

# **Microsoft Excel 2007**

## **Intermediate**

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## **Excel 2007 Intermediate**

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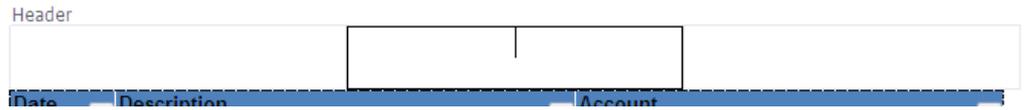
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## Lesson 1. Headers and Footers

### Simple Header/Footer

Click the **Insert** tab and click the **Header and Footer** icon. The spreadsheet will be shown in **Page Layout** view and your cursor will be placed in the centre area of the header. You can type the text you want. Click the **Header or footer tools: Design** tab and click **Go to Footer** if you want to type text in the footer. You can click in any of the three areas to add text.

Click **View, Normal** to return to the spreadsheet view



### More complex header/Footer

To set up or alter headers and footers click the **Page Layout** ribbon and then click **Page Setup** at the right of

Click the **Header/Footer** tab

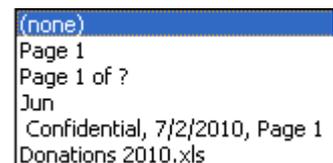
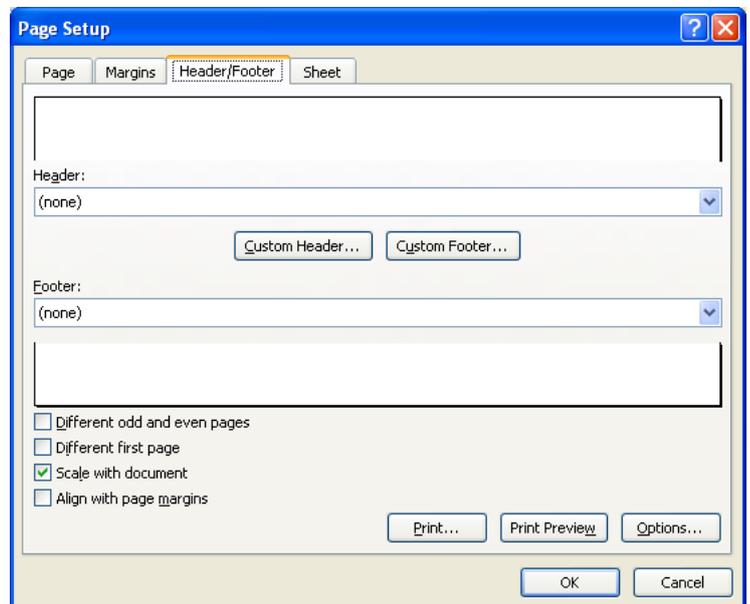
The Header will appear at the top of the page, outside the page margins. The **Footer** will appear at the bottom of the page outside the page margins.

By default the page will have no **Header** and no **Footer**.

Click on the down arrow at the right hand side of the **Header** box to select from pre-setup Headers.

Where there are more than one item, separated by commas, the left most item will be on the left hand side of the page, the next will be placed in the middle and the last on the right of the page

Click to select the one you want to use



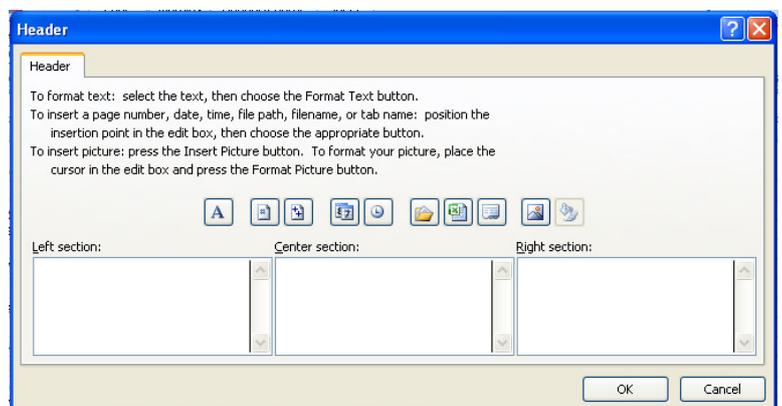
### Custom Header

If none are suitable you can create your own header.

Click the **Custom Header ...** button :

You can now type in each section what you want to appear in that part of the Header.

The buttons are for special situations and area explained below



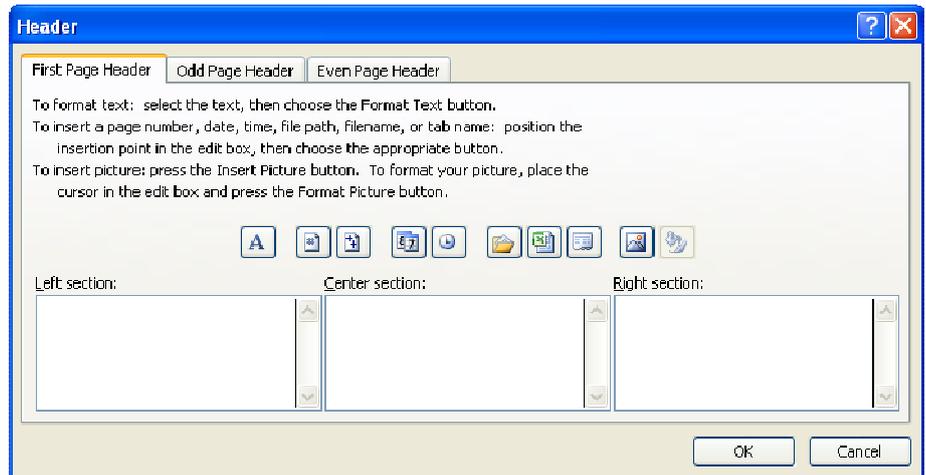
### The use of the special buttons

- |   |  |
|---|--|
|  Brings up the Font dialogue box                           |  Inserts the Filename only (not the path) &[File]   |
|  Inserts the Page number (&[Page])                         |  Inserts the Sheet name (&[Tab])  |
|  Inserts the total number of pages (&[Pages])              |  Inserts a picture  |
|  Inserts the date (&[Date])                                |  Formats the Picture (Note: choose the Picture tab, Colour, Washout for a fainter picture) this is unavailable if no picture exists in the header or footer |
|  Inserts the time (&[Time])                                |  |
|  Inserts the Filename, including the path (&[Path]&[File]) |  |

### Headers for different pages

You may wish to have a header on the even page with the name of the file, say, and a header for the odd page with the title of the spreadsheet. You can do this by clicking  Different odd and even pages from the **header and footer** tab on the **Page layout** dialogue. You can even add a special header and footer for the first page by clicking to select  Different first page .

You must now click **Custom Header** and will see a tab for each type of header you have chosen. Click each tab to set the header for that type of page. Note: the **Even Page Header** will be repeated on every even page within the spreadsheet.



### Align with margins

If this option is selected and you make the margins wider then the header will line up with the new margins as shown right below (the dotted lines mark the margins).

How to learn Excel		1				05/07/2010		
Year	Apples	Pears	Bananas	Oranges	Apples	Peaches		
2005	23	32	34	65	64	45		
2006	25	24	36	63	24	23		

If not selected then the header would retain its original position with regard to the page, as shown below

How to learn Excel		1				05/07/2010		
Year	Apples	Pears	Bananas	Oranges	Apples	Peaches		
2005	23	32	34	65	64	45		
2006	25	24	36	63	24	23		

**Note:** The Footer works in an identical manner.

## Lesson 2. Inserting, Viewing and Deleting Cell Comments

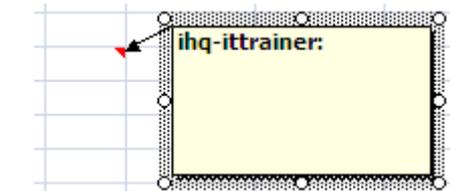
This allows you to make comments about individual cells. Use the **Review** ribbon and the **comment** section

### Adding a comment

Click the **Review** ribbon Highlight the cell to which you wish to add a note. Click the **New Comment** icon (shown right) from the ribbon



A text box will appear with an arrow pointing to the relevant cell. Type the text in the box.



You will see a small red triangle at the top right-hand side of the cell, indicating that there is a note attached.

### Viewing Comments

#### One by one

To see a comment on a particular cell you can rest the cursor over that cell and a yellow box will appear containing the relevant comment.

	Expenditure	
Jan	4,354	
Feb	4,564	
Mar	15,378	ihq-ittrainer: Due to the flood in the office
Apr	5,345	
May	4325	

You can also use Previous  or Next  button on the Reviewing Toolbar to move through each comment.

To make a comment stay on screen, click the relevant cell and click

#### All Comments

Click  **Show All Comments** on the Review ribbon

Select either option again to *hide* one or all of the comments

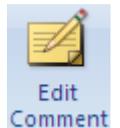
### Deleting a Comment

To delete a comment move to the *relevant cell* and from the **Review** ribbon click **Delete**. You do not have to select the comment box.



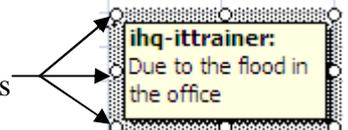
### Edit Comment

If you have shown the comment just click in the yellow comment box to edit it. If it is not shown then click the relevant cell and on the Review ribbon click **Edit comment**



### Changing box size

Show the box (click ) and click into it, then click on the small white circles on the edge to change the size.



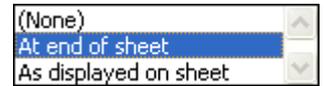
### Lesson 3. Printing Comments

There are two ways of printing the cell comments. To select which of these you wish to use select **the Page Layout**, click  next to **Page Setup**.

Click on the **Sheet** tab. You will see an option for **Comments** Comments: **At end of sheet** ▼

Click on the down arrow to the right

If you select **At end of sheet** when you print you will have an extra page on which the comments will be listed. So in my example I will have two pages. One with the spreadsheet and the other with the comments



**Page 1**

Fruit	Sales
Oranges	200
Pears	56
Bananas	12

**Page 2**

Cell: B2  
**Comment: Elizabeth Wells:**  
 More oranges bought than usual due to heat wave

Cell: B4  
**Comment: James Smith:**  
 low sales of bananas due to tarantula scare

As you can see, the comments are related to cells via the cell reference, so it would also be useful in this case to have the **Row and column headings** option ticked.  Row and column headings Then the spreadsheet will be printed with the headings **A, B, C** across the top and **1, 2, 3** etc down the side as shown right,

	A	B
1	Fruit	Sales
2	Oranges	200
3	Pears	56
4	Bananas	12

You may also choose to have gridlines shown to allow you eye to find the cell more easily. Again, select **the Page Layout**, click  next to **Page Setup**. click the **Sheet** tab and look for  Gridlines

Without gridlines

	A	B
1	Fruit	Sales
2	Oranges	200
3	Pears	56
4	Bananas	12

With Gridlines

	A	B
1	Fruit	Sales
2	Oranges	200
3	Pears	56
4	Bananas	12

If you select **As displayed on the sheet** then any comment boxes you have permanently showing on screen will be printed, as shown on the right. If you have chosen not to view some individual comment boxes on screen then those will not be printed.

Fruit	Sales	
Oranges	200	<b>Elizabeth Wells:</b> More oranges bought than usual due to heat wave
Pears	56	
Bananas	12	<b>James Smith:</b> low sales of bananas due to tarantula scare

### Lesson 4. Object Linked Embedding (OLE)

You can embed an object (piece of information produced by a windows application) from another application within Excel. To edit the object thereafter merely double click on it and the original package will open. When you have edited it close the window and say **Yes** you wish to update the document.

To embed data both the applications must be open.

Open the package in which you wish to produce the *object*.

Highlight the area which you wish to import into Excel and on the **Home** ribbon, in the clipboard area click  (or **Ctrl C**)

The area has now been copied to the clipboard.

Switch back to Excel, move the cursor where you want the object to appear and from the **Home** ribbon, in the clipboard area click **Paste** 

### Lesson 5. Dynamic Data Exchange (DDE)

The difference between embedding and a dynamic data link is that in embedding a copy of the original object becomes part of the document into which it is imported, and increases the size of the file quite heavily. With dynamic linking an image of the object is displayed in the file and it is linked to the original, so that changes that are made in the original are reflected in the document it is linked to.

Highlight and **Copy** the chosen text in the original application. Change to Excel, move the cursor to the cell in which you want the text to appear and click the down arrow under the Paste option.



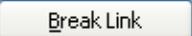
Select **Paste Link**

Any changes made to the original document will be reflected in Excel.

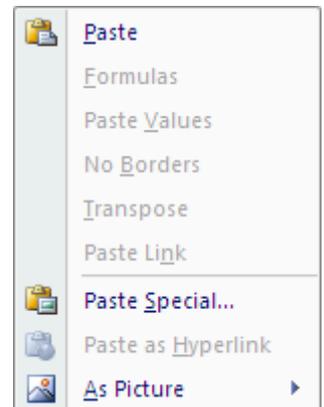
You cannot make a link from Word into a text box

#### Break the link

If you have linked from another spreadsheet and wish to break the link, click

the **Data** ribbon, and select , click the particular link you are concerned with, then select , and confirm by clicking





The data will remain but it will no longer change if the source data changes.

**Note:** If you are having trouble with updating information, or are getting an error message saying that an application cannot update information it should be collecting from Excel you should check ensure that Excel is not set to ignore requests for update.

To do this click the Office button , click , Click **Advanced**, scroll down to the **General** area and make sure  **Ignore other applications that use Dynamic Data Exchange (DDE)** is not ticked.

## Lesson 6. Working with Larger Spreadsheets

### Splitting the Window

You may wish to see two parts of your spreadsheet at the same time. This can be done by splitting the window.

#### Horizontally

Move the cursor to the right-hand side of the screen, above the scroll up arrow to the ,

The cursor will change to .



Click the mouse whilst dragging the cursor down to the correct position.

The main window will be split into two "panes" with the same spreadsheet shown in each. You can use the scroll bars for each pane to view different parts of the spreadsheet and compare them, copy information from pane to pane etc.

#### Vertically

Move cursor to the bottom right of the screen, to the right of scroll right arrow to the .

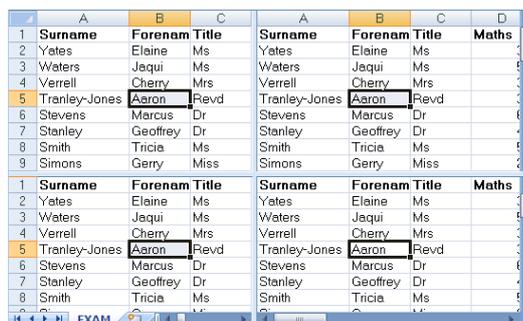
The cursor will change to .



Click the mouse whilst dragging the cursor to the left to the correct position.

As before the main window will be split into "panes" with the same spreadsheet shown in each. You can use the scroll bars for each pane to view different parts of the spreadsheet and compare them, copy information from pane to pane etc.

The illustration right shows the window with both a vertical and a horizontal split.



### Removing the split from a window

Double click on the relevant split bar to remove an individual bar, or drag each bar back to the original position at the top or right of the scrollbar

### Freezing the headings

If you have a lot of data underneath headings you may wish to split the window so that you can see the headings at all times. To do this you will need to *freeze* the row and/or column containing the headings as given below

#### Freezing the top row

Click the **View** ribbon, click  **Freeze Panes** and click **Freeze Top Row**.

#### Freezing the first column

Click the **View** ribbon, click  **Freeze Panes** and click **Freeze First Column**.

#### Freezing rows and columns

If you need to freeze the first row **and** the first column, place your cursor in cell **B2** and click the **View** ribbon, click  **Freeze Panes** and click **Freeze Panes**. Note that if you need more than one row frozen you would place your cursor in the row below the last row to be frozen. Similarly you can freeze more than one column by placing your cursor to the right of the last column to be frozen. So placing your cursor in C3 would freeze rows 1 and 2, and columns A and B

### To remove the Split and frozen panes

From the **View** ribbon, click  **Freeze Panes** and click **Unfreeze Panes**

## Lesson 7. Printing with Large Spreadsheets

### Printing part of the sheet

You may wish to print a certain part of your database on a regular basis. To do this you must first set the **Print Area**

First select the area which you want to print.

Click the **Page Layout** ribbon, click the **Print Area** icon (shown right) and select **Set Print Area**



The print area will now be shown surrounded by dotted lines.

Note that the print area in the example shown right is **B3 to C6**.

### Multiple areas as part of Print area

You can select more than one area of the spreadsheet to be part of the print area. Note that each area will be printed on a new page. All areas must be on the same sheet.

	A	B	C	M
1	<b>Surname</b>	<b>Forenam</b>	<b>Title</b>	
2	Yates	Elaine	Ms	
3	Waters	Jaqui	Ms	
4	Verrell	Cherry	Mrs	
5	Tranley-Jones	Aaron	Revd	
6	Stevens	Marcus	Dr	
7	Stanley	Geoffrey	Dr	
8	Smith	Tricia	Ms	

There are two ways to do this:

- i. If the Select the first area by clicking and dragging, then hold down the **Ctrl** key and click and drag over another area. Each area will turn blue. You can continue to add areas to the selection as long as you hold the **Ctrl** key down
- ii. Select the first area, click the **Print Area** icon and select **Add to Print Area**. Repeat this for all areas you require.

### Removing a Print Area

To print the whole spreadsheet:

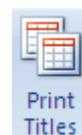
Click the **Page Layout** ribbon, click the **Print Area** icon, select **Clear Print Area**

### Print Titles

If you are printing a spreadsheet which goes across several pages you may wish to repeat the headings at the top and left of your table on each page.

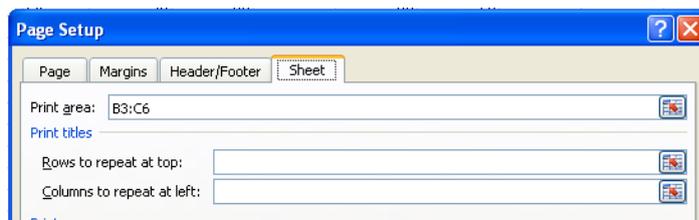
This will also allow headings to be printed for an area you have selected within the spreadsheet.

Click the **Page Layout** ribbon, click the **Print Titles** icon (shown right)



Click in the Rows to repeat at top box

Click in the spreadsheet to select a row (or several adjacent rows). As you click and drag in the spreadsheet the relevant range will be built up in the **Rows to repeat at top** box. (\$1:\$1 means the whole of row 1)



Use  to hide irrelevant parts of the dialogue box.

When you have selected the row(s) click  to bring the dialogue back to normal

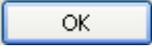
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Repeat for **Columns to repeat at left**

(\$A:\$B means the whole of columns A and B)

Print titles

Rows to repeat at top:	\$1:\$1
Columns to repeat at left:	\$A:\$B

Once you have defined the rows and columns to print, Click ,

### To remove print Titles

Click the **Page Layout** ribbon, click the **Print Titles** icon

Delete the contents of the **Rows to repeat at top** box

Delete the contents of the **Columns to repeat at left** box

Click **OK**

## Lesson 8. Page Breaks

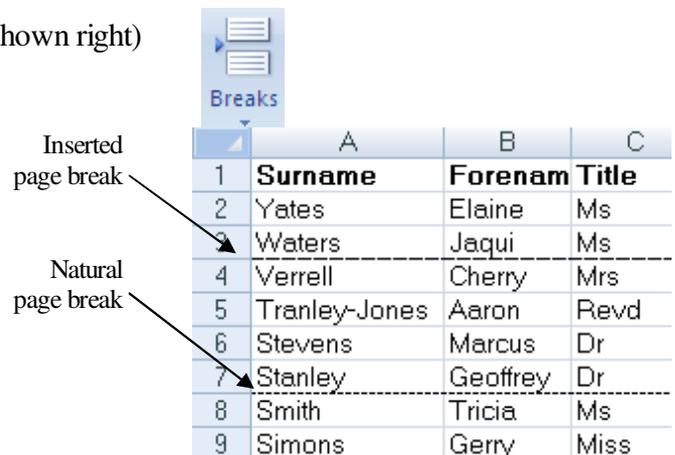
### To Insert a break between rows

Select the row below the point at which the new page will start. (Click the Row number so that the whole row is selected)

Click the **Page Layout** ribbon, click the **Breaks** icon (shown right)

Click **Insert Page Break**

You will then see a horizontal dotted line where the page break is. Note that this dotted line has longer lines than those of the dotted line showing a natural page break, as shown right



	A	B	C
1	<b>Surname</b>	<b>Forenam</b>	<b>Title</b>
2	Yates	Elaine	Ms
3	Waters	Jaqui	Ms
4	Verrell	Cherry	Mrs
5	Tranley-Jones	Aaron	Revd
6	Stevens	Marcus	Dr
7	Stanley	Geoffrey	Dr
8	Smith	Tricia	Ms
9	Simons	Gerry	Miss

### To Insert a break between columns

Select the column to the right of the point at which the new page will start. (Click the column number so that the whole row is selected)

Click the **Page Layout** ribbon, click the **Breaks** icon (shown right)

Click **Insert Page Break**

You will then see a vertical dotted line where the page break is.

As before, an inserted column page break has longer lines than a normal column page break

### To remove a specific page break between rows or between columns

Select the row below the row page break, or to the right of the column page break

Click the **Page Layout** ribbon, click the **Breaks** icon, and click **Remove Page Break**.

### To remove all page breaks

Click the **Page Layout** ribbon, click the **Breaks** icon, and click **Reset All Page Breaks**

### Choosing whether to see the page breaks

If you cannot see page breaks you may need to change the options

Click  at top left, click **Excel Options** at the bottom right of the menu, then click **Advanced**, scroll through to the **Display options for this workbook:**  section, and click to select  **Show page breaks**

## Lesson 9. Joining text in different cells

There may be text in different cells which we wish to combine.

In the example shown right we may wish to create a third column which shows the name as a whole e.g. Elaine Bates

	A	B
1	<b>Surname</b>	<b>Forename</b>
2	Yates	Elaine
3	Waters	Jaqui

Use the **&** operator to join text as shown below

=B2 & A2

This would result in **ElaineBates** which is missing a space between the words, so we need to ensure that we add the space too as shown below (note that there is a space between the " marks)

=B2 & " " & A2

This will result in **Elaine Bates** which looks much better!

This can be expanded. Look at the example shown right.

Supposing we want to be able to say

"Ms Elaine Bates obtained a Fail in Maths"

	A	B	C	D
1	<b>Surname</b>	<b>Forename</b>	<b>Title</b>	<b>Maths</b>
2	Yates	Elaine	Ms	Fail
3	Waters	Jaqui	Ms	Pass

We could use the formula:

=C2&" "& B2 & " " & A2 " obtained a " & D2 & " in " D1

Note that we have added a space between B2 and A2. Note too that there should be a space before and after any text inside quotes! E.g. " obtained " not "obtained".

## Lesson 10. The "IF" Function

This can be used when you want the result in a cell to depend on a certain fact, or fact.

### The simple IF

The general form of the function

is: =If(criterion, true, false)

So if, for example, you wanted to be able to look at the list of students shown right and see quickly whether they passed the Maths exam or not you could create another column and use the If statement to produce the word "Pass" or "Fail"

	A	B
1	<b>Name</b>	<b>Maths</b>
2	Elaine Yates	39
3	Jaqui Waters	56
4	Cherry Verrell	32
5	Aaron Tranley	35
6	Marcus Stevens	64
7	Geoffrey Stanley	46
8	Tricia Smith	54
9	Gerry Simons	23
10	Harry Sandings	19
11	Alice Prevett	58
12	Harry Dineen	89

Assuming the Pass mark to be 40 the **criteria** for the first student would be B2>=40 since the mark they got for Maths is in the cell **B2**

The result you want if the criterion is **True** is the word "PASS", while the result you want if the criterion is **False** is the word "Fail"

So the full statement would be:

=IF(B2>=40, "Pass", "Fail") (Note that the text must be enclosed in quotes)

You could then copy the formula down the column to produce the result for each student.

### The Nested IF

Suppose we actually need more information than just "Pass" or "Fail" - if the student gets over 70 they earn a "Merit".

In this case we want **3** results and not just **2**. The possible results are, "Merit" if they student got 70 or over, "Pass" if the student got 40 or over and "Fail" if the student got less than 40

So we may start with =IF(B2>=70, "Merit",

That's simple enough, if the mark is 70 or over the result is "Merit". The result if the mark is less than 70 is not quite so clear since it could be that the mark over 40 or less than 40. So we must include another **IF** and use that to test whether the mark is over 40 or under 40.

So the complete formula would be =IF(B2>70, "Merit", IF(B2>40, "Pass", "Fail"))

You can nest up to 7 If statements

For example, supposing you wanted to calculate Grades from the marks as shown below:

Mark range	Grade
0-40	Fail
41-60	E
61-70	D
71-80	C
81-90	B
91-100	A

The IF statement could be:

=IF(B2<=40,"Fail",IF(B2<=60,"E",IF(B2<=70,"D",If(B2<=80,"C", IF(B2<=90,"B", "A")))))

There that's one for you to think about!

Note that we need to be consistant! Either start from the highest and then go down, or start from the lowest and go up!

**"IF" using calculations**

You can also use formulae in the **True** and/or **False** section.

e.g. using the example shown right, note that the cost of the item depends on whether it is VAT rated or not.

	A	B	C	D
	<b>Item</b>	<b>VAT Rated</b>	<b>Price</b>	<b>Cost</b>
1				
2	Software	yes	\$10.00	\$11.75
3	Book	no	\$6.00	\$6.00

To work out the cost, assuming a VAT rate of 17.5%, we could use the formula below in cell **D2**

**IF(B2="yes", C2\*1.175, C2)**

Note that if the item is VAT rated a calculation is carried out, while if it is not VAT rated the price is copied into the Cost column.

**Lesson 11. The "ISBLANK" Function**

This can be used to test for an empty cell. It may combined with other functions, such as the IF function

The general form of the function is:

**=ISBLANK(cell reference)**

The result of the function is **TRUE** if the cell is empty and **False** if the cell has data in it.

	A	B	C
	<b>Name</b>	<b>Maths</b>	<b>Missec Exam</b>
1			
2	Elaine Yates	39	FALSE
3	Jaqui Waters	56	FALSE
4	Cherry Verrell		TRUE
5	Aaron Tranley	35	FALSE

For example, when considering exam results in the example shown right, if a cell is blank, then we may create a column, called **Missed Exam** which tells us whether the student missed the exam.

So in Column C we can place the formula **=ISBLANK(B2)** in the cell **C2** - the result would be **False**

If we copied that formula to cell **C4** then the result would be **True**, i.e Verity has no mark and therefore did not take the exam.

The heading for our column would be better as "Took exam" as some people may just not choose to take Maths. But then the "True" and "False" would be the wrong way round.

We could use an IF statement combined with the **ISBLANK** to deal with this

e.g. = **If(ISBLANK(B2), "No","Yes")** as shown right

	A	B	C
	<b>Name</b>	<b>Maths</b>	<b>Took Exam</b>
1			
2	Elaine Yates	39	Yes
3	Jaqui Waters	56	Yes
4	Cherry Verrell		No
5	Aaron Tranley	35	Yes

Going back to the example in the previous lesson, when calculating the grades, if a student did not sit the exam they will have the result "Fail", whereas in fact it may be that they just did not choose to sit that exam.

We can use the ISBLANK function in a nested "IF" statement to show the results for not sat, pass or fail. Lets say that if they did not sit the exam we will leave the cell blank. So the formula would be:

**=IF(ISBLANK(B2),"",IF(B2<40,"Fail","Pass"))**

Giving the result shown right.

We could extend this to the grade formula given in the previous lesson as follows!

	A	B	C
	<b>Name</b>	<b>Maths</b>	<b>Took Exam</b>
1			
2	Elaine Yates	39	Fail
3	Jaqui Waters	56	Pass
4	Cherry Verrell		
5	Aaron Tranley	35	Fail

**=IF(isblank(B2),IF(B2<=40,"Fail",IF(B2<=60,"E",IF(B2<=70,"D",If(B2<=80,"C",IF(B2<=90,"B", "A"))))))**

## Lesson 12. Tables

Often you are performing calculations on a growing list of data such as that shown right. So you may produce a formula which sums, say, C3:C4. Then you add some new data in row 5, and have to update all your formulae. A familiar experience?

	A	B	C
1	Date	Name	Amount
2	01/05/2010	Amy	\$10.00
3	02/05/2010	Fred	\$15.65
4	04/05/2010	John	\$20.43

There is no need to update the formulae if you define your original data as a table. Once you have done this the formulae will automatically update once you add a new row (or column, if relevant). Also, when you add a new row within the table Excel will automatically copy down any formulae used in the previous row. You can have more than one table on a sheet

### Defining data as a table

1) Select the Data. Note that if your data contains no blank rows and columns (and it should not!!) then you can select quickly by placing your cursor in the top left cell of the data and click **Shift** → (selects to the last column used) and **Shift** ↓ (selects to the last row used)

2) On the **Insert** ribbon, click the **Table** icon (shown right)  
(You can also press **Ctrl T**)



3) You will see the dialogue box shown right: If your table has headings (as it should normally do) like, *Date*, *Name*, *Amount* in the example at the top, then  **My table has headers** should be ticked. These headings are then treated differently from the data beneath. Click **OK**



Note that if you do not have headings, and the **My table has headers** is left blank, Excel will create a heading row, with headings of its choice that you can then type over

4) Click **OK**

The table is normally shown with rows in alternate shades of blue

### Adding new rows/columns

If you type a new row below the existing data it will be incorporated into the table automatically. Similarly a new column at the right will be automatically incorporated.

However, if you have totals shown (see below) you can move to the end of the last data row and press the **Tab** key on the keyboard to create a new row.

### Showing column totals

With your cursor in the table, at the right, under **Table tools**, click the **Design** tab and then click to select  **Total Row**. Sums will automatically be shown for any numerical fields. To change the function used, move the cursor to the total cell and click the down arrow to select your chosen function.

### Name a table

At the right, under **Table tools**, click the **Design** tab and at the left hand side of the ribbon in the **Properties** group you will see the name. Type a new name as required

### Change a table back to normal data

With your cursor in the table, at the right, under **Table tools**, click the **Design** tab and then click to select **Convert to Range**. Click **OK** to confirm that you want to *convert the table to a normal range*

## Lesson 13. Querying Tables/Databases

You can use this method on tables, as set up in the previous exercise, or on normal data. In both cases the data must comprise columns representing fields and rows which represent the records. The first row in this list must contain the field names. The data can then be treated like a database which can be filtered and sorted. A *filter* allows only those rows of data to show which meet a specified criteria and will show in the form of drop down arrows on the right of each heading

e.g. **Name** ▼ **Maths** ▼ **English** ▼ **French** ▼

Once you set up a table the filters show automatically, but for normal data you will need to switch them on

### Switching the filters on and off

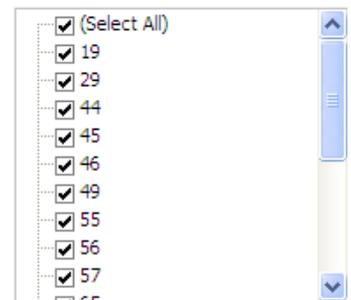
Click *one* cell in the data area (this saves you having to highlight the whole data area). Click the **Data** tab and click the Filter icon (shown right). As usual, if the icon background is orange the filter is on. Click again to turn off, when the icon will turn blue.



### Simple filters

Choose a column to filter by and click the down arrow ▼ for that column. A menu will appear with a list at the bottom of each different entry contained within the selected column. You can remove ticks to exclude those results from the list. The rows will be hidden.

For columns which have criteria set you will see the filter symbol in the drop down arrow. ▼



### More complex filtering

Click the down arrow, click **Number filters** or **Text filters** (depending whether the column contains text or Numbers)

You will see a menu similar to that shown right (this is for text) and you can click the option you want to use. For example if you want to find all names beginning with B, then click **Begins With...** and type **B** in the box to the right of the **Begins with** in the dialogue box that appears.



Click OK to action the command

You can use more than one criteria, e.g. **Begins with B AND Ends with N**

Note that AND means both conditions must be true, while OR means either condition can be true

e.g. "Begins with b AND ends with n" includes Bacon, Ben, Baron, etc

"Begins with b OR ends with n" includes Barney, Bacon, Simon etc

You can put criteria on more than one column

### Remove criteria from one column

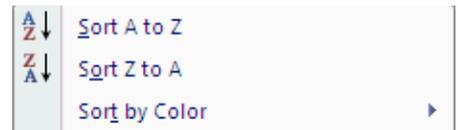
Click the down arrow for the relevant column. Select **Clear Filter From ...** and the criteria will be removed from that column

### Removing All the criteria

On the **Data** tab, click **Clear** and **all** criteria will be removed from the data range

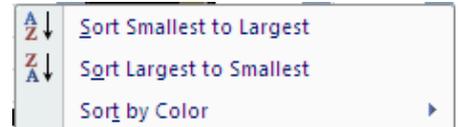
## Sorting data

To do simple sorts, select the column to sort by and click  or  on the **Data** ribbon



For more complex sorting, click the down arrow on the right of the column whose data you wish to sort.

The options will vary depending on whether the column contains text or numbers.



Click the option you want and the rows will be sorted according to that column.

You can sort on more than one column - the sort will be done in order from left. i.e. the leftmost column with a sort defined will be sorted first, and then the next column to the right of that will be sorted **within** the first sort, and so on.

You can do more complex sorting using **Sort by colour**. You can also get to the same option by clicking **Sort** (icon shown right) on the **Data** ribbon.

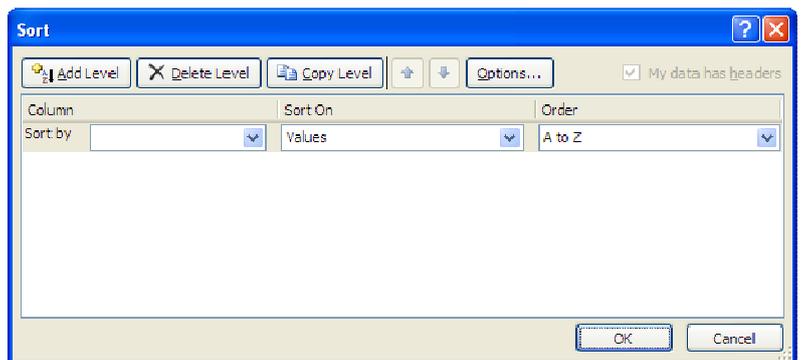


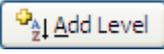
All data in that list will now be selected, excluding headings since you do not want to sort these. You can have up to 64 levels of sorting.

First complete the **Sort by** field: You can choose from a list of columns

**Sort on** To sort by the contents of the cell chose *by values*. You can also sort by colour that you have added to the cell, or the font, and by cell icons (which are *conditional formatting*)

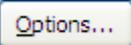
**Order** Choose ascending (**A-Z**), descending (**Z-A**) or according to a Custom List, i.e. a list that you have created (Mon, Tue, Wed .. is a built in Custom list



If you wish to sort by a second column, click  and repeat the process.

Click **OK** once you have set up the required sorts. Note that the down arrow of a sorted column changes to show this, e.g. 

### Note

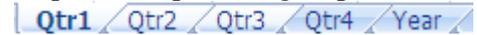
If the data is not set up as a Table, you can sort using row headings rather than column headings by clicking  and selecting  Sort left to right

## Lesson 14. Linking

### Linking Worksheets

To add headings to all sheets at once, for example, click on one sheet which you want to use, and then hold the **Ctrl** key down while you click on any others. (or hold the Shift key down and click on the last sheet in the list which you wish to group)

The grouped tabs will turn white. e.g. In the illustration below qtr 1, qtr 2 and qtr 3 are grouped and anything added to one of them will be added to all.



### Calculations

You can do calculations using cells from other sheets by defining the sheet name, followed by the cell reference. e.g. **'Qtr 1'!B1+'Qtr 2'!B1+Year!B1**

While this can be typed in it is often easier to start by typing the = sign in the cell in which you want the answer to appear and then change to the relevant sheet and click on the required cell. You can then type an operator (e.g. +), change to another sheet and click on the required cell. In this way Excel will build up the cell definitions for you correctly. Press **Enter** when the formula is complete. If the data you are adding is in the same cell in each sheet then you can simplify the creation of the formula by using a function. E.g. to add data in the same cell on each sheet, start in the cell you want the result to appear and type **=SUM(** then click the first sheet and the required cell. Then hold down the **Shift** key on the keyboard and click the last sheet. Type **)** and press enter. The formula would look something like **=SUM('Qtr1:Qtr4'!B2)** - where Qtr1 and Qtr4 are sheet names.

Note that all sheets which physically appear between the first and the last will be included in the formula, regardless of their name.

#### Note

1. Where a sheet name contains spaces it must be enclosed in single quote marks
2. An exclamation point must always follow the sheet name

### Linking Workbooks

It is also possible to create links to cells in other workbooks. In this case the link description is made up of:

- The location on disk of the workbook
- The worksheet name within the workbook
- The cell reference within the worksheet

e.g. **= 'C:\spreadsheets\EXAM.XLS'EXAM'!\$B\$24**

Again, you will find it easier to allow Excel to build up the description for you. Make sure you have all necessary files open, type the = sign in the cell in which you want the answer to appear and then click on **Window** and the file name, click on the cell, type an operator and continue until the formula is complete. Then press the **Enter** key.

#### Note

1. Quotes are must be placed around the full workbook / worksheet name
2. If the file only has **one** sheet then the sheet name will be omitted
3. While both files are open the full path will probably not be displayed

## Lesson 15. Setting Up Outlining

Often the spreadsheet contains raw data which is summarised in various ways. Usually you really only want to see the summarised data as your finished product. The outlining of a sheet allows only the summarised data, totals etc, to be viewed.

Using the outline tools you can *group* rows (or columns) together. Once you have done this you will see symbols in the left margin which will enable you to view the details of the group or not as you wish.

Data with totals before outlining

	A	B	C
1	FRUIT SOLD IN 2010		
2	Fruit	Month	Tonnes
3	Apples	March	6
4	Apples	June	2
5	Apples	June	4
6		Total Apples	12
7	Bananas	April	5
8	Bananas	May	4
9		Total Bananas	9
10	Pears	March	7
11	Pears	April	8
12	Pears	May	3
13		Total Pears	18

Data after outlining with all data shown

	A	B	C
1	FRUIT SOLD IN 2010		
2	Fruit	Month	Tonnes
3	Apples	March	6
4	Apples	June	2
5	Apples	June	4
6		Total Apples	12
7	Bananas	April	5
8	Bananas	May	4
9		Total Bananas	9
10	Pears	March	7
11	Pears	April	8
12	Pears	May	3
13		Total Pears	18

Data after outlining with only totals shown

	A	B	C
1	FRUIT SOLD IN 2010		
2	Fruit	Month	Tonnes
6		Total Apples	12
9		Total Bananas	9
13		Total Pears	18

Notice that the missing rows are *hidden*. The row numbers are missing

### Automatic outlining

Place your cursor somewhere in the relevant data – selecting only one cell - and click the  tab, and in the Outline group at the right, click on the arrow below the Group icon (shown right) and click [Auto Outline](#). Excel searches for totals, etc., and groups the rows above them. You will see  symbols to the left of totals with lines going from these up past rows used to produce the total.



### Manual outlining

To set up the same thing manually, select all the rows(or columns) that are source data for the total line below, (e.g. rows 1 to 3 in the example above), click the  tab, and click the **Group** icon itself. (If you have not selected the complete rows you will be asked whether you wish to group rows or columns. Click **Rows** and **OK**) You will then see  to the left of the total row. Repeat this individually for all sets of rows that make up totals. You can also use the shortcut keys **Alt, Shift, →** to group rows or columns once you have selected them.

### Removing the whole grouping outline

To remove the whole outline click the  tab, and click the **Ungroup** icon (shown right) Click [Clear Outline](#)



### Ungrouping

Select all rows/columns you want to ungroup, then click the  tab, itself (if you click the down arrow, select **ungroup**)

You can also select the relevant rows or columns and press **Alt, Shift ←**

## Lesson 16. Using the Outline

Once you have set up the outline you can use it to view the data in different ways

### Hiding all the detail

To see only the rows containing totals, select *all* the data and click the **Data** tab and at the extreme right, click .

Alternatively, (more quickly!) click the number at the top of the outlining area that represents the level of grouping you want to see. There is no need to select the data with this method.

In the example on the right the result shown, grouped by variety, has been obtained by clicking **3**. You could click **2** to show the data grouped by fruit

	A	B	C	D
1	FRUIT SOLD IN 2010			
2	Fruit	Variety	Month	Tonnes
5		Gala		11
9		Fiesta		8
11		Pippin		7
12	Apples Total			26
16		Burro		13
19		Macabu		13
20	Bananas Total			26
24		Bartell		21
29		Anjou		28
33		Comice		8
34	Pears Total			57
35	Grand Total			109

### Hiding one set of detail

Click the  symbol next to the total heading and the rows that are connected to that heading will disappear.

### Showing all the details

To see the all rows that are used to produce all totals, select all the data and click the **Data** tab and at the extreme right, click .

Alternatively, click the number at the top of the outlining area that represents the level of grouping for which you want to see the detail

### Showing one set of details

Click the  symbol next to the total heading and the rows that are connected to that heading will appear

### Displaying or hiding the outline symbols

Click the orb  and **Excel Options** (at the bottom) then click the **Advanced** option, and in the **Display options for this worksheet:** remove, or add, a tick to  **Show outline symbols if an outline is applied**

You can also press **Ctrl 8**, and press **Ctrl 8** to view the symbols again

Note that the outline still exists, it is just hidden

### Levels of outline

You can create up to 8 levels of outline. The example on the right has 4 levels. The lowest level, 4, is **all** the data. Level 3 is the **monthly** totals, level 2 the **Fruit** totals and level 1 the **Grand** total.

At the top of the outline symbols area you can see numbers representing these levels. If you click on the **1** button you will see only the **Grand** total

	A	B	C
1	FRUIT SOLD IN 2010		
2	Fruit	Variety	Tonnes
21	Grand Total		

If you click on the **2** button you will see all totals down to **Fruit** totals and so on down to the **4** button which will show all the details

	A	B	C
1	FRUIT SOLD IN 2010		
2	Fruit	Variety	Tonnes
3	Apples	Gala	6
4	Apples	Gala	5
5		Gala Total	11
6	Apples	Fiesta	3
7	Apples	Fiesta	2
8	Apples	Fiesta	3
9		Fiesta Total	8
10	Apples	Pippin	7
11		Pippin Total	7
12	Apples Total		
13	Bananas	Burro	5
14	Bananas	Burro	4
15	Bananas	Burro	4
16		Burro Total	13
17	Bananas	Macabu	7
18	Bananas	Macabu	6
19		Macabu Total	13
20	Bananas Total		
21	Grand Total		

### Notes:

1. To produce a chart using only the totals, start with the outline collapsed to the level you wish to plot and after producing the chart ensure that under **Tools, Options, Chart** the option **Plot visible cells only** is ticked.
2. If you remove an outline or ungroup while showing only subtotals, i.e. there are hidden rows, the rows remain hidden even after the outline is removed. Use the shortcut keys **Ctrl Shift** ( to unhide selected rows and **Ctrl Shift** ) to unhide selected columns (**Ctrl 9** hides rows and **Ctrl 0** hides columns)
3. All that we have done with rows applies equally well if your totals are across columns, In this case the outline symbols will be across the top of the spreadsheet.

## Lesson 17. Subtotals

If you have lists of data which is laid out in *columns* (i.e you want vertical grouping), you can quickly produce subtotals. You would first need to sort the data so that it is grouped as you wish the subtotals to be created.

### Adding subtotals

Place your cursor somewhere in the list of data, click the **Data** tab and click **Subtotal** icon (shown right)

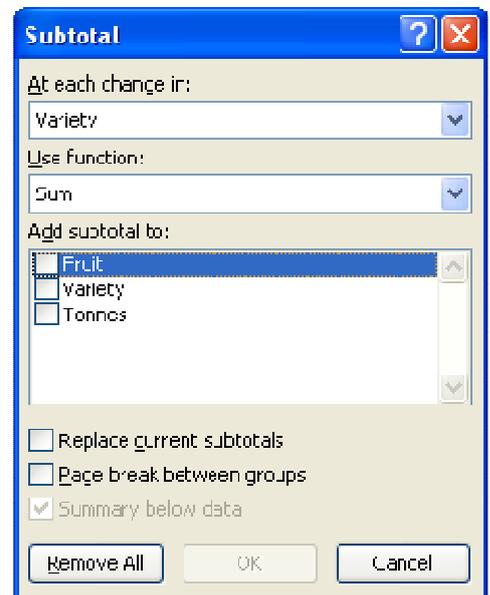


You then need to select from **At each change in:** the column which you wish to group the data by. Start with the lowest level.

From **Use function** you can choose what kind of calculation to use, e.g. SUM, AVERAGE etc.

In **Add Subtotal to** tick the boxes for totals which you wish to add. These must be numerical data columns

Click **OK**



### Subtotal levels

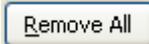
If you wish to have subtotals within subtotals, e.g. in our example you could have **monthly** totals inside the **Fruit** totals, you must start by inserting the subtotals for the highest level, e.g. **Fruit** and then when you have those subtotals you do the process again for the next level, e.g. **Month**, but when doing this second level you must remember to remove the tick from **Replace current subtotals** or you will lose the first level totals. (This process is often referred to as 'nesting')

### Options

If you remove the tick from **Summary below data** the Grand total will be placed at the top of the data and the subtotals above their groups

If you add a tick to **Page break between groups** then each group will be placed on a separate page

### Removing subtotals

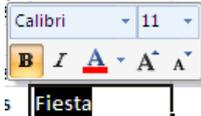
Click in the data and select **Data, Subtotals** then click on the  button. This will remove all levels of subtotals.

## Lesson 18. View Options

There are many things you can change about the way Excel displays things. To do this, click the "orb" at top left  and then click  at the bottom right of the menu.

