An Introduction to Excel 2007 for Tour Andersson

Andrew Hill June 2009

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Working with spreadsheets

Open the file **jeansdocs.xls** and click on the sheet tab **jeansinvoice** if it is not displayed

In the address box there are 5 lines. Use these to enter a customer address.

To move from line to line use either Enter or the ↓ key

Oasis 5 High Street Mereford MR1 3GF

If you make a mistake while entering a line, just backspace and try again.

If you have moved on and want to change an entry later it is usually simplest just to click on the cell and re-type. To edit a long entry, double click in the box and you'll be able to change the text in the box. Always move to another cell when an entry is complete to avoid accidentally changing it again!

Now add some items to this section, using only the area shown here.

product code	description	quantity	price
Abc1	Blue type 1	6	17.99
Bcd2	Blue type 2	12	8.45

You should see that the other boxes with totals and VAT are calculated as you go.

Now click on the tab **jeansstatement** and you should see that parts of your new entries have been added to a statement for this customer.

Keeping original data safe

It is important to maintain original data secure and, wherever possible, to work with a copy when editing or preparing for printing etc.

Obviously, nothing can beat keeping the original data physically separate on a separate computer or on CD, USB drive etc. but in day-to-day use a simple practical step within an Excel file can save a lot of problems – that's **copying sheets** and working in the copy. Whatever you do in the copy shouldn't affect the original.

Get familiar with **copying** and **renaming** sheