	16,583,934
New York	2,531,225	2,621,889	2,453,999	2,547,441	1,977,558	2,477,332	14,609,444
Total Revenue	**8,627,260**	**8,839,885**	**8,283,443**	**8,381,564**	**7,134,840**	**8,489,304**	**49,756,296**

For Your Reference…

To ***move*** a ***chart***:

1. Click on the chart to select it
2. Move the mouse pointer to the border of the chart until the mouse pointer changes to a four-headed arrow
3. Drag the chart to a new location

Handy to Know…

- You can use the standard cut and paste commands to move a chart. Select the chart, click on the ***HOME*** tab, then click on ***Cut*** in the ***Clipboard*** group to copy it to the clipboard. Click in a new location and, on the ***HOME*** tab, click on ***Paste*** in the ***Clipboard*** group to paste the chart.

PRINTING AN EMBEDDED CHART

When you print a worksheet, Excel will print whatever is in or ***embedded*** in that worksheet (including charts). This makes it easy and convenient to print both the chart and its underlying data. All you need to do is to position the chart in the appropriate location then access the print commands in the usual way.

Try This Yourself:

Open File — *Before starting this exercise you MUST open the file E1317 Charting_5.xlsx…*

Click on the ***FILE*** tab, then click on ***Print*** to see a preview of the data and the chart

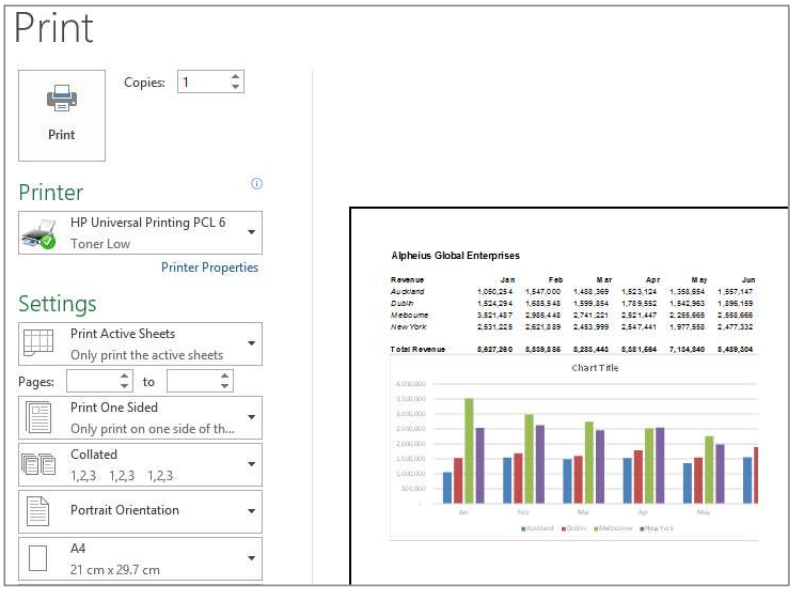
Not all of the chart or data may be visible so we'll change the orientation to landscape…

Click on ***Portrait Orientation*** in ***Settings*** then select **Landscape Orientation**

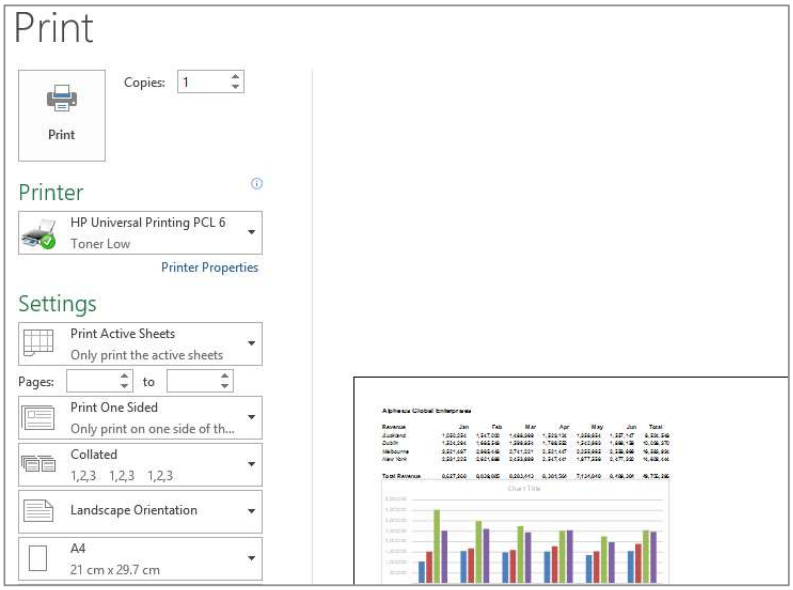
3 Click on **[Print]** to print the chart

If you don't have a printer connected or you don't wish to print, click on the Back arrow to display the workbook again

1



2



For Your Reference…

To ***print*** an ***embedded chart***:

1. Click on the ***FILE*** tab, then click on ***Print***
2. Click on **[Print]**

Handy to Know…

- If you only want to print the chart and not the data, click on the chart to select it, click on the ***FILE*** tab, then click on ***Print***. You will notice that only the chart will appear in the preview.

CREATING A CHART SHEET

Charts can either be stored in a worksheet or in a separate sheet of their own known as a ***chart sheet***. Chart sheets separate the chart from the underlying data and are useful especially if you are interested in printing the chart on its own page. Charts can be shifted back and forth between a worksheet and a chart sheet.

Try This Yourself:

Same File — *Continue using the previous file with this exercise, or open the file E1317 Charting_6.xlsx...*

Click on the chart to select it and display the ***CHART TOOLS:DESIGN*** and ***CHART TOOLS: FORMAT*** tabs

Click on the ***CHART TOOLS: DESIGN*** tab, then click on ***Move Chart*** in the ***Location*** group to display the ***Move Chart*** dialog box

3 Click on ***New Sheet***, then type **Revenue Chart**

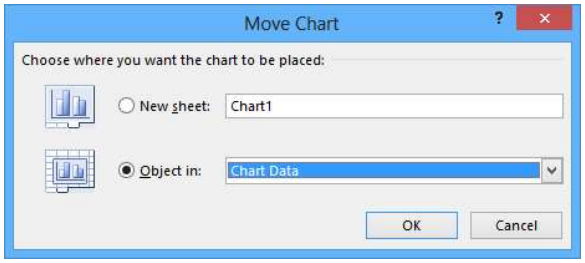
This will become the sheet name for the chart…

Click on **[OK]** to move the embedded chart to its own sheet

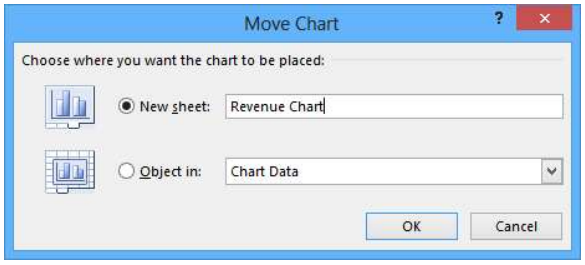
A Click on the ***Chart Data*** worksheet tab to see the data again

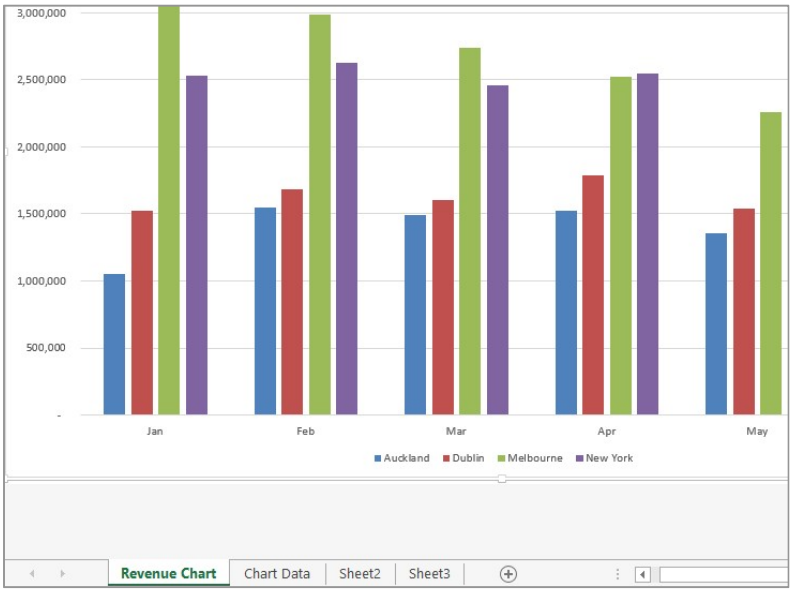
Notice that the chart is no longer embedded on this worksheet