### Show Mini Toolbar

**on selection:** This refers to the faint formatting toolbar that appears when you select text

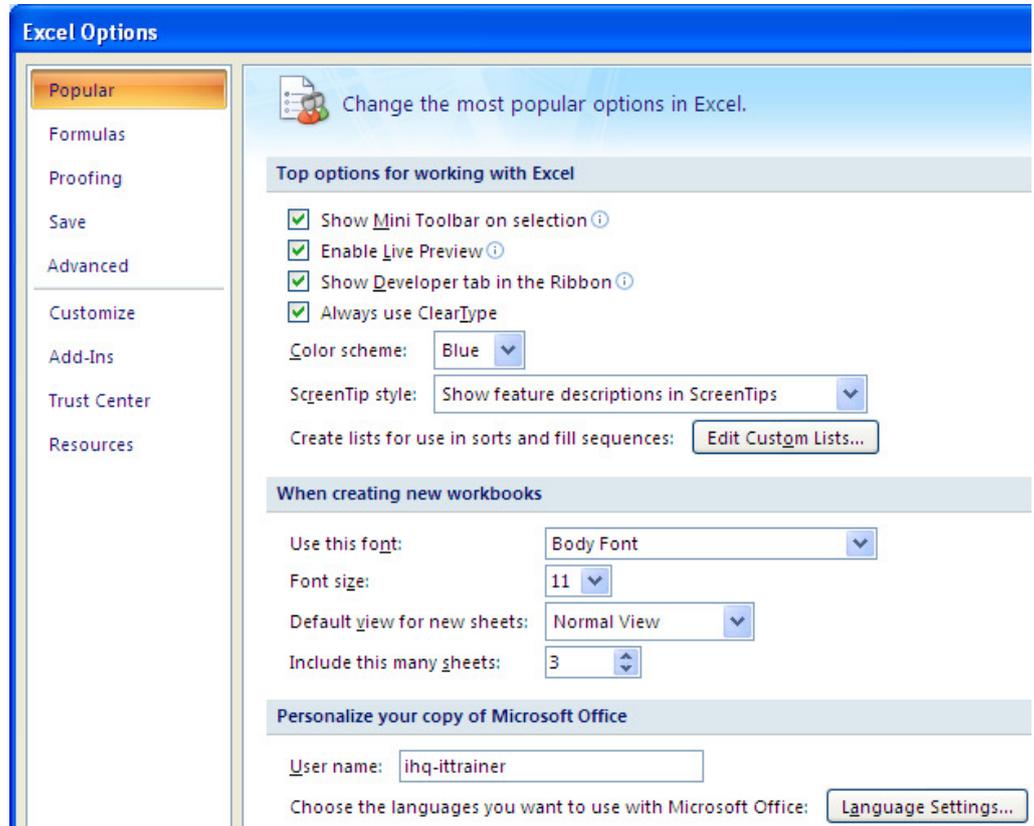


### Enable Live Preview:

When, for example, you are choosing a font the text you selected will change to show the font you're cursor is over.

### Show Developer tab in the ribbon:

This is useful if you are dealing with Macros etc

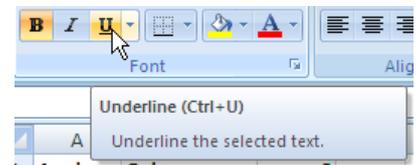


**Always use ClearType:** ClearType is a technology designed to improve the readability of text on LCD screens. It uses fractions of pixels.

It works best when using the "native resolution" of your screen. Some people find it useful, some don't. You can turn it off globally in Control Panel.

**Color Scheme:** You can change the colour of your ribbons etc. This will affect all Microsoft Office applications

**ScreenTip style:** This refers to the small box that appears when you rest over a button. The feature description is the second line shown right - in this case "Underline the selected text" If this is not shown only the first line is visible, which will show a keyboard shortcut, if there is one.



**Create lists for use in sorts and fill sequences:** When you type *Monday* in a cell, and drag it down across other cells the sequence *Tuesday, Wednesday, Thursday* ..... will be created. This is a Custom List. You can create your own here.

**Use this font/Font size:** These allow you to set a font and font size that will be used when a new spreadsheet is created

**Default view for new sheets:** Normal is a good working view for Excel spreadsheets, but you can change this so that all spreadsheets open in Page Layout view if you wish

**Include this many sheets:** New workbooks have 3 sheets in them by default, but you can change this

## Lesson 19. Advanced Options

### Advanced

Click the "orb" at top left , click  at the bottom right of the menu, then click **Advanced**

There are many options, I will just pick out a few that may be useful:

From the **Editing options** section

- After pressing Enter, move selection** You can control whether the selection moves to another cell after you have pressed the **enter** key, and if so in which direction it should move.  
 Direction: 
- Enable fill handle and cell drag-and-drop** If you find that you accidentally drag and drop items, you may find it useful to remove this option
- Alert before overwriting cells**

From the **Display** section

Show this number of **Recent Documents**:  When you click the orb  you will see a certain number of recent documents listed. Here you can control how many that is - up to 50!

From the **Display options for this workbook:**  section

Note that these options will apply to the whole of the Workbook that you choose in the drop down box

- Show horizontal scroll bar** Use these options to hide the scroll bars and sheet tabs - either to discourage users from using them, or to give more space on screen for the data on the spreadsheet
- Show vertical scroll bar**
- Show sheet tabs**

From the **Display options for this worksheet:**  section

Note that these options will apply only to the worksheet that you choose in the drop down box

- Show row and column headers** Switching this on will give you extra space for data, if you are not writing formulae and needing the cell references!
- Show formulas in cells instead of their calculated results** Switch this on to see the actual formulae. You can then print the formulae if required. If you widen the cells in order to see the full formulae you will need to make them narrower again once you show the formula results
- Show a zero in cells that have zero value** If you remove the tick then cells containing a zero value will be shown as blank cells
- Show gridlines** Remove the tick here if you are using the spreadsheet as a form, with cells requiring entry bordered.

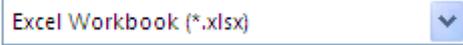
From the **When calculating this workbook:**  section

- Set precision as displayed** Often you will format the result of a calculation to show to a set number of decimal places, for example. If you use that result in another calculation the number used by default is the actual value, not the formatted one. E.g. the answer to a formula may be 6.6666667 and you format it to 6.67, but 6.6666667 would be used if this cell was involved in any other formula. This can result in being a penny or so out in monetary calculations! If you click on *precision as displayed* then if you see 6.67 then that value will be used in any other calculation.

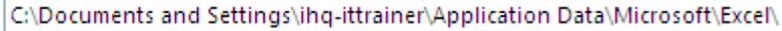
### Lesson 20. Save Options

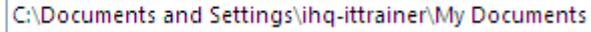
Click the "orb" at top left , click  at the bottom right of the menu, then click **Save**

Under the **Save workbooks** section

Save files in this format:  If you regularly share files with someone who has an earlier version of Word, you can change this to **Excel 97-2003 Workbook (\*.xls)**. You will then see in the Title bar of the Window the words [Compatibility Mode] - which means files you save are compatible with earlier versions of Word.

Save AutoRecover information every  minutes Use this to set the time period for Word to automatically create a special back up copy of your work. Note that you must continue saving your file at regular intervals. If Word crashes (stops working) for some reason and you have to end and restart it you will see a panel at the left of the screen which will list files that were open when Word crashed. You may find the same file name listed twice once as *Original* which is the version you last saved, and again as *AutoRecover* which is the version which Word automatically saved and will probably be a later version than the one you saved. Click on the version you wish to open: if you open the AutoRecover version make sure you save it immediately to avoid losing it if Word crashes again.

AutoRecover file location:  This allows you to control where Word saves the AutoRecover file. Note that you cannot open an AutoRecover file in the usual way. Word has to open it itself.

Default file location:  This allows you to control what folder automatically opens when you choose to open a file. You can set it to a folder in which you save most of your Excel files!