

2

Session Two: Doing Useful Work with Excel

Only those who have the patience to do simple things perfectly ever acquire the skill to do difficult things easily.

Unknown authors

Now that you've mastered the basics you are ready to do really useful work with this amazing tool. In this session you will learn to use all of Excel's basic features properly. This will put you way ahead of anybody that hasn't been formally trained in Excel best practice. You'll be doing simple things, but you'll be doing them perfectly!

Even after years of daily use many users are unable to properly use Excel's fundamental features. They often reach their goal, but get there in a very inefficient way simply because they were never taught how to do things correctly. By the end of this session you'll be astonished with how well you are working with Excel. What originally seemed like a baffling array of little colored buttons will suddenly all begin to make sense.

Session Objectives

By the end of this session you will be able to:

- Enter text and numbers into a worksheet
- Create a new workbook and view two workbooks at the same time
- Use AutoSum to quickly calculate totals
- Select a range of cells and understand Smart Tags
- Enter data into a range and copy data across a range
- Select adjacent and non-adjacent rows and columns
- Select non-contiguous cell ranges and view summary information
- Re-size rows and columns
- Use AutoSum to sum a non-contiguous range
- Use AutoSum to quickly calculate averages
- Create your own formulas
- Resize a column and create functions using Formula AutoComplete
- Use AutoFill for text and numeric series
- Use AutoFill to adjust formulas
- Use AutoFill Options
- Speed up your AutoFills and create a custom fill series
- Use the zoom control
- Print out a worksheet

Lesson 2-1: Enter text and numbers into a worksheet

Excel beginners tend to reach for the mouse far too often. One of the keys to productivity with Excel is to avoid using the mouse when entering data. In this lesson we'll quickly populate a worksheet without using the mouse at all.

- 1 Open the Sample file: *First Quarter Sales and Profit*.

	A	B	C	D
1	Sales and Profit Report - First Quarter 2008			
2				
3		Jan	Feb	Mar
4	New York	22,000	29,000	19,000
5	Los Angeles			
6	London			
7	Paris			
8	Munich			

tip

Entering numbers as text

Sometimes you need Excel to recognize a number as text.

If you type an apostrophe (') first, Excel won't display the apostrophe but will format the cell as text. You'll notice that the number is then left justified to reflect this.

When a number is formatted as text you cannot perform any mathematical calculation with it.

- 2 Notice the difference between values and text.

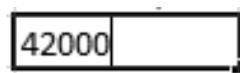
Cells can contain values or text. Values can be numbers, dates or formulas (more on formulas later).

Excel usually does a great job of recognizing when there are values in a cell and when there is text. The giveaway is that text is always (by default) left aligned in the cell and values are right aligned.

Look at the numbers on this worksheet. Notice how they are all right aligned. This lets you know that Excel has correctly recognized them as values and will happily perform mathematical operations using them.


- 3 Save a value into a cell.


1. Type the value 42000 into cell B5. Notice that the mouse cursor is still flashing in the cell.



At this stage the value has not been saved into the cell.

If you change your mind, you can still undo the value by pressing the <ESC> key at the top left of your keyboard or by



clicking the *Cancel button*  on left hand side of the Formula Bar.

2. Decide that you want to keep this value in the cell by either pressing the <Enter>, <Tab> or an <Arrow> key on the keyboard, or by clicking the *Confirm button*  on the Formula Bar.

- 4 Enter a column of data without using the mouse.

When you enter data into a column there's no need to use the mouse. Press the <Enter> key after each entry and the active cell moves to the cell beneath. Try this now with the following January sales data:

note

Very few Excel users will make use of the Cancel  and Enter  buttons on the formula bar.

The Enter button is the only method that will save a value into a cell without moving the cursor away from the cell.

This is very useful during macro recording – an expert skill that is outside the scope of this book but is covered in the *Excel Expert Skills* book in this series.

First Quarter Sales and Profit

important

The many ways of entering numbers

Negative numbers

-123.56
(123.56)

Currency prefixes

Excel is quite happy for you to prefix a number with a currency symbol. The currency symbol it will accept depends upon how you defined the regional options in your operating system.

\$123.56 (works in USA)
£123.56 (works in UK)

See *Lesson 4-3: Format numbers using built-in number formats* for an easy method of setting \$, £ and € currency prefixes whatever your locale.

Commas

12,234,567.78

Fractions

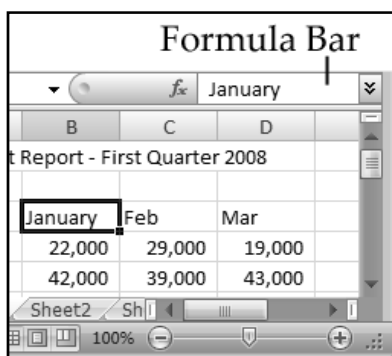
You must leave a space between a number and a fraction for this to work.

6 1/4
(six, space, one, /, four)

The above will appear on the worksheet as 6.25 after you enter it in this way.

0 1/4
(zero, space, one, /, four)

The above will appear on the worksheet as 0.25. The leading zero is needed to prevent Excel from thinking that you are entering a date.



1. Type **18,000** into cell B6
2. Press the <Enter> key to move to cell B7.
3. Do the same to enter the relevant values into the next two cells.

		Jan	Feb	Mar
3				
4	New York	22,000	29,000	19,000
5	Los Angeles	42,000		
6	London	18,000		
7	Paris	35,000		
8	Munich	12,000		

5 Enter a row of data without using the mouse.

When you enter a row of data you also don't have to use the mouse.

1. Click in Cell C5.
2. Type **39,000** and then press the <Tab> key on your keyboard.

The Tab key is on the left hand side of the keyboard above the <Caps Lock> key. Notice how pressing the <Tab> key saves the value into the cell and then moves one cell to the right.

3. Type **43,000** in cell D5 and press the <Enter> key.
4. You magically move to cell C6 as Excel assumes you want to begin entering the next row.

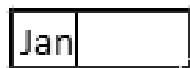
6 Complete the table without using the mouse.

By using the <Tab> or <Enter> key in the right place you should be able to complete the table now without using the mouse:

	A	B	C	D
3		Jan	Feb	Mar
4	New York	22,000	29,000	19,000
5	Los Angeles	42,000	39,000	43,000
6	London	18,000	20,000	22,000
7	Paris	35,000	26,000	31,000
8	Munich	12,000	15,000	13,000

7 Change the text in cell B3 to January.

1. Double-click cell B3. Notice that there is now a flashing cursor in the cell.



2. Type **uary** on the keyboard to change Jan to January.
3. Press the <Enter> key.

8 Change the text in cell B3 back to Jan using the formula bar.

Click once in cell B3 and then change the text in the formula bar (see sidebar).

9 Save your work as First Quarter Sales and Profit-2.

Lesson 2-2: Create a new workbook and view two workbooks at the same time

tip

Other way of creating a new workbook

- Use the keyboard shortcut <Ctrl>+<N>.
- Add a button to the Quick Access Toolbar.

See more details of how this is done in: *Lesson 1-10: Customize the Quick Access Toolbar and preview the printout.*

note

What are templates?

The vast majority of users know nothing about templates and simply base every worksheet upon the *Blank Workbook* default template supplied by Microsoft.

The *Blank Workbook* template has no information in the worksheet itself, but contains all of the Excel Option settings such as the default font size and type.

Templates can also contain anything that a worksheet can contain and are used to store worksheet frameworks to give you a flying start when you find that you often create very similar worksheet layouts.

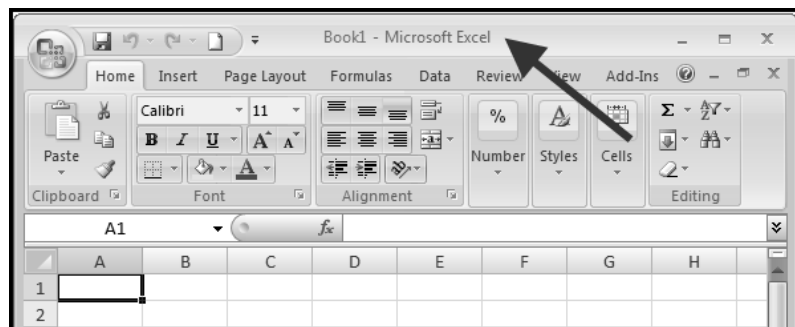
If you explore the *New Workbook* dialog a little more you'll see that there are hundreds of pre-built templates provided by Microsoft.

Later in this book, in *Lesson 3 12: Create a template* you'll learn how to create your own template library to personalize the appearance of your workbooks.

1 Create a new workbook by opening Excel


The easiest way to create a new workbook is to simply open Excel. Excel helpfully creates a workbook, unimaginatively named *Book1*. If you already have a workbook open called *Book1*, the new workbook will be called *Book2...* and so on.

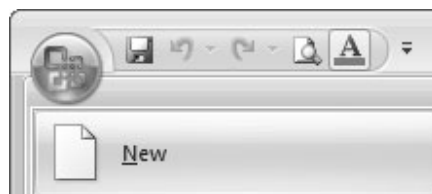
Open Excel now and see this in action. Notice that *Book1 – Microsoft Excel* is displayed on the Title Bar.



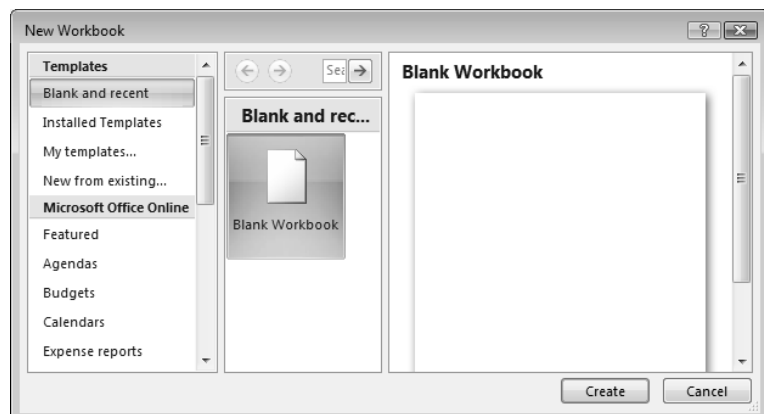
2 Create another new workbook.

You wouldn't want to have to open and close Excel every time you needed a new workbook.

1. Click the Office button  at the top left of the screen and click the *New* button on the dialog:



2. The *New Workbook* dialog is displayed:



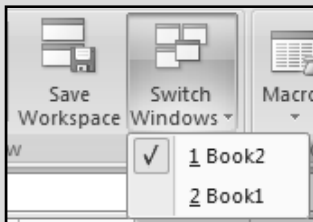
3. Double-Click the *Blank Workbook* template. A new blank workbook called *Book2* is displayed in the workbook window.

note

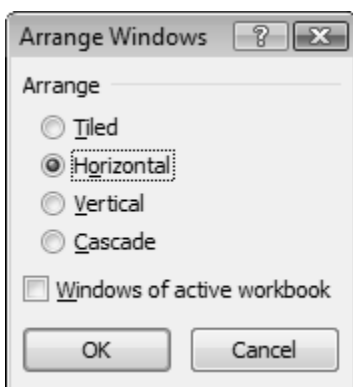
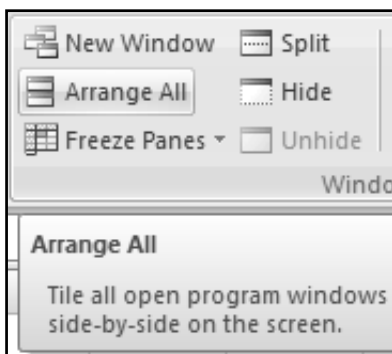
Finding a workbook when many are open

An alternative way to quickly find a workbook when many are open is to click View→Window→Switch Windows.

This presents you with a list of all open workbooks.



You can also use the <Ctrl>+<Tab> keyboard shortcut to cycle through all open workbooks.



You could be forgiven for thinking that nothing has happened but you can see that the Title Bar now says: *Book2 – Microsoft Excel*, showing that you are now looking at a different workbook.

See the *What are templates* sidebar for more information about templates.

3 Use the buttons on the taskbar to move between workbooks.

You'll see two buttons on the taskbar at the bottom of the screen:



Click on the buttons to show each workbook in the worksheet window. The only difference you will see is the Title Bar changing from Book1 to Book2 because both workbooks are empty.

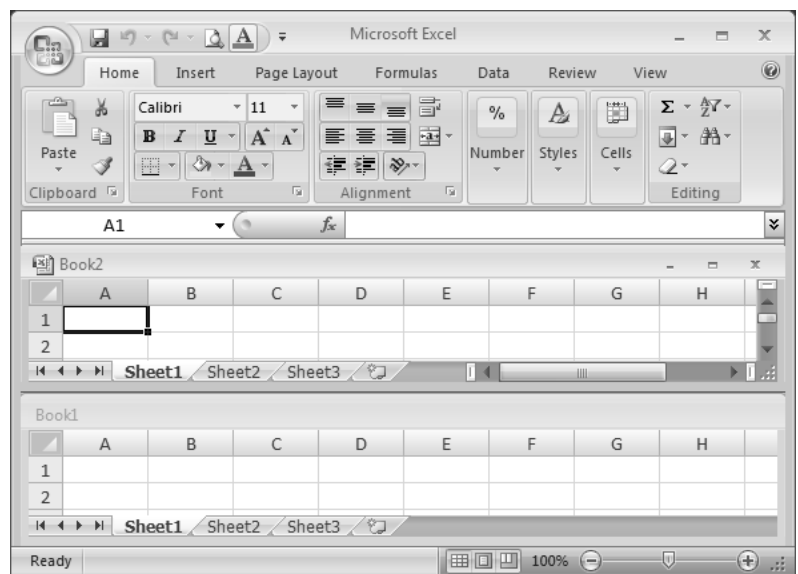
See the sidebar for other methods of switching windows.

4 Show both Book1 and Book2 in the worksheet window at the same time.

This skill often draws a gasp of amazement from my students. Believe it or not, most Excel users don't know how to do this.

1. Click View→Window→Arrange All. The *Arrange Windows* dialog is displayed.
2. Choose the Horizontal arrangement and click the OK button.

Both workbooks are now shown within the workbook window:



Notice that as you click each workbook window the title bar lights up and the *Close/Minimize/Restore Down* buttons appear, to show that this is the active workbook.

5 Close Book2 and Maximize Book1 to restore the display to a single workbook.

If you've forgotten how to do this, refer back to: *Lesson 1-3: Understand the Application and Workbook windows.*

Lesson 2-3: Use AutoSum to quickly calculate totals

anecdote

I ran an Excel course for a small company in London a couple of years ago.

The boss had sent his two office staff to learn a little more about Excel.

Before the course began I asked the delegates how long they had been using Excel. They told me that they'd been using it for two years to do all of their office reports.

When I showed them AutoSum they gasped in delight. "This will save us hours" they told me.

I was curious how they had been doing their reports before.

Believe it or not, they had been adding up all of the figures in each column with a calculator and then manually typing the totals at the bottom of each column.

In this case the boss had given them Excel as he had heard it was very good. Unfortunately he had not initially seen the need to train the staff in its use.


With no training it seemed quite logical to them to use it like a word processor and the boss had still been delighted that his staff were using such impressive technology.

Excel's AutoSum feature is a really useful and fast way to add the values in a range of cells together.

- 1 Open *First Quarter Sales and Profit-2* from your sample files folder (if it isn't already open).
- 2 In cell A9 Type the word **Total** followed by the <Tab> key.

The cursor moves to the right and is now in cell B9:

7	Paris	35,000	26,000	31,000
8	Munich	12,000	15,000	13,000
9	Total			

- 3 Click Home→Editing→  (this is the Autosum button).



Something interesting has happened to the worksheet:

	A	B	C	D
3		Jan	Feb	Mar
4	New York	22,000	29,000	19,000
5	Los Angeles	42,000	39,000	43,000
6	London	18,000	20,000	22,000
7	Paris	35,000	26,000	31,000
8	Munich	12,000	15,000	13,000
9	Total	=SUM(B4:B8)		
10				

Excel has placed a marquee around the number range that AutoSum has guessed we want to work with. The pattern of dots that marks the boundary of the marquee is called the *marching ants* (that really is the technical term for them)!

The marching ants surround all of the numbers in the column above, up to the first blank cell or text cell (in this case, up to the word Jan).

=Sum(B4:B8) is your first glimpse of an Excel Formula. Formulas always begin with an equals sign. This formula is using the SUM function to compute the Sum (or total) of the values in cells B4 to B8.


First Quarter Sales and Profit-2

tip

Entering an AutoSum using only the keyboard

You can also execute an AutoSum using the keyboard shortcut:

<Alt>+<=>.

- Press the <Enter> key or click the AutoSum button  once more to display the total January sales:

	A	B	C	D
3		Jan	Feb	Mar
4	New York	22,000	29,000	19,000
5	Los Angeles	42,000	39,000	43,000
6	London	18,000	20,000	22,000
7	Paris	35,000	26,000	31,000
8	Munich	12,000	15,000	13,000
9	Total	129,000		

- Type the word **Total** in cell E3 and press the <Enter> key once.

The cursor moves down one row and is now in cell E4.

	B	C	D	E
3	Jan	Feb	Mar	Total
4	22,000	29,000	19,000	
5	42,000	39,000	43,000	

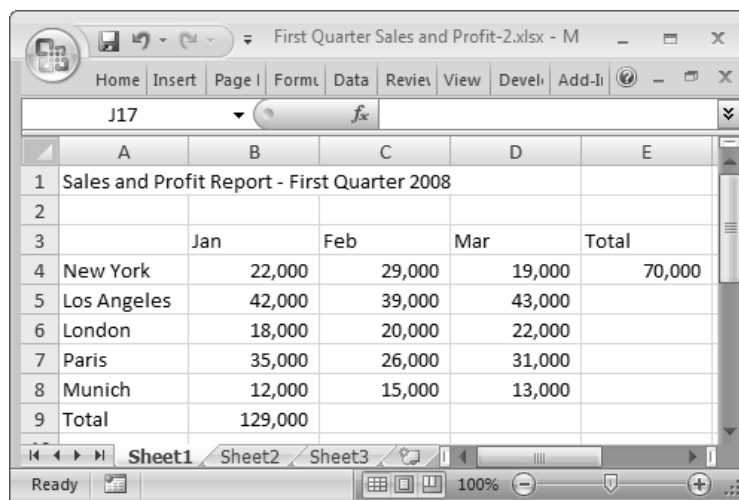
- Use AutoSum to calculate sales for January..

- Click Home→Editing→AutoSum. 

This time AutoSum correctly guesses that you want to sum the values to the left of cell E4:

	B	C	D	E
3	Jan	Feb	Mar	Total
4	22,000	29,000	19,000	=SUM(B4:D4)
5	42,000	39,000		SUM(number1, [number2], ...)
6	18,000	20,000	22,000	

- Press the <Enter> key, or click the AutoSum button once more.



- Save your work as First Quarter Sales and Profit-3.

Lesson 2-4: Select a range of cells and understand Smart Tags

Sometimes you don't want to add all of the values in a column. You only want to add a selection of cells that you define yourself.

This lesson shows you how to do this with a different AutoSum technique.

- 1 Open *First Quarter Sales and Profit-3* from your sample files folder (if it isn't already open).
- 2 Observe the formula behind the value in cell B9.

Click on cell B9 or move to it with the arrow keys on your keyboard.

Look at the *formula bar* at the top of the screen. Notice that the cell displays the *value* of a calculation and the formula bar shows the *formula* used to calculate the value:

	A	B	C	D
8	Munich	12,000	15,000	13,000
9	Total	129,000		
10				
11				

Value Formula

- 3 Delete the contents of cell B9.

The easiest way to delete the contents of a cell is to press the **<Delete>** key on your keyboard but you can also right-click the cell and then click *Clear Contents* from the shortcut menu.

8	Munich	12,000
9	USA Sales	
10		

- 4 Change the word *Total* in cell A9 to *USA Sales* and press the **<Tab>** key once.

You don't have to delete the word *Total* before typing *USA Sales*. When you click in a cell and immediately begin to type, the existing cell contents are replaced.

The cursor moves to cell B9.

- 5 Select cells B4:B5 with your mouse.

When the mouse cursor hovers over a cell there are three possible cursor shapes:

First Quarter Sales and Profit-3

note

Selecting cells with the keyboard


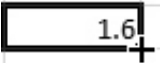

To select cells with the keyboard hold down the <Shift> key and then use the <Arrow> keys to select the range needed.

note

Selecting a large range of cells with the <Shift>-click technique

If you need to select a very large range of cells it is sometimes useful to use this technique:

1. Click the cell in the top left corner of the required range.
2. Use the scroll bars to move to the bottom right corner of the required range.
3. Hold down the <Shift> key.
4. Click in the bottom right corner of the required range.

Cursor	What it does
	The white cross (Select) cursor appears when you hover over the centre of the cell. You can then click and drag to select a range of cells.
	The black cross (AutoFill) cursor appears when you hover over the bottom right-hand corner of a cell. We'll be covering AutoFill later in this session.
	The four headed arrow (Move) cursor appears when you hover over one of the black edges of the cell (but not the bottom right corner).

Beginners often have difficulty selecting cells and end up moving them or AutoFilling them by mistake.

Position the mouse at the centre of cell B4 so that you see the White Cross (select) cursor. When you see the white cross, hold down the left mouse button and drag down to cell B5.

You have now selected cells B4 and B5 (in Excel speak we say that you have selected the *range* B4:B5).

	Jan
New York	22,000
Los Angeles	42,000

6 Click the Autosum button.


USA sales are shown in cell B9. Notice the small green triangle at the top left of B9. This is Excel's way of saying: "I think you may have made a mistake".

9	USA Sales	64,000
---	-----------	--------

Select cell B9 and you will see an Exclamation Mark icon. This is called a *Smart Tag*.

7 Hover over the Smart Tag.

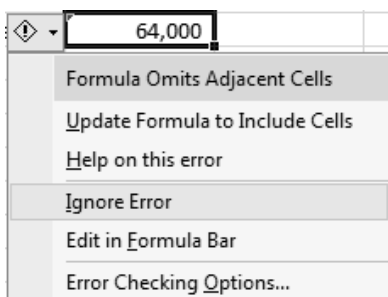
A tip box pops up telling you what Excel thinks you may have done wrong (see below). Of course, in this case, everything is fine. The Smart Tag thinks that perhaps we didn't want just the USA sales – but the Smart Tag is mistaken!

USA Sale 	64,000
The formula in this cell refers to a range that has additional numbers adjacent to it.	

8 Examine the remedial actions suggested by the Smart Tag.

Click the drop-down arrow next to the exclamation mark icon. A list of possible remedial actions is displayed. In this case you can choose *Ignore Error* to remove the green triangle from the corner of the cell.