2



3





4

For Your Reference…

To ***create*** a ***chart sheet***:

1. Click on the ***CHART TOOLS: DESIGN*** tab, then click on ***Move Chart*** in the ***Location*** group
2. Click on ***New Sheet***, type a name for the sheet and click on **[OK]**

Handy to Know…

- Keeping charts on their own sheets makes them easier to work with as they do not obstruct the data.

CHANGING THE CHART TYPE

When you create a chart, you may not always achieve the result that you desire. Fortunately, the process for changing a chart type is quite simple. You just need to have an understanding of what each chart type is designed for and to select the format that best suits your purpose. Just be aware that some chart types are designed for specialised applications.

Try This Yourself:

Same File

Continue using the previous file with this exercise, or open the file E1317 Charting_7.xlsx...

Click on the ***Revenue Chart*** worksheet tab to see the chart, then click anywhere on the chart to select it and display the chart commands on the ribbon

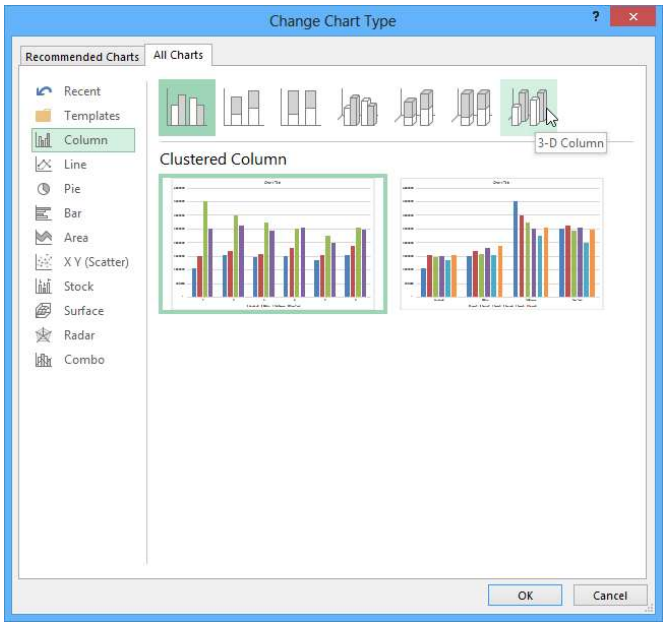
Click on the ***CHART TOOLS: DESIGN*** tab, then click on ***Change Chart Type*** in the ***Type*** group to display the ***Change Chart Type*** dialog box

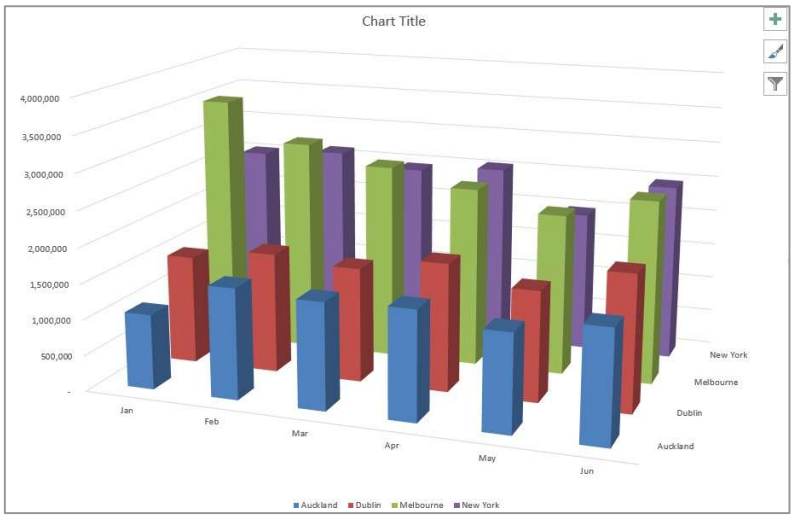
3 Click on ***3-D Column***, as shown

Click on **[OK]** to apply the change to the chart

A Click on the ***Chart Data*** worksheet tab to return to the worksheet

3





4

For Your Reference…

To ***change*** the ***chart type***:

1. Ensure the chart or chart sheet is selected
2. Click on the ***CHART TOOLS: DESIGN*** tab, then click on ***Change Chart Type*** in the ***Type*** group
3. Click on the desired chart and click on **[OK]**

Handy to Know…

- You can use ***Change Chart Type*** in the ***Type*** group on the ***CHART TOOLS: DESIGN*** tab for either embedded charts or charts that have their own worksheet tabs.

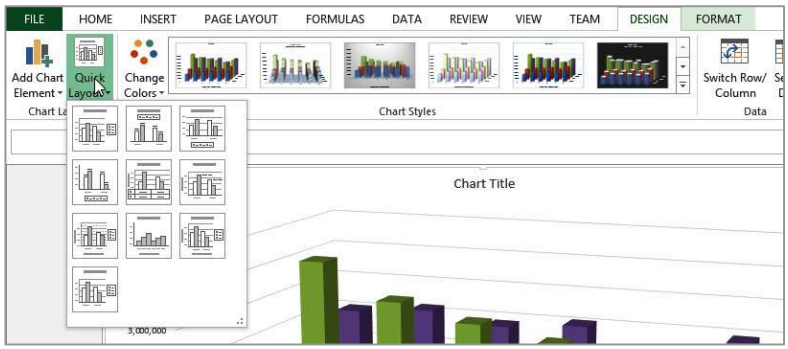
CHANGING THE CHART LAYOUT

Excel has a gallery of ***chart layouts*** that can be applied to an existing and selected chart that is either in its own worksheet or embedded into the data worksheet. ***Chart layouts*** are the way elements of the chart are placed within the chart. Different layout options can therefore change the appearance of your chart and its readability.

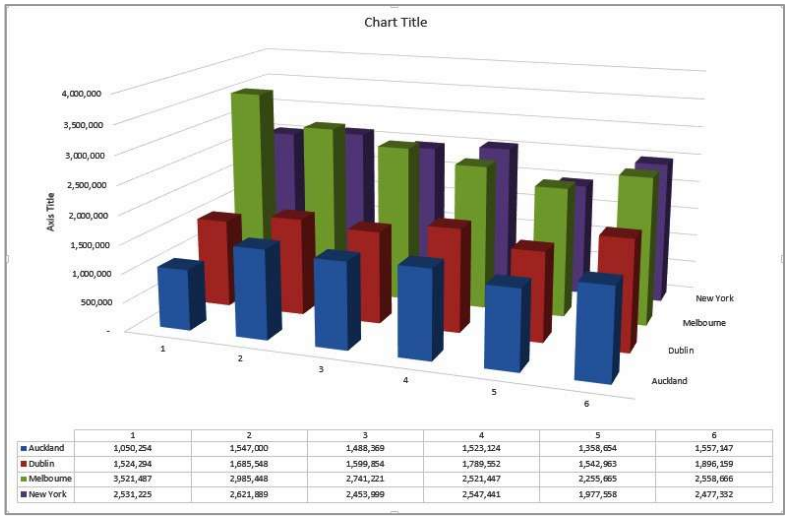
Try This Yourself:

Same File — *Continue using the previous file with this exercise, or open the file E1317 Charting_8.xlsx...*

- Click on the ***Revenue Chart*** worksheet tab to see the chart, then click anywhere on the chart to select it and see the ***CHART TOOLS: DESIGN*** and ***CHART TOOLS: FORMAT*** tabs
- Click on the ***CHART TOOLS: DESIGN*** tab, then click on ***Quick Layout*** in the ***Chart Layouts*** group to display a gallery of layout options
- 3 Click on ***Layout 3*** to apply this chart layout to the chart
- Repeat steps ***2*** and ***3*** to select other ***chart layouts*** and see how they appear when applied to the chart
- A Click on ***Quick Layout*** in the ***Chart Layouts*** group and click on ***Layout 5***
- Click on the ***Chart Data*** worksheet tab to display this worksheet



2



5

For Your Reference…

To ***change*** the ***chart layout***:

1. Ensure the chart or chart sheet is selected
2. Click on the ***CHART TOOLS: DESIGN*** tab, then click on ***Quick Layout*** in the ***Chart Layouts*** group
3. Select the desired layout

Handy to Know…

- ***Chart layouts*** are predefined themes created by Microsoft. Even if you choose one of these layouts you can still make your own modifications to the way the elements and objects are positioned and how they appear.

CHANGING THE CHART STYLE

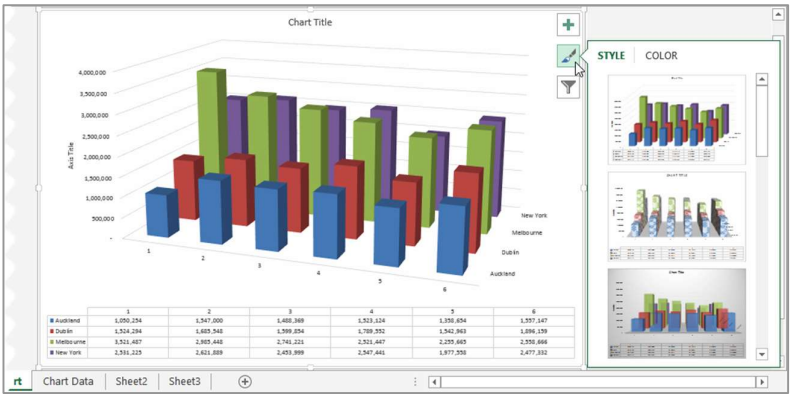
The style of a chart refers to its colour scheme and overall appearance and can impact the clarity of the content of the chart. Choosing a predefined chart style can save valuable time and effort. Excel also makes it easy to change chart styles if you decide the style you have chosen is not appropriate.

Try This Yourself:

Same File

Continue using the previous file with this exercise, or open the file E1317 Charting_9.xlsx...

- Click on the ***Revenue Chart*** worksheet tab to see the chart, then click anywhere on the chart to select it
- Click on the ***Chart Styles*** tool to the right of the chart to see a gallery of style options, as shown
- 3 Scroll through the gallery and point to each style to see how your chart will look in Live Preview
- Scroll to and click on ***Style 9***
- A Click on the ***Chart Styles*** tool to the right of the chart to close the gallery
- Click on the ***Chart Data*** worksheet tab



2

4

For Your Reference…

To ***change*** the ***chart style***:

1. Ensure the chart or chart sheet is selected
2. Click on the ***Chart Styles*** tool to the right of the chart
3. Click on the desired style

Handy to Know…

- Instead of using the ***Chart Styles*** tool to the right of the chart, you can also choose chart styles from the ***CHART TOOLS: DESIGN*** tab on the ribbon when a chart is selected.

PRINTING A CHART SHEET

You can print an embedded chart simply by printing the worksheet as if it is a standard worksheet. You can also print a chart sheet in exactly the same way. To print a chart sheet, the simply ensure that the chart sheet is active, then click on the ***FILE*** tab, click on ***Print***, apply the print settings as desired and click on **[Print]**.

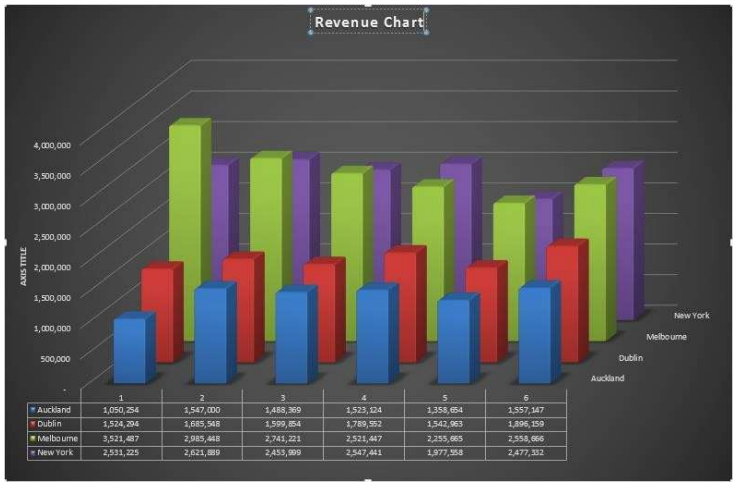
Try This Yourself:

Same File — *Continue using the previous file with this exercise, or open the file E1317 Charting_10.xlsx...*

- Click on the ***Revenue Chart*** worksheet tab
- Click on the ***Chart Title*** text box, select the text, then type **Revenue Chart** to change the title
- 3 Repeat step ***2*** to change the ***Axis Title*** to **Euros**
- Click on the ***FILE*** tab, then click on ***Print*** to see the print options and a preview of the chart

  No further adjustment is required here so we can go ahead and print it…
- A If you wish to print the chart, click on **[Print]**

  If *you don't have a printer connected or wish to save paper, click on the Back arrow to return to the worksheet…*
- Click on the ***Chart Data*** worksheet tab



2

4

For Your Reference…

To ***print*** a ***chart sheet***:

1. Click on the chart sheet tab
2. Click on the ***FILE*** tab, then click on ***Print***
3. Click on **[Print]**

Handy to Know…

- When you preview a chart prior to printing, it may not appear as clearly as you would like. This is due to the screen resolution, not the chart itself. The printed version of the chart will appear clearer than the preview.

EMBEDDING A CHART INTO A WORKSHEET

Charts can either be presented in their own sheets or they can be embedded into a worksheet that contains data. In fact, you can move a chart back and forth between its own sheet and a worksheet as often as you wish without impacting at all on the chart. Sometimes it is easier to work with a chart in its own sheet, but it may be necessary to print the chart with its data.

Try This Yourself:

Same File

Continue using the previous file with this exercise, or open the file E1317 Charting_11.xlsx...

Click on the ***Revenue Chart*** worksheet tab

Click on the ***CHART TOOLS: DESIGN*** tab, then click on the ***Move Chart*** tool in the ***Location*** group to display the ***Move Chart*** dialog box

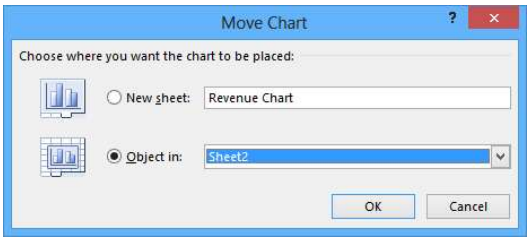
3 Click on ***Object in***, then click on the drop arrow and click on ***Sheet 2***

Click on **[OK]** to move the chart to the worksheet

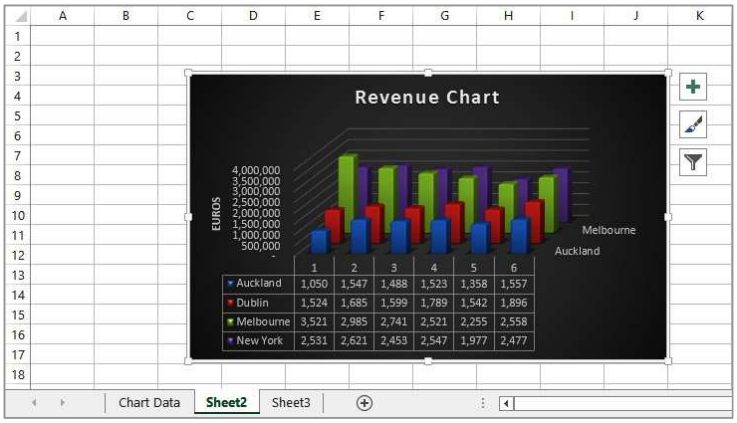
A Reposition the chart by dragging it to the top left of the sheet, then drag the resizing handles to resize it as shown

Click on the ***Chart Data*** worksheet tab

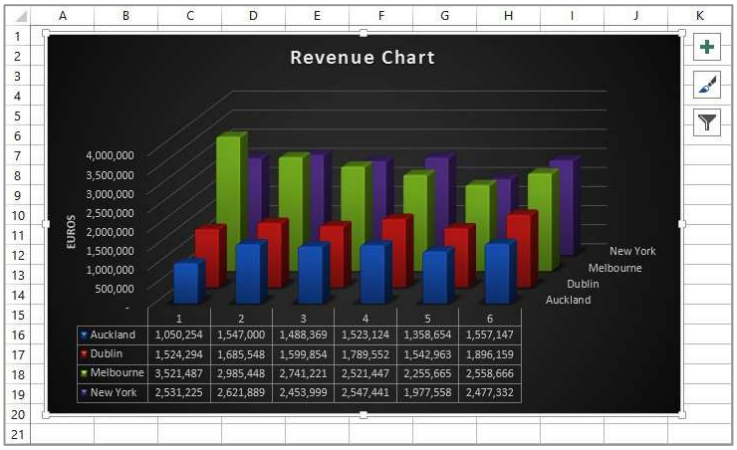
3



4



5



For Your Reference…

To ***embed*** a ***chart*** in a ***worksheet***:

1. Click on the ***CHART TOOLS: DESIGN*** tab, then click on ***Move Chart*** in the ***Location*** group
2. Click on the drop arrow, select the sheet to embed it into, then click on **[OK]**

Handy to Know…

- Embedding is normally only done when it is necessary to print the worksheet and the data together.

DELETING A CHART

If you no longer require a chart you can easily delete it. With embedded charts you must first select the chart in the worksheet and then press the Del key to delete the chart. With charts in chart sheets you can delete the sheet by right clicking on the chart sheet tab and choosing the deletion option.

Try This Yourself:

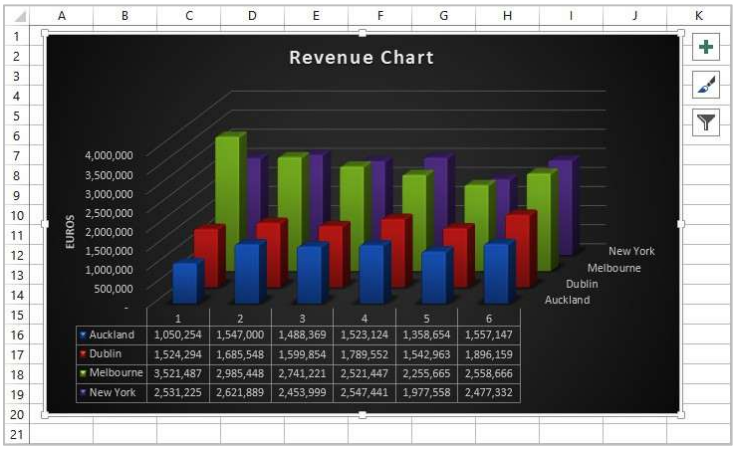
Same File

Continue using the previous file with this exercise, or open the file E1317 Charting_12.xlsx...

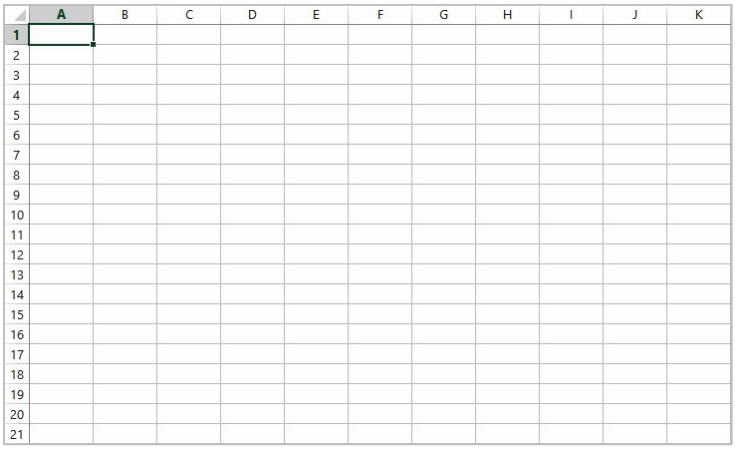
Click on ***Sheet 2*** to see the chart in the worksheet, then click on the chart to select it

Press Del to delete the chart

1



2



For Your Reference…

To ***delete*** a ***chart***:

1. Click on the worksheet to see the chart, then click on the chart to select it
2. Press Del

Handy to Know…

- Because it is so easy to delete a chart object it is also easy to delete it by accident! Remember, you can use the ***Undo*** feature in Excel to restore accidental deletions.

PRACTICE EXERCISE

Creating Charts

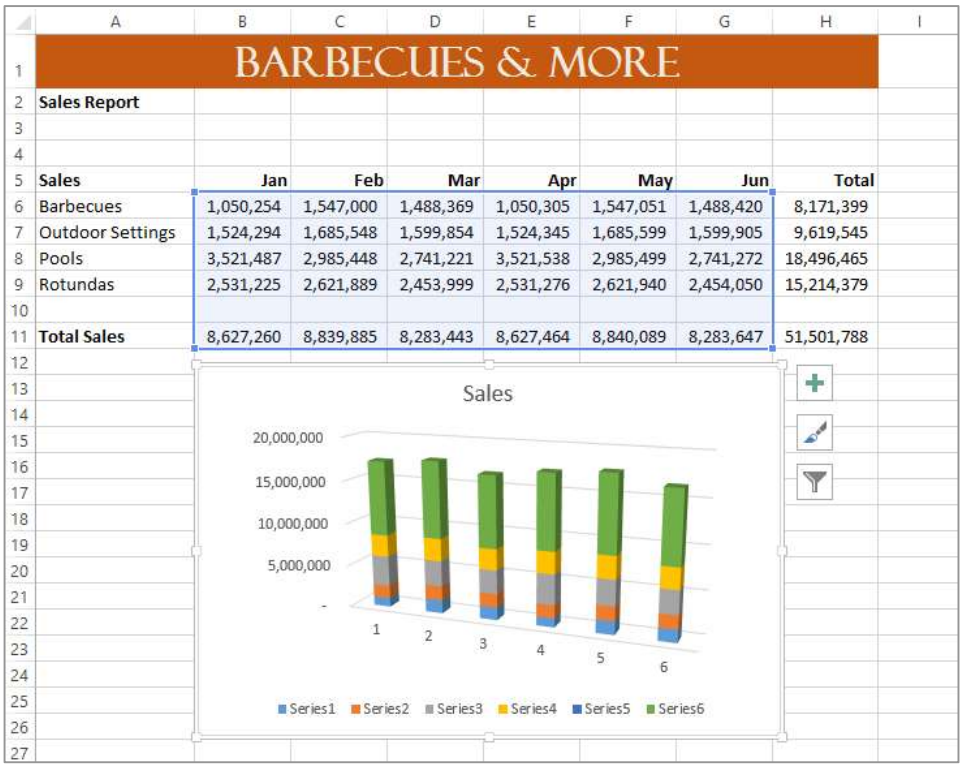
Tasks:		Completed:
	Before starting this exercise you MUST have completed all of the topics in the chapter Creating Charts…	
?	Open the workbook called ***PE_Creating Charts.xlsx*** (it can be found in the same folder as the student files)	☐
?	Create a ***Clustered Column*** chart showing the sales of products for the months of ***January*** through to ***June***	☐
3	Drag the chart down below the data and resize it so that it is the same width as the data, keeping the proportions as far as possible	☐
?	Change the chart type to ***3-D Stacked Column*** and change the chart title to ***Sales***	☐
	The chart should appear as shown in sample A on the following page...	
A	Create a ***Pie in 3-D*** chart of the products and their totals then place it on its own chart sheet called ***Product Sales***	☐
?	Change the ***Chart Title*** to ***Product Sales***	☐
A	Change the layout to ***Layout 6***	☐
	The chart should appear as shown in sample B on the following page...	
?	Print the pie chart	☐
?	Use the ***Save As*** command to save the workbook as ***PE_Creating Charts (Completed).xlsx***	☐

Files required for exercise:	*PE_Creating Charts.xlsx*
Files/work created by student:	*PE_Creating Charts (Completed).xlsx, 1 printed copy of the Product Sales chart*
Exercise Completed:	☐

PRACTICE EXERCISE SAMPLE

Creating Charts

A



	A	B	C	D	E	F	G	H
1	BARBECUES & MORE							
2	**Sales Report**							
3								
4								
5	**Sales**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Total**
6	Barbecues	1,050,254	1,547,000	1,488,369	1,050,305	1,547,051	1,488,420	8,171,399
7	Outdoor Settings	1,524,294	1,685,548	1,599,854	1,524,345	1,685,599	1,599,905	9,619,545
8	Pools	3,521,487	2,985,448	2,741,221	3,521,538	2,985,499	2,741,272	18,496,465
9	Rotundas	2,531,225	2,621,889	2,453,999	2,531,276	2,621,940	2,454,050	15,214,379
10								
11	**Total Sales**	8,627,260	8,839,885	8,283,443	8,627,464	8,840,089	8,283,647	51,501,788

B