9 Save your work as First Quarter Sales and Profit-4.

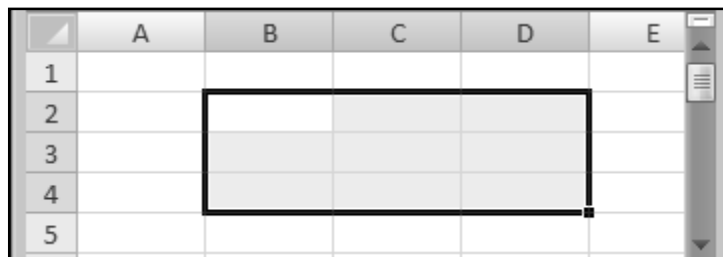


Lesson 2-5: Enter data into a range and copy data across a range

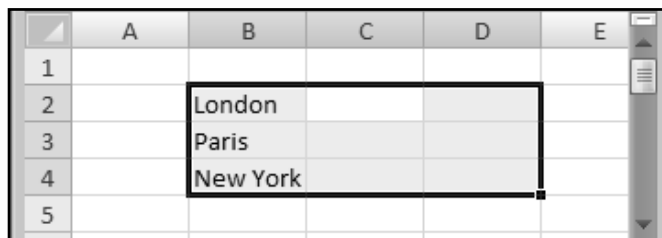
Now that you have mastered the technique of selecting cells, you can use it to speed up data entry.

When you select a range of cells prior to entering data, Excel knows that all data entered belongs in that range. Several key combinations are then available to greatly speed up data entry.

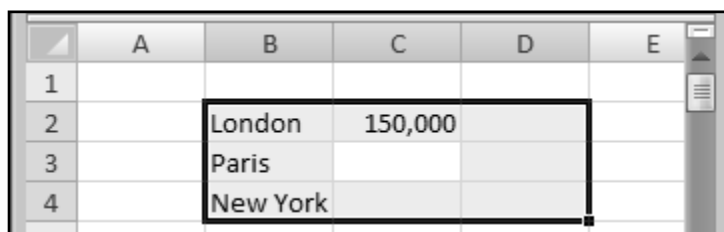
- 1 Open a new workbook and save it as Data Range Test.
- 2 Select cells B2:D4.



- 3 Type **London**.
The text appears in Cell B2, the top left cell in the range selected.
- 4 Press the <Enter> Key.
The cursor moves to cell B3 as it normally would.
- 5 Type **Paris** followed by the <Enter> key.
The cursor moves to cell B4 as it normally would.
- 6 Type **New York** followed by the <Enter> key.
This time something new happens. The cursor doesn't move to cell B5 as you might expect but jumps to cell C2.



- 7 Type **150,000** followed by the <Enter> key.
The value appears in C2 and Excel moves down the column again to cell C3.



- 8 Press the <Enter> key without entering a value to leave C3 blank.

Excel moves down the column to cell C4.

- 9 Type **225,000** followed by the <Enter> key.

The cursor jumps to cell D2.

- 10 Press <Shift>+<Enter> twice to change your mind about leaving Paris blank.

1. Press <Shift>+<Enter> to move backwards to New York sales.
2. Press <Shift>+<Enter> a second time and you are back to the Paris cell.

	A	B	C	D	E
1					
2		London	150,000		
3		Paris			
4		New York	225,000		
5					

- 11 Type 180,000 followed by the <Tab> key.

<Tab> moves you across the range, to cell D3.

	A	B	C	D	E
1					
2		London	150,000		
3		Paris	180,000		
4		New York	225,000		
5					

You can now appreciate how to use this technique of <Enter>, <Tab>, <Shift>+<Tab> and <Shift>+<Enter> to save a lot of time when entering a whole table of data.

- 12 Select cells D2:D4.

- 13 Type **50%** but don't press the <Enter> or <Tab> keys.

The challenge this time is to place the same value into cells D3 and D4 without having to type the value two more times.

- 14 Press <Ctrl>+<Enter>.

The value is replicated into all of the other cells in the range.

	A	B	C	D	E
1					
2		London	150,000	50%	
3		Paris	180,000	50%	
4		New York	225,000	50%	
5					

Lesson 2-6: Select adjacent and non-adjacent rows and columns

- 1 Open *First Quarter Sales and Profit-4* from your sample files folder (if it isn't already open).
- 2 Select all of column A

Hover over the letter A at the top of the column. The button lights up and the mouse cursor changes to a black down arrow:

	A	B	C
1	Sales and Profit Report - First Quarter 2008		

Click to select the entire column. The column becomes slightly shaded and a black line surrounds all of the cells.

	A	B
1	Sales and Profit Report - First	
2		
3		Jan
4	New York	22,000

- 3 Click Home→Font→Bold to bold face the column.
Because the whole column was selected, all of the values become bold faced.
- 4 Click Home→Font→Bold once more to change the type back to normal.
- 5 Select all of row 4.

To select a row, hover over the number on the left hand side of the row. The button lights up and the mouse cursor changes to a black arrow pointing across the row:

3		Jan
4	New York	22,000
5	Los Angeles	42,000

Click to select the row.

- 6 Select columns B and C.

Hover over the letter at the top of column B until you see the black down arrow. When you see the arrow, click and drag to the right to select both columns.

	A	B	C	D
1	Sales and Profit Report - First Quarter 2008			
2				
3		Jan	Feb	Mar
4	New York	22,000	29,000	19,000

7 Select rows 6 and 7.

Hover over the number at the left of row 6 until you see the black arrow pointing across the row. When you see the arrow, click and drag down to row 7 to select both rows.

5	Los Angeles	42,000	39,000
6	London	18,000	20,000
7	Paris	35,000	26,000
2R	Munich	12,000	15,000

8 Select columns A, B, C, D and E.

Sometimes you will need to select a large number of adjacent columns or rows. You could drag across them but it is often easier to use the following technique:

1. Select Column A.
2. Hold down the <Shift> key.
3. Select Column E.

Columns A to E are selected.

	A	B	C	D	E
1	Sales and Profit Report - First Quarter 2008				
2					

9 Select rows 4 and 6.

Perhaps you need to perform an operation on two non-adjacent rows. To select rows 4 and 6 you need to:

1. Select row 4.
2. Hold down the <Ctrl> key on the keyboard.
3. Select Row 6.

3		Jan	Feb	Mar
4	New York	22,000	29,000	19,000
5	Los Angeles	42,000	39,000	43,000
6	London	18,000	20,000	22,000
7	Paris	35,000	26,000	31,000

Lesson 2-7: Select non-contiguous cell ranges and view summary information

Contiguous is a very impressive word! It simply means a range of cells that is split across two blocks of cells in different parts of the worksheet.

Non-contiguous ranges can be selected using both the mouse and keyboard. The keyboard method may seem a little involved at first but you'll find it much faster once you have the hang of it.

- 1 Open *First Quarter Sales and Profit-4* from your sample files folder (if it isn't already open).
- 2 Select the contiguous range B4:D8 with the keyboard.

When you need to select a contiguous range with the keyboard here's how it's done:

1. Use the arrow keys on the keyboard to navigate to cell B4
2. Hold down the <Shift> key on the keyboard
3. Still holding the <Shift> key down, use the arrow keys on the keyboard to navigate to cell D8

The contiguous range B4:D8 is selected.

	A	B	C	D	E
1	Sales and Profit Report - First Quarter 2008				
2					
3		Jan	Feb	Mar	Total
4	New York	22,000	29,000	19,000	70,000
5	Los Angeles	42,000	39,000	43,000	
6	London	18,000	20,000	22,000	
7	Paris	35,000	26,000	31,000	
8	Munich	12,000	15,000	13,000	
9	USA Sales	64,000			

- 3 Select the non-contiguous range B4:B8,D4:D8 using the mouse.

1. Select the range B4:B8.
2. Hold down the <Ctrl> key and select the range D4:D8.

The non-contiguous range B4:B8,D4:D8 is selected:

	A	B	C	D	E
1	Sales and Profit Report - First Quarter 2008				
2					
3		Jan	Feb	Mar	Total
4	New York	22,000	29,000	19,000	70,000
5	Los Angeles	42,000	39,000	43,000	
6	London	18,000	20,000	22,000	
7	Paris	35,000	26,000	31,000	
8	Munich	12,000	15,000	13,000	
9	USA Sales	64,000			

First Quarter Sales and Profit-4

4 Select the same non-contiguous range with the keyboard.

This is a little more involved than using the simple <Shift>+<Arrow keys> method used earlier.

Here's how it's done:

1. Use the arrow keys on the keyboard to navigate to cell B4
2. Press the <F8> key (it is on the very top row of your keyboard)
3. Use the arrow keys to navigate to cell B8
4. Press <Shift>+<F8>
5. Use the arrow keys to navigate to cell D4
6. Press <F8>
7. Use the arrow keys to navigate to cell D8
8. Press <Shift>+<F8> one last time

The non-contiguous range B4:B8,D4:D8 is selected:

	A	B	C	D	E
1	Sales and Profit Report - First Quarter 2008				
2					
3		Jan	Feb	Mar	Total
4	New York	22,000	29,000	19,000	70,000
5	Los Angeles	42,000	39,000	43,000	
6	London	18,000	20,000	22,000	
7	Paris	35,000	26,000	31,000	
8	Munich	12,000	15,000	13,000	
9	USA Sales	64,000			

5 Obtain a total sale figures for January and March using the status bar.

The status bar contains summary information for the currently selected range.

Look at the bottom right of your screen. You can see the average sales and total sales (sum of sales) for January and March:



<input checked="" type="checkbox"/>	Average	25,700
<input checked="" type="checkbox"/>	Count	10
	Numerical Count	
<input checked="" type="checkbox"/>	Minimum	12,000
<input checked="" type="checkbox"/>	Maximum	43,000
<input checked="" type="checkbox"/>	Sum	257,000
<input checked="" type="checkbox"/>	View Shortcuts	
<input checked="" type="checkbox"/>	Zoom	100%
<input checked="" type="checkbox"/>	Zoom Slider	

6 View the Maximum and Minimum sales for January and March using the status bar.

Right-click the status bar and click *Maximum* and *Minimum* on the pop-up menu (see sidebar).

The status bar now also displays Maximum and Minimum values.



7 Close the workbook without saving.

Lesson 2-8: AutoSelect a range of cells

When data is arranged in a block (as it is in the Sales and Profit Report) it is referred to as a *range* (in previous versions of Excel it used to be called a list).

You will often want to select a row or column of cells within a range, or even the entire range.

You can select ranges by using any of the techniques covered so far but this could be very time consuming if the range encompassed thousands of rows and columns.

In this lesson you'll learn how to select range rows, range columns and entire ranges with a few clicks of the mouse.

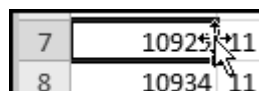
1 Open *Sales Report* from your sample files folder.

This report contains a range of cells. The range is the block of cells from A3 to E19.

	A	B	C	D	E
1	Weekly Sales Report				
2					
3	Invoice No	Date	Customer	Country	Total
4	10918	10 March 2008	Bottom-Dollar Markets	Canada	1,700.81
5	10917	10 March 2008	Romero y tomillo	Spain	429.92
6	10926	10 March 2008	Ana Trujillo Emparedados y helados	Mexico	604.42
7	10929	11 March 2008	Frankenversand	Germany	1,380.33
8	10934	11 March 2008	Lehmanns Marktstand	Germany	587.50
9	10939	11 March 2008	Magazzini Alimentari Riuniti	Italy	749.05
10	10939	11 March 2008	Magazzini Alimentari Riuniti	Italy	- 749.05
11	10925	12 March 2008	Hanari Carnes	Brazil	558.29
12	10944	12 March 2008	Bottom-Dollar Markets	Canada	1,204.75
13	10923	12 March 2008	La maison d'Asie	France	879.83
14	10937	13 March 2008	Cactus Comidas para llevar	Argentina	757.64
15	10947	13 March 2008	B's Beverages	UK	258.50
16	10933	13 March 2008	Island Trading	UK	1,081.71
17	10938	14 March 2008	QUICK-Stop	Germany	3,209.95
18	10949	14 March 2008	Bottom-Dollar Markets	Canada	5,195.85
19	10945	14 March 2008	Morgenstern Gesundkost	Germany	287.88
20					
21	Thsi report excludes sales to Asia and South Africa.				
22					

2 Select all cells within the range to the right of cell A7.

1. Click in cell A7 to make it the active cell.
2. Hover over the right hand border of cell A7 until you see the four headed arrow cursor shape.



3. When you see this cursor shape hold down the <Shift> key and double-click.

All cells to the right of A7, but within the range, are selected.

7	10929	11 March 2008	Frankenversand	Germany	1,380.33
---	-------	---------------	----------------	---------	----------

Sales Report

note

Other ways to use AutoSelect

Using the keyboard.

Here's how you would select the entire range in the Weekly Sales Report (including the header row) using the keyboard method.

Make cell A3 the active cell by navigating to it with the <Arrow> keys.

1. Press:

<Ctrl>+<Shift>+
<DownArrow>

Cells A3:A19 are selected.

2. Release all keys and press:

<Ctrl>+<Shift>+
<RightArrow>

The entire range (including the header row) is selected.

From the Ribbon.

The Ribbon method isn't as powerful as the other methods but does provide a way to select the current range (described as the region in the dialog).

Make sure that the active cell is within the range.

1. Click

Home→**Editing**→
Find & Select→
GoTo Special...

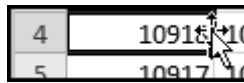
The GoTo Special dialog is displayed.

2. Click the *Current Region* option button and then click the OK button.

The entire range (including the header row) is selected.

3 Select all cells within the range except the header row.

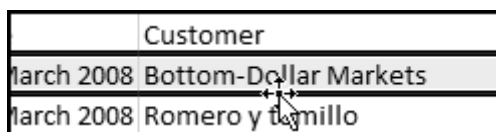
1. Click in cell A4 to make it the active cell.
2. Hover over the right hand border of cell A4 until you see the four headed arrow cursor shape.



3. When you see this cursor shape hold down the <Shift> key and double-click.

All cells to the right of cell A4, but within the range, are selected.

4. Hover over the bottom border of the selected range until you see the four headed arrow cursor shape.



5. When you see this cursor shape hold down the <Shift> key and double-click.

The entire range (except the header row) is selected.

	A	B	C	D	E
1	Weekly Sales Report				
2					
3	Invoice No	Date	Customer	Country	Total
4	10918	10 March 2008	Bottom-Dollar Markets	Canada	1,700.81
5	10917	10 March 2008	Romero y tomillo	Spain	429.92
6	10926	10 March 2008	Ana Trujillo Emparedados y helados	Mexico	604.42
7	10929	11 March 2008	Frankenversand	Germany	1,380.33
8	10934	11 March 2008	Lehmans Marktstand	Germany	587.50
9	10939	11 March 2008	Magazzini Alimentari Riuniti	Italy	749.05
10	10939	11 March 2008	Magazzini Alimentari Riuniti	Italy	- 749.05
11	10925	12 March 2008	Hanari Carnes	Brazil	558.29
12	10944	12 March 2008	Bottom-Dollar Markets	Canada	1,204.75
13	10923	12 March 2008	La maison d'Asie	France	879.83
14	10937	13 March 2008	Cactus Comidas para Llevar	Argentina	757.64
15	10947	13 March 2008	B's Beverages	UK	258.50
16	10933	13 March 2008	Island Trading	UK	1,081.71
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18	10949	14 March 2008	Bottom-Dollar Markets	Canada	5,195.85
19	10945	14 March 2008	Morgenstern Gesundkost	Germany	287.88
20					
21	Thsi report excludes sales to Asia and South Africa.				

You can also use this technique to select cells to the left of the active cell or above the active cell.

4 Close the workbook without saving.

Lesson 2-9: Re-size rows and columns

- 1 Open *First Quarter Sales and Profit-4* from your sample files folder (if it isn't already open).

Notice that columns B, C, D and E are far too wide for their contents. It would be useful to make them narrower to keep the worksheet compact.

- 2 Re-size column B so that it is just wide enough to contain the January sales figures.

Hover over the line separating the letters A and B until you see the re-size cursor shape:



When you see this shape, keep the mouse still and click and drag to the left. Column B will re-size as you drag. Make it narrower so that the values just fit in the column. Notice that the column width in points and pixels are displayed as you drag (one point = 1/72 inch).

	A	B	C	D
1	Sales and Profit Report - First Quarter 2008			
2				
3		Jan	Feb	Mar
4	New York	22,000	29,000	19,000

- 3 Re-size column B so that it is too narrow to contain the January sales figures.

Notice that when the column isn't wide enough to contain the contents, hash signs are shown instead of values (if you're used to hashes being called **pound signs** or **number signs** see the sidebar).

	A	B	C	D
1	Sales and Profit Report - First Quarter 2008			
2				
3		Jan	Feb	Mar
4	New York	#####	29,000	19,000

- 4 Automatically re-size column B so that it is a perfect fit for the widest cell in the column.

Hover over the line separating the letters A and B until you see the re-size cursor shape:



When you see this shape, double-click to automatically re-size column B.

note

Why are you calling the pound sign a hash?

*You like potato and I like potahto,
You like tomato and I like tomahto;
Potato, potahto, tomato, tomahto!
Let's call the whole thing off!*

*Song lyric by George Gershwin,
American Composer (1898-1937)*

In the USA and Canada the hash symbol is called the **pound sign** or the **number sign**.

In different USA/Canada regions the single symbol has different names because it can be used to denote a number (as in contestant #5) or as a weight (as in 3# of butter).

Throughout this book I will refer to the # as a hash because that is the term used in most other English speaking countries.

First Quarter Sales and Profit-4

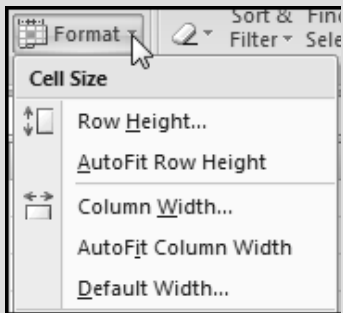
note

Other ways to re-size rows and columns

You can also re-size rows and columns using the Ribbon.

Click Home→Cells→Format.

A drop-down menu appears.



You can use the *Row Height* and *Column Width* settings to set the row or column to a specific number of points (a point is 1/72 of an inch).

You can also use the *AutoFit Row Height* and *AutoFit Column Width* options to automatically size the row or column (you achieved this more efficiently with a double-click in the lesson).

Default Width... often confuses as it doesn't appear to work. This is because it re-sets all columns to default width *except those that have already been re-sized*.

note

Making several columns or rows the same size.


Sometimes you will want to make several columns exactly the same width.

To do this, select the multiple columns and then click and drag the intersection of any of the selected columns. This will make each of the columns exactly the same width.

5 Automatically re-size every column in the worksheet in one operation.

1. Select every cell in the workbook by clicking the *select all* button in the top left corner of the worksheet (you can also select all by pressing <Ctrl>+<A>):



2. Hover over the intersection of any two columns until you see the re-size cursor shape  and then double-click.

Every column is now perfectly sized.

Notice that Auto-resize has done its job rather too well. Column A is now wide enough to accommodate all of the text in cell A1.

	A	B	C
1	Sales and Profit Report - First Quarter 2008		

6 Automatically re-size column A so that it is only wide enough to contain the longest city name (Los Angeles).

	A	B	C	D	E
1	Sales and Profit Report - First Quarter 2008				
2					
3		Jan	Feb	Mar	Total
4	New York	22,000	29,000	19,000	70,000
5	Los Angeles	42,000	39,000	43,000	

1. Select cells A4:A9.
2. Click Home→Cells→Format→AutoFit Column Width.

This time the column is automatically sized so that it is wide enough to contain all of the text in the selected cells.

Notice that the text has spilled over from cell A1 into the adjoining columns B, C, D and E. This always happens when a cell contains text and the adjoining cells are empty.

7 Manually size row 3 so that it is about twice as tall as the other rows.

Do this in exactly the same way you re-sized the column but, this time, hover between the intersection of rows 3 and 4 until you see the re-size cursor shape, and then drag downwards.

1	Sales and Profit Report - First Quarter 2008				
2					
3		Jan	Feb	Mar	
4	New York	22,000	29,000	19,000	
5	Los Angeles	42,000	39,000	43,000	

8 Auto-resize row 3 so that it is the same size as the other rows again.

Lesson 2-10: Use AutoSum to sum a non-contiguous range

In the previous lesson, you learned how to view the sum of January and March sales using the status bar. But how can you put that value onto the worksheet?

Now that you have the hang of selecting non-contiguous ranges you can use this in conjunction with your AutoSum skills to create a formula that will calculate the total of a non-contiguous range.

- 1 Open *First Quarter Sales and Profit-4* from your sample files folder (if it isn't already open).
- 2 Enter the text **Jan/Mar Sales** in cell A10 and press the <Tab> key.


The active cell moves to cell B10.

- 3 Re-size column A so that it is wide enough to contain the text.
 1. Hover over the line separating the letters A and B until you see the re-size cursor shape:



2. When you see this shape, keep the mouse still and click and drag to the right. Column A will re-size as you drag. Make it wider so that the words *Jan/Mar Sales* comfortably fit in the column:

	Jan	Feb	Mar	T
3				
4	New York	22,000	29,000	19,000
5	Los Angeles	42,000	39,000	43,000
6	London	18,000	20,000	22,000
7	Paris	35,000	26,000	31,000
8	Munich	12,000	15,000	13,000
9	USA Sales	64,000		
10	Jan/Mar Sales			

- 4 Click Home→Editing→  (the AutoSum button).

An AutoSum appears in cell B10 but it isn't anything like what we want yet. It guesses that we simply want to repeat the value in the USA Sales cell.

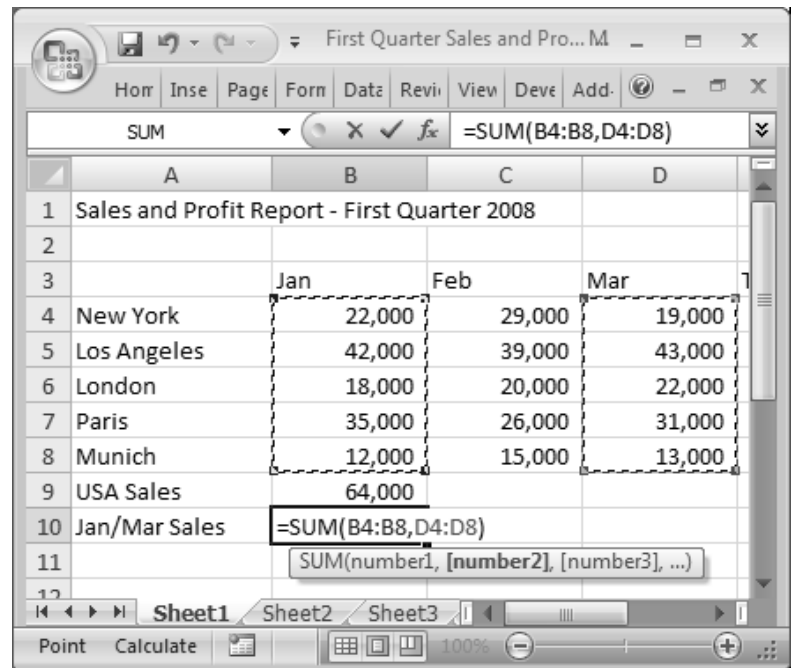
8	Munich	12,000	15,000	13,000
9	USA Sales	64,000		
10	Jan/Mar Sales	=SUM(B9)		
11				


- 5 Select the range B4:B8 with the mouse.

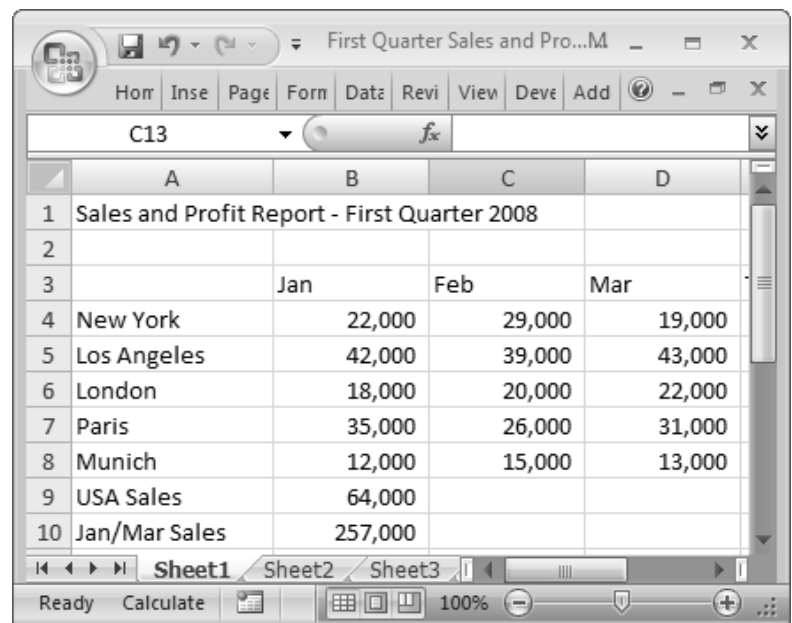
First Quarter Sales and Profit-4

- 6 Hold down the **<Ctrl>** key and select the range D4:D8 with the mouse.

Notice that the non-contiguous range **B4:B8,D4:D8** is shown in the AutoSum's formula:



- 7 Press the **<Enter>** key or click the AutoSum button  again to view the sales for January and March in cell B10.



- 8 Save your work as *First Quarter Sales and Profit-5*.

Lesson 2-11: Use AutoSum to quickly calculate averages

Excel's *AutoSum* feature isn't only restricted to addition. It is also able to compute averages and maximum/minimum values.

In this lesson we'll use AutoSum to calculate the average sales for each month.

- 1 Open *First Quarter Sales and Profit 5* from your sample files folder (if it isn't already open).

- 2 Delete cells E3:E4.

Select cells E3 and E4 and press the <Delete> key on your keyboard.

- 3 Type the word *Average* in cell E3 and press the <Enter> key.

The cursor moves to cell E4:

Feb	Mar	Average	
29,000	19,000		
30,000	12,000		

- 4 Use AutoSum to create a formula that will show the Average New York sales.


1. Click Home→Editing→AutoSum →Drop down arrow (see sidebar).

A drop down menu is displayed showing all of the different ways in which AutoSum can operate upon a range of cells:

2. Click Average.

3. Excel generates an Average function and inserts the cell range B4:D4. This is exactly what we want:

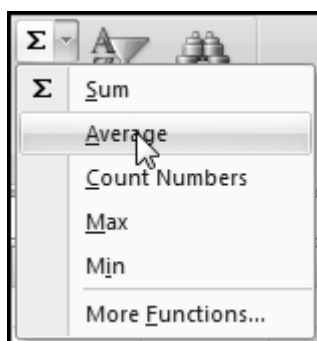
Average			
=AVERAGE(B4:D4)			
AVERAGE(number1, [number2], ...)			

4. Press the <Enter> key or click the AutoSum button  again to see the average sales for New York:

3		Jan	Feb	Mar	Average
4	New York	22,000	29,000	19,000	23,333

- 5 Type the word **Maximum** in Cell F3 and then press the <Enter> key.

- 6 Use AutoSum to create a formula in cell F4 that will show the Maximum New York Sales for this period.



First Quarter Sales and Profit-5

- Place an AutoSum in cell F4 but this time, choose Max from the drop-down menu.

This time we have a small problem. AutoSum is including the average value (23,333) in the calculation.


Jan	Feb	Mar	Average	Maximum
22,000	29,000	19,000	23,333	=MAX(B4:E4)

- Select cells B4:D4 with the mouse

The marquee corrects and the average value in cell E4 is no longer included.

New York	22,000	29,000	19,000	23,333	=MAX(B4:D4)
----------	--------	--------	--------	--------	-------------

Notice that the Max function is now working with the range B4:D4.

- Press the <Enter> key or click the AutoSum button  once more to see the maximum sales the New York office managed during the first quarter of the year:

3		Jan	Feb	Mar	Average	Maximum
4	New York	22,000	29,000	19,000	23,333	29,000

- Change the words *USA Sales* in cell A9 back to *Sales* and press the <Tab> key.

- Press the <F2> key on the keyboard (or double-click cell B9) to bring back the marquee (shown as a blue box).

- Adjust the marquee using click and drag so that all offices are included in the Sales total.

Notice that there is a small blue spot on each corner of the range. These are called sizing handles.

- Hover the mouse cursor over the bottom right (or bottom left) sizing handle until the cursor shape changes to a double headed arrow. It is really important that you see the double headed arrow and not the four headed arrow or white cross.

4	New York	22,000
5	Los Angeles	42,000
6	London	18,000

- When you see the double headed arrow click and drag with the mouse down to cell B8.
- Press the <Enter> key or click the AutoSum button again.

7	Paris	35,000
8	Munich	12,000
9	Sales	129,000

- Save your work as First Quarter Sales and Profit-6.

tip

Another way to bring back the blue box showing a range is to click the range in the Formula bar.

Lesson 2-12: Create your own formulas

The AutoSum tool is very useful for quickly inserting Sum(), Average(), Count(), Max() and Min() formulas into cells. Many Excel users never get any further with their formulas than this.

In this session we'll create our own formulas without the use of AutoSum. You'll be amazed at how easy it is.

- 1 Open *First Quarter Sales and Profit-6* from your sample files folder (if it isn't already open).
- 2 Select cells A10:B10 and press the **<Delete>** key once.
The previous contents of cells A10:B10 are removed.
- 3 Type the word **Costs** into cell A11 and **Profit** into cell A12.
- 4 Type the value 83,000 into cell B11 and press the **<Enter>** key to move down to cell B12.

11	Costs	83,000	
12	Profit		

- 5 Enter a formula into cell B12 to compute the profit made in January.
 1. Type: **= B9-B11** into cell B12
 2. Press the **<Enter>** key.

The profit for January is displayed:

9	Sales	129,000
10		
11	Costs	83,000
12	Profit	46,000

- 6 Enter the formula again using a better technique.

The method that you have just used to enter the formula works just fine but it isn't the best method. Sooner or later you will make a mistake. For example you could easily type **B8:B11** resulting in an incorrect answer.

To eliminate such errors you should always select cell references visually rather than simply type them in. You can visually select cells using either the mouse or the keyboard. First we'll use the mouse method.

1. Click in cell B12 and press the **<Delete>** key on the keyboard to clear the old formula.
2. Press the equals **<=>** key on the keyboard.
3. Click once on the value 129,000 in cell B9.

important

Formulas automatically recalculate whenever any of the cells in the formula change.

For example: If you were to change the Paris sales to 45,000 this would cause cell B9 to recalculate to 139,000. Because B9 has changed this would, in turn, cause the profit to recalculate to 56,000.

First Quarter Sales and Profit-6

4. Press the minus <-> key on the keyboard.
5. Click once on the value 83,000 in cell B11.
6. Press the <Enter> key on the keyboard.

If you followed the above steps carefully you will see that you have created the same formula but with a much lower possibility of making a mistake.

7 Enter the formula again using the visual keyboard technique.

The very best Excel experts hardly use the mouse at all. You waste valuable seconds every time you reach for the mouse.

Here's the expert technique of visual selection via keyboard:

1. Use the arrow keys to navigate to cell B12 and then press the <Delete> key on the keyboard to clear the old formula.
2. Press the <=> key on the keyboard.
3. Press the <Up Arrow> key three times to move to cell B9.
4. Press the <-> key on the keyboard.
5. Press the <Up Arrow> key once to move to cell B11.
6. Press the <Enter> key on the keyboard.

8 Enter a formula that uses the multiplication operator.

This employer is very generous and pays the staff ten percent of all profits as an incentive bonus.

In cell A13 type the words **10% Bonus** and then press the <Tab> key on the keyboard to move to cell B13.

9 Enter a formula that uses the multiplication operator.

The multiplication operator is not an X as you might expect but an asterisk (*). The other Excel operators are shown in the sidebar.

You need to press <Shift>+<8> to enter an asterisk. If you are using a full size keyboard with a numeric keypad at the right-hand side you can also use the numeric keypad's <X> key.

Whichever key you use you'll still see an asterisk in the formula.

Use either the *Mouse click* technique or the *visual keyboard* technique to enter the formula shown below into cell B13 and then press the <Enter> key to see how much bonus was earned:

11	Costs	83,000
12	Profit	46,000
13	10% Bonus	=B12*.1

11	Costs	83,000
12	Profit	46,000
13	10% Bonus	4,600

10 Save your work as First Quarter Sales and Profit-7.

important

The Excel Operators

	Name	Example
+	Addition	1+2
-	Subtraction	7-5
*	Multiplication	6*3
/	Division	15/5
%	Percent	25%
^	Exponentiation	4^2

trivia

The feature that Excel uses to help you out with function calls first made an appearance in Visual Basic 5 back in 1996 and had the wonderful name: *IntelliSense*. The Excel implementation is called *Formula AutoComplete*.

In 1996 I was working in Switzerland developing a ski-school management application. I was extremely impressed by how easy *IntelliSense* made my job. I didn't have to remember hundreds of function names any more.

I was even slightly worried that just about anybody could now program (but, of course, I was wrong).

Recently I was in London being driven by a Hackney cab driver (Hackney cab drivers know every shortcut and back street in London). He was worried that Satellite Navigation would now mean that anybody could become a London cabbie.

Of course, he really had nothing to worry about either!

note

Enabling and disabling AutoComplete.

As with so many other features, Microsoft allows you to turn this very useful feature off.

You'd never want to do this but you may work on a machine that has had Formula AutoComplete switched off and you need to turn it on again.

Click Office→Excel Options→Formulas and make sure that the *Formula AutoComplete* box is checked.

First Quarter Sales and Profit-7

Lesson 2-13: Create functions using Formula AutoComplete

- 1 Open *First Quarter Sales and Profit-7* from your sample files folder (if it isn't already open).
- 2 Type the words **USA Sales** into cell A15 and **European Sales** into cell A16.

Notice that the text *European Sales* spills over into column B because column A isn't wide enough to contain it.

- 3 Re-size column A so that it is wide enough for the words *European Sales* to fit within the column.

You learned how to do this in: *Lesson 2-9: Re-size rows and columns*.

	A	B
15	USA Sales	
16	European Sales	

- 4 Click into cell B15 and type **=S** into the cell.

Something amazing happens:

15	USA Sales	=S
16	European Sales	
17		
18		
19		

A list drops down showing every function in the Excel function library beginning with S. This is a great new feature for Excel 2007 that Microsoft call *Formula AutoComplete* (if AutoComplete didn't display as expected see the sidebar).

You've already encountered the Sum(), Average() and Max() functions courtesy of AutoSum.

You may be pleased (or dismayed) to know that there are over 300 functions in the Excel function library. The good news is that most untrained Excel users only ever get to understand Sum() and Average()!

When you typed =S Excel listed all functions beginning with S.

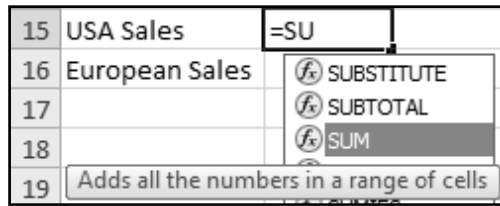
- 5 Continue typing: **=SU**.

Notice that the list now only shows functions beginning with SU and look... there's the SUM() function we need three down in the list.

You could simply click on it with the mouse but let's behave like an Excel pro and do it with the keyboard.

- 6 Press the **<Down Arrow>** key twice to move the cursor over the SUM function.

The Sum function now has a tip telling you what the function does:



7 Display detailed information about the SUM() function.

The tip tells you a little about the SUM() function but to get the full story press the <F1> key while SUM is still highlighted in the dropdown list:

The Excel help system opens showing detailed help for the SUM() function.

Read the help text if you are interested and then close the help window.

Notice that Excel has now left you with only =SU in the cell. Complete the formula by typing M(



Notice that a little box has appeared beneath the function call. This is the *Syntax* (see sidebar for more information).

8 Select the cells that you need to sum (cells B4:B5) with the mouse or keyboard.

If you want to be a real pro you should select them with the keyboard. To do this:

1. Press the <Up Arrow> key repeatedly until you reach cell B4.
2. Hold down the <Shift> key and press the <Down Arrow> key once to select cells B4:B5.

9 Type a closing bracket to complete the formula and then press the <Enter> key.

The total USA sales are displayed in cell B15.

10 Use the same technique to create a SUM() function in cell B16 to show the total European sales (cells B6:B8).

1. Click in cell B16.
2. Type = SU.
3. Press the <Down Arrow> key twice to move the cursor over the SUM function.
4. Press the <Tab> key to automatically enter the SUM function into cell B16.
5. Select the range B6:B8.
6. Type the closing bracket followed by the <Enter> key. The formula should now be: =SUM(B6:B8).

11 Save your work as *First Quarter Sales and Profit 8*.

note

The syntax box

The Syntax box tells you what arguments (sometimes called parameters) the function needs. The first argument has no square brackets meaning that you can't leave it out. The argument in square brackets is optional.

For such a simple function as SUM() the syntax box is hardly needed but later we'll discover functions that require several arguments and then the syntax box will be invaluable.

	A	B
14		
15	USA Sales	64,000
16	European Sales	65,000

Lesson 2-14: Use AutoFill for text and numeric series

1 Open *First Quarter Sales and Profit-8* from your sample files folder (if it isn't already open).

2 Delete the text **Feb** and **Mar** from cells C3:D3.

Select cells C3:D3 and then press the <Delete> key on your keyboard.




3 Make B3 the active cell.

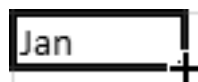
Notice that there is a black border around the cell and a black spot on the bottom right-hand corner. This is the AutoFill handle. If you don't see it, refer to the sidebar.



4 Hover over the AutoFill handle with your mouse until the cursor shape changes to a black cross.

Many of my students have great difficulty with this when they try it for the first time.

- You don't want the four-headed arrow:  – that would move the cell.
- You don't want the white cross:  – that would select the cell.
- You want the black cross:  – the AutoFill cursor.



5 When the black cross cursor is visible hold down the mouse button and drag your mouse to the right to AutoFill the other months: **Feb** and **Mar**.

Jan	Feb	Mar
22,000	29,000	Mar 000

Notice the tip that appears as you drag, previewing the month that will appear in each cell.

6 In cell A18 type **Monday** and AutoFill down to cell A24 to show the days of the week.

7 In cell B18 type the number **1** and in cell B19 type the number **2**.

8 Select cells B18 and B19.

note

If you don't see the AutoFill handle somebody has switched it off

It's almost certain that AutoFill will be enabled on any computer that you work on. It is such a useful feature that you wouldn't want to disable it.

If you don't see the AutoFill handle (the black spot on the bottom right hand corner of the active cell) it's because somebody has switched AutoFill off.

Bring it back like this:

Click Office→Excel Options→Advanced

In the first section (*Editing Options*) check the box next to *Enable fill handle and cell drag and drop*.

First Quarter Sales and Profit-8

tip

You don't have to enter two numbers if you want to create a numeric range.

If you simply type a number into a cell and then AutoFill while holding down the <Ctrl> key you will automatically generate sequential numbers.



9 AutoFill down to B24 to create sequential numbers:

18	Monday	1
19	Tuesday	2
20	Wednesday	3
21	Thursday	4

10 In cell C18 type **9** and in cell C19 type **18**.

11 Select cells C18 and C19.



12 AutoFill down to B24 to create the nine times table.

18	Monday	1	9
19	Tuesday	2	18
20	Wednesday	3	27

13 Use AutoFill to create sequential dates.

1. Type 01-Jan-08 into cell D18.
2. Type 02-Jan-08 into cell D19.
3. Select Cells D18:D19.
4. AutoFill down to D24 to create sequential dates.

14 Use AutoFill to quickly copy values.

Sometimes you will want to duplicate the value from one cell into many others to the right of, left of, beneath, or above the active cell.

When a cell containing text is the active cell and it isn't defined as a *fill series* (the built-in fill series are days of the week and months of the year), AutoFill will simply duplicate the contents of the cell:

Type the text **Adjusted** into cell E18 and then AutoFill it down as far as cell E24.

The same text is now shown in each of the cells:

18	Monday	1	9	01-Jan-08	Adjusted
19	Tuesday	2	18	02-Jan-08	Adjusted
20	Wednesday	3	27	03-Jan-08	Adjusted
21	Thursday	4	36	04-Jan-08	Adjusted
22	Friday	5	45	05-Jan-08	Adjusted
23	Saturday	6	54	06-Jan-08	Adjusted
24	Sunday	7	63	07-Jan-08	Adjusted

15 Save your work as First Quarter Sales and Profit-9.

Lesson 2-15: Use AutoFill to adjust formulas

AutoFill can save you a lot of time when extending or copying text and number ranges. But the story's not over yet.

AutoFill's ability to copy and adjust formulas is one of the most powerful tools in Excel's impressive armory.

- 1 Open *First Quarter Sales and Profit 9* from your sample files folder (If it isn't already open).
- 2 Consider the formula in cell B9.

Click onto cell B9 and view the formula displayed in the formula bar (the formula bar is at the top right of the screen grab below).

	A	B	C	D	E
1	Sales and Profit Report - First Quarter 2008				
2					
3		Jan	Feb	Mar	Average
4	New York	22,000	29,000	19,000	23,333
5	Los Angeles	42,000	39,000	43,000	
6	London	18,000	20,000	22,000	
7	Paris	35,000	26,000	31,000	
8	Munich	12,000	15,000	13,000	
9	Sales	129,000			

The formula is **=SUM(B4:B8)**. AutoSum created it for us in:

Lesson 2-3: Use AutoSum to quickly calculate totals. The formula uses the SUM() function to add together the values in the range B4:B8.

Think about the formula that would work in cell C9 (the total sales for February). It would be: **=SUM(C4:C8)**. Similarly the formula that would work in cell D9 (the total sales for March) would be **=SUM(D4:D8)**.

As we move to the right all that is needed is to increment the letter for each cell reference in the formula and we'll get the right answer every time.

Now AutoFill is very clever and realizes this. When we AutoFill a cell containing a formula to the right, AutoFill increments the letters in each cell reference.

Most of the time that is exactly what we want.

- 3 AutoFill cell B9 to the right as far as cell D9.

You may see a row of hashes in Cell C9. This is because the value is too wide to fit in the cell. If this is the case, AutoFit the column using the skill learned in: *Lesson 2-9: Re-size rows and columns.*

First Quarter Sales and Profit-9

The correct answers for Feb and Mar sales are shown on the worksheet. Click on the Feb total cell (C9) and look at the formula in the formula bar.

		C9		fx		=SUM(C4:C8)	
	A	B	C	D	E		
3		Jan	Feb	Mar	Average		
4	New York	22,000	29,000	19,000	23,333		
5	Los Angeles	42,000	39,000	43,000			
6	London	18,000	20,000	22,000			
7	Paris	35,000	26,000	31,000			
8	Munich	12,000	15,000	13,000			
9	Sales	129,000	129,000	128,000			

You can see that AutoFill has done its work perfectly, creating a sum of the values in cells C4:C8. Our five branches have sold exactly the same amount in both January and February, but a little less in March.

4 Consider the formula in cell E4.

Click onto cell E4 and view the formula displayed in the formula bar.

		E4		fx		=AVERAGE(B4:D4)	
	A	B	C	D	E		
3		Jan	Feb	Mar	Average		
4	New York	22,000	29,000	19,000	23,333		
5	Los Angeles	42,000	39,000	43,000			
6	London	18,000	20,000	22,000			

The formula is **=AVERAGE(B4:D4)**. AutoSum created it for us in: *Lesson 2-11: Use AutoSum to quickly calculate averages.*

Think about the formula that would work in cell E5 (the total sales for Los Angeles). It would be: **=Average(B5:D5)**. Similarly the formula that would work in cell E6 (the total sales for London) would be **=Average(B6:D6)**.

As we move downward all that is needed is to increment the number for each cell reference in the formula.

5 AutoFill cell E4 down to E8 to see the Average sales for each branch.

6 AutoFill cell F4 down to F8 to view the maximum sales for each branch.

7 Save your work as First Quarter Sales and Profit-10.

E	F
Average	Maximum
23,333	29,000
41,333	43,000
20,000	22,000
30,667	35,000
13,333	15,000

Lesson 2-16: Use AutoFill options

Sometimes AutoFill begins to misbehave and actually gets in the way of efficient work by wrongly anticipating what you need.

- 1 Open *First Quarter Sales and Profit-10* from your sample files folder (If it isn't already open).
- 2 In cell F18 type the date **1-Jan-2009**.
- 3 AutoFill down as far as cell F24.

The cells are populated with sequential dates:


	A	B	C	D	E	F
18	Monday	1	9	01-Jan-08	Adjusted	01-Jan-09
19	Tuesday	2	18	02-Jan-08	Adjusted	02-Jan-09
20	Wednesday	3	27	03-Jan-08	Adjusted	03-Jan-09
21	Thursday	4	36	04-Jan-08	Adjusted	04-Jan-09
22	Friday	5	45	05-Jan-08	Adjusted	05-Jan-09
23	Saturday	6	54	06-Jan-08	Adjusted	06-Jan-09
24	Sunday	7	63	07-Jan-08	Adjusted	07-Jan-09

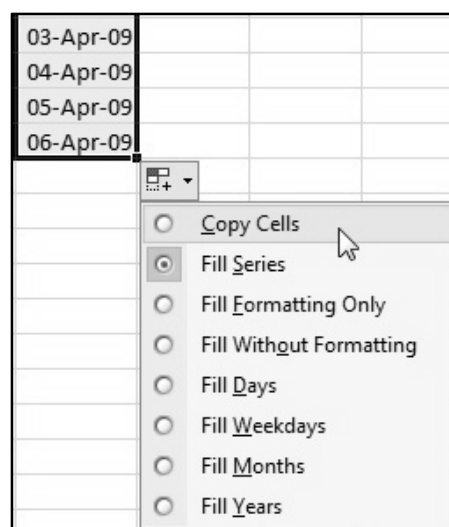
- 4 In cell G18 type the date **31-Mar-2009**.
- 5 AutoFill down as far as cell G24.

At some time you'll need to add transaction dates to a worksheet and will have four or five entries with the same date.

AutoFill is perfect for eliminating the need to re-type the date for each transaction, but its insistence upon incrementing the date every time could be very frustrating.

Fortunately we can change the default behavior.

- 6 Click the Auto Fill Options Smart Tag  at the bottom right corner of the filled cells.



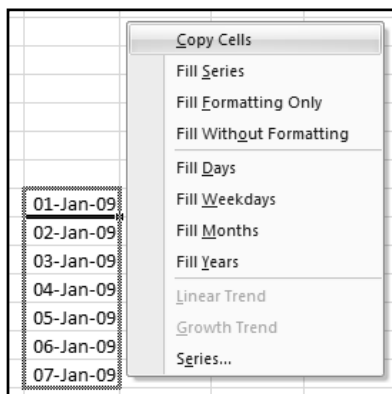
First Quarter Sales and Profit-10

7 Click *Copy Cells* to tell AutoFill not to increment the date.

The purpose of the *Fill Formatting* options will be clear later in the course when you have completed: *Session Four: Making Your Worksheets Look Professional*.

Here's what the other options will do:

Copy Cells	Fill Series	Fill Days	Fill Weekdays	Fill Months	Fill Years
This is what we just did. The first cell is copied to the other cells.	The default for dates that include the day. The date increments by one day at a time.	The date increments by one day at a time.	Because 3 rd April 2009 is a Friday the weekend days are omitted and the series jumps from 3 rd April to 6 th April.	Normally this would show the same day number for each month. In this example, there are only 30 days in two of the months so 30 th is shown instead of 31 st .	The same calendar day is shown for each subsequent year.
31-Mar-09 31-Mar-09 31-Mar-09 31-Mar-09 31-Mar-09 31-Mar-09 31-Mar-09	31-Mar-09 01-Apr-09 02-Apr-09 03-Apr-09 04-Apr-09 05-Apr-09 06-Apr-09	31-Mar-09 01-Apr-09 02-Apr-09 03-Apr-09 04-Apr-09 05-Apr-09 06-Apr-09	31-Mar-09 01-Apr-09 02-Apr-09 03-Apr-09 06-Apr-09 07-Apr-09 08-Apr-09	31-Mar-09 30-Apr-09 31-May-09 30-Jun-09 31-Jul-09 31-Aug-09 30-Sep-09	31-Mar-09 31-Mar-10 31-Mar-11 31-Mar-12 31-Mar-13 31-Mar-14 31-Mar-15



8 Access fill options using right-click AutoFill.

1. Click again on cell F18 to make it the active cell.
2. AutoFill once more but, this time, hold down the right mouse button.

When you release the mouse button you are presented with the AutoFill options (see sidebar).

This method is preferred to the Smart Tag method because it is faster (one click instead of two)!

9 Change back to Fill Series or Fill Days.

In this example Fill Series and Fill Days produce exactly the same result.

10 Save your work as First Quarter Sales and Profit-11.

Lesson 2-17: Speed up your AutoFills and create a custom fill series

In this lesson we're going to learn some AutoFill techniques that will massively speed up your efficient use of the AutoFill feature.

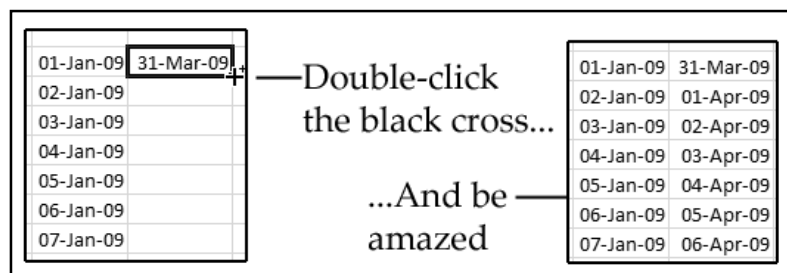
- 1 Open *First Quarter Sales and Profit-11* (if it isn't already open).
- 2 Delete the contents of cells G18:G24.
- 3 Type **31-Mar-09** into cell G18.

	A	B	C	D	E	F	G
17							
18	Monday	1	9	01-Jan-08	Adjusted	01-Jan-09	31-Mar-09
19	Tuesday	2	18	02-Jan-08	Adjusted	02-Jan-09	
20	Wednesday	3	27	03-Jan-08	Adjusted	03-Jan-09	
21	Thursday	4	36	04-Jan-08	Adjusted	04-Jan-09	
22	Friday	5	45	05-Jan-08	Adjusted	05-Jan-09	
23	Saturday	6	54	06-Jan-08	Adjusted	06-Jan-09	
24	Sunday	7	63	07-Jan-08	Adjusted	07-Jan-09	

- 4 Double click the AutoFill handle to automatically fill cells G19:G24.

This is a real master tip!

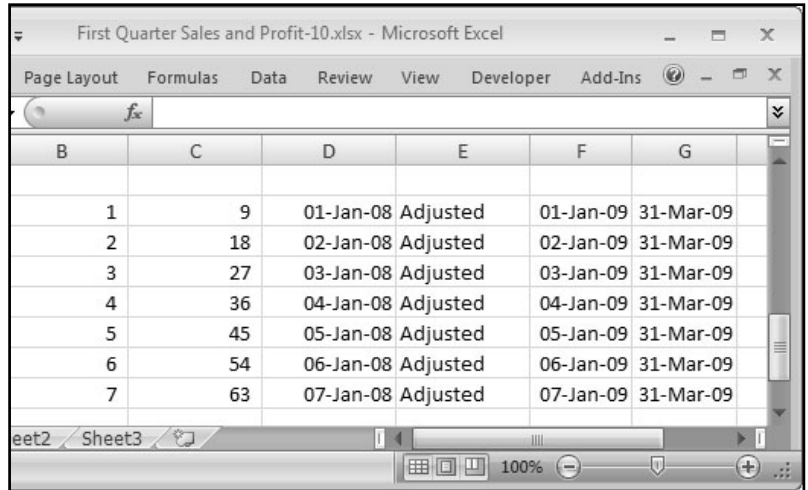
Hover over the AutoFill handle (the black spot at the bottom right hand corner). When you are sure that you have the correct black cross cursor shape, double click to automatically fill down.



- 5 Delete all of the dates from cells G19:G24 leaving only the date 31-Mar-09 in cell G18.
- 6 Hold down the **<Ctrl>** key and AutoFill down as far as G24 by dragging the AutoFill handle down with the mouse.

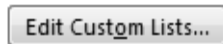
Because you held the <Ctrl> key down AutoFill simply copies the cell instead of creating a series of values.

First Quarter Sales and Profit-11



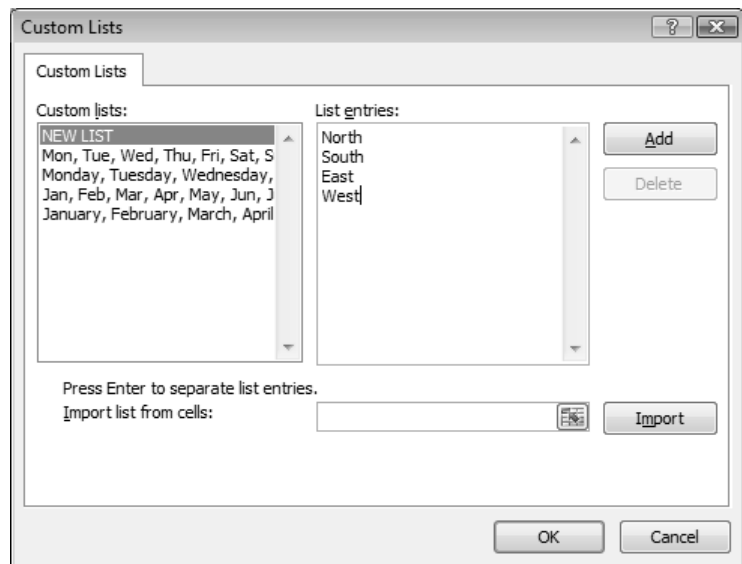
This is even faster than using the right-click method when you want to prevent the date incrementing.

- 7 Click Office→Excel Options→Popular.
- 8 In the *Popular* category under *Top options for working with Excel* click the gray *Edit Custom Lists...* button.



The Custom Lists dialog appears.

- 9 Click in the *List entries* window and add four custom list entries: North, South, East and West.



North
South
East
West
North
South
East
West

- 10 Click the OK button.
- 11 Type **North** in any cell and AutoFill down.
As you AutoFill the custom list entries appear in the worksheet.
- 12 Delete the North, South, East, West... cells from the worksheet.
- 13 Save your work as First Quarter Sales and Profit-12.

Lesson 2-18: Use the zoom control

Zooming is used to magnify or reduce the worksheet. If you have a lot of rows in a worksheet and have good eyes you might want to zoom out sometimes to see more of the worksheet on one screen.

- 1 Open *First Quarter Sales and Profit-12* from your sample files folder (if it isn't already open).
- 2 Zoom in and out of a worksheet using the mouse wheel.

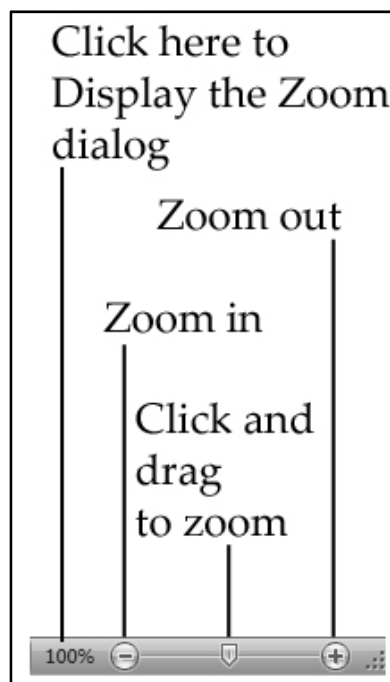
The fastest way to zoom a worksheet is by using the mouse.

Most mice these days have a wheel in the middle of the buttons. To zoom using this wheel hold down the <Ctrl> key on the keyboard and roll the wheel to zoom in and out.

- 3 Zoom in and out of a worksheet using the zoom control.

The zoom control is at the bottom right of your screen,

Click and drag on the zoom control slider to zoom in and out of your worksheet. You can also zoom by clicking the plus and minus buttons on either side of the Zoom control.



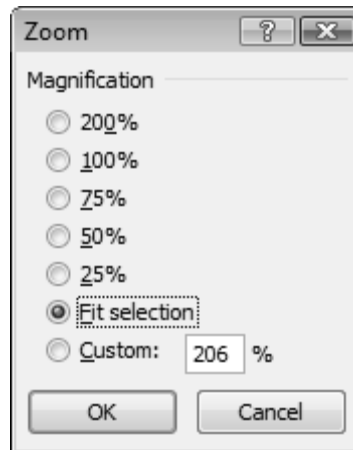
- 4 Select cells A3:D9.

We're going to use the zoom dialog to make this selection completely fill the screen.

- 5 Click the left hand side of the zoom bar.

The zoom dialog is displayed.

- 6 Select the *Fit Selection* option button and click the OK button.

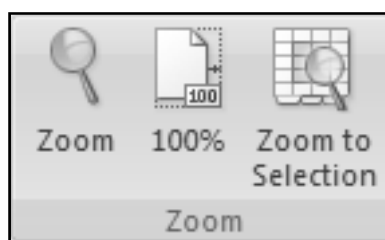


The worksheet is zoomed so that the selected cells completely fill the screen.

	A	B	C	D
1	Sales and Profit Report - First Quarter 2008			
2				
3		Jan	Feb	Mar
4	New York	22,000	29,000	19,000
5	Los Angeles	42,000	39,000	43,000
6	London	18,000	20,000	22,000
7	Paris	35,000	26,000	31,000
8	Munich	12,000	15,000	13,000
9	Sales	129,000	129,000	128,000

- 7 Zoom back to 100% using the Ribbon.

You'll probably find the zoom bar to be the quickest and most convenient way to zoom, but the View Ribbon also has a Zoom group containing three buttons:



Use the 100% button to restore the screen to normal.


Lesson 2-19: Print out a worksheet

We aren't going to explore every option for preparing and printing a worksheet in this lesson. Printing is such a huge subject that we devote a whole session to it in: *Session Seven: Printing Your Work*.

This lesson only aims to teach you the bare minimum skills you need to put your work onto paper.

- 1 Open *First Quarter Sales and Profit-12* from your sample files folder (if it isn't already open).

	A	B	C	D	E	F	G
1	Sales and Profit Report - First Quarter 2008						
2							
3		Jan	Feb	Mar	Average	Maximum	
4	New York	22,000	29,000	19,000	23,333	29,000	
5	Los Angeles	42,000	39,000	43,000	41,333	43,000	
6	London	18,000	20,000	22,000	20,000	22,000	
7	Paris	35,000	26,000	31,000	30,667	35,000	
8	Munich	12,000	15,000	13,000	13,333	15,000	
9	Sales	129,000	129,000	128,000			
10							
11	Costs	83,000					
12	Profit	46,000					
13	10% Bonus	4,600					
14							
15	USA Sales	-					
16	European Sales						
17							
18	Monday	1	9	01-Jan-08	Adjusted	01-Jan-09	31-Mar-09
19	Tuesday	2	18	02-Jan-08	Adjusted	02-Jan-09	31-Mar-09
20	Wednesday	3	27	03-Jan-08	Adjusted	03-Jan-09	31-Mar-09
21	Thursday	4	36	04-Jan-08	Adjusted	04-Jan-09	31-Mar-09
22	Friday	5	45	05-Jan-08	Adjusted	05-Jan-09	31-Mar-09
23	Saturday	6	54	06-Jan-08	Adjusted	06-Jan-09	31-Mar-09
24	Sunday	7	63	07-Jan-08	Adjusted	07-Jan-09	31-Mar-09
25							

- 2 Click the Office button at the top left of the screen .
- 3 Hover the mouse cursor over the Print button at the left of the dialog.
- 4 Click Print Preview from the menu at the right hand side of the dialog.
- 5 A preview of the printout is shown on screen:

First Quarter Sales and Profit-12

Sales and Profit Report - First Quarter 2008

	Jan	Feb	Mar	Average	Maximum
New York	22,000	29,000	19,000	23,333	29,000
Los Angeles	42,000	39,000	43,000	41,333	43,000
London	18,000	20,000	22,000	20,000	22,000
Paris	35,000	26,000	31,000	30,667	35,000
Munich	12,000	15,000	13,000	13,333	15,000
Sales	129,000	129,000	128,000		
Costs	83,000				
Profit	46,000				
10% Bonus	4,600				
USA Sales	-				
European Sales					
Monday	1	9	01-Jan-08	Adjusted	01-Jan-09 31-Mar-09
Tuesday	2	18	02-Jan-08	Adjusted	02-Jan-09 31-Mar-09
Wednesday	3	27	03-Jan-08	Adjusted	03-Jan-09 31-Mar-09
Thursday	4	36	04-Jan-08	Adjusted	04-Jan-09 31-Mar-09
Friday	5	45	05-Jan-08	Adjusted	05-Jan-09 31-Mar-09
Saturday	6	54	06-Jan-08	Adjusted	06-Jan-09 31-Mar-09
Sunday	7	63	07-Jan-08	Adjusted	07-Jan-09 31-Mar-09

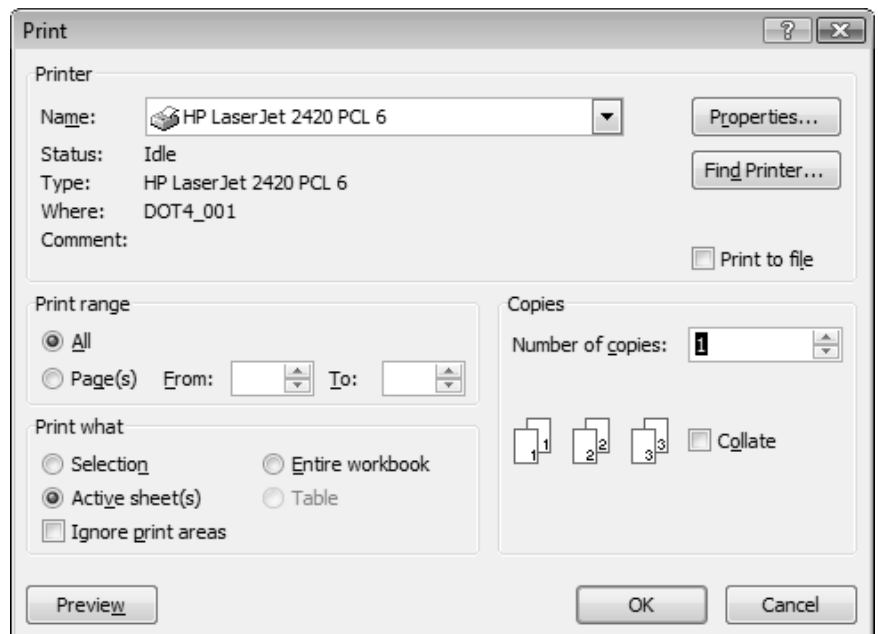
6 Click on the page to see the zoom feature working.

Each time you click on the page the page zooms in and out.

7 Click the Print button  at the top left of the Print Preview screen.

If you don't see this icon at the top of the Print Preview window it is because you have hidden the Ribbon. Unhide it by double-clicking the *Print Preview* Ribbon tab.

The print options dialog appears:



8 Click the **OK** button to print your work.

For this simple worksheet there's no need to change any of the options but you can probably figure out what most of them are for.

Session 2: Exercise


- 1 Open a new workbook.
- 2 Use AutoFill to put the three months Jan, Feb, and Mar into cells A4:A6.
- 3 Using only the keyboard add the following data:

	A	B	C	D	E
1	Profit Analysis				
2					
3		London	Paris	New York	Average
4	Jan	2,500	3,100	2,300	
5	Feb	2,200	2,700	2,600	
6	Mar	2,100	2,600	2,800	
7	Total				

- 4 Use AutoSum to compute London's total profit for Jan/Feb/Mar in cell B7.
- 5 Use AutoSum to compute the average January profit in cell E4.
- 6 Use AutoFill to extend the London total in cell B7, to the Paris and New York totals in cells C7 and D7.
- 7 Use AutoFill to extend the January average profit in cell E4, to the February and March average profits in cells E5 and E6.
- 8 Select all of Column A and all of Column E (at the same time) and bold face the values in them.
- 9 Select row 3 and row 7 (at the same time) and bold face the values in them.

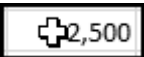
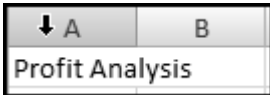
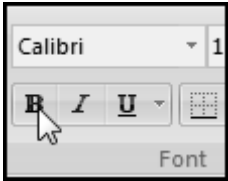
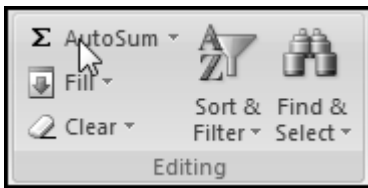
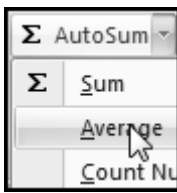
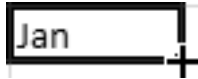
	A	B	C	D	E
1	Profit Analysis				
2					
3		London	Paris	New York	Average
4	Jan	2,500	3,100	2,300	2,633
5	Feb	2,200	2,700	2,600	2,500
6	Mar	2,100	2,600	2,800	2,500
7	Total	6,800	8,400	7,700	

- 10 Select cells B4:B6 and cells D4:D6 at the same time and then read the total London and New York sales figure for Jan, Feb and March from the summary information displayed on the status bar.
- 11 Select cells B4:D6 and zoom the selection so that these cells fill the screen.
- 12 Save your work as Exercise2-End.

If you need help
slide the page to
the left 

Session 2: Exercise answers

These are the four questions that most students find the most difficult to remember:

Q 10	Q 8	Q 4 and 5	Q 2
<p>1. Hover over the centre of cell B4 so that you see the white cross cursor shape.</p>  <p>2. Click and drag down to cell B6.</p> <p>3. Hold down the <Ctrl> key.</p> <p>4. Hover over cell D4 until you see the white cross cursor shape.</p> <p>5. Click and drag down to cell D6.</p> <p>This was covered in: <i>Lesson 2-7: Select non-contiguous cell ranges and view summary information.</i></p>	<p>1. Click on the column A header.</p>  <p>2. Hold down the <Ctrl> key.</p> <p>3. Click on the column E header.</p> <p>4. Click Home→Font→Bold.</p>  <p>This was covered in: <i>Lesson 2-6: Select adjacent and non-adjacent rows and columns.</i></p>	<p>1. Click in cell B7.</p> <p>2. Click Home→Editing→Autosum (Q4).</p>  <p>OR</p> <p>Click Home→Editing→Autosum→Average (Q5).</p>  <p>3. Either press the <Enter> key or click the Autosum button again.</p> <p>This was covered in: <i>Lesson 2-3: Use AutoSum to quickly calculate totals.</i></p>	<p>1. Type Jan into cell A4 and press the <Enter> key.</p> <p>2. Click cell A4 once to make it the active cell.</p> <p>3. Hover the mouse cursor over the bottom right corner of the cell until you see the black cross cursor shape.</p>  <p>4. Click and drag down to cell A6.</p> <p>This was covered in: <i>Lesson 2-14: Use AutoFill for text and numeric series.</i></p>

If you have difficulty with the other questions, here are the lessons that cover the relevant skills:

- 1** Refer to: **Lesson 2-2: Create a new workbook and view two workbooks at the same time.**
- 3** Refer to: **Lesson 2-1: Enter text and numbers into a worksheet.**
- 6** Refer to: **Lesson 2-15: Use AutoFill to adjust formulas.**
- 7** Refer to: **Lesson 2-15: Use AutoFill to adjust formulas.**
- 9** Refer to: **Lesson 2-6: Select adjacent and non-adjacent rows and columns.**
- 11** Refer to: **Lesson 2-18: Use the zoom control.**
- 12** Refer to: **Lesson 1-5: Save a workbook.**

End piece

Please provide some feedback

Thank you for completing my Free Excel 2007 course.

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If the course has helped you I don't want your money but I **DO** want your feedback.

There's a facility at the web site www.LearnMicrosoftExcel.com where you can pass on any comments you may have or just Email me at feedback@learnMicrosoftExcel.com.

You'll really brighten up my day if you just say "Hi, thanks for the course" or something like that.

You'll make my entire week though, if you tell me what was wrong with the course. I really want to know about typos, inaccuracies or anything at all that you found confusing or difficult. All of your feedback will be incorporated into future revisions of the course so with your help, it will get better and better.

Looking forward to hearing from you.

Mike Smart

My books

If you want to improve your Excel skills further (and there's a huge amount more to learn) I have two Excel books in print (or shortly to be in print if you are reading this prior to October 2008).

They are both available from amazon.com, amazon.co.uk and any bookshop in the world. There's a link to the right Amazon page on the [website](#) and the current status if either is not yet published.

My first book includes the two sessions you have completed along with five more. It is called *Learn Excel 2007 Essential Skills with The Smart Method*. The second book: *Learn Excel 2007 Expert Skills with The Smart Method* covers all of the skills you need to be a true expert.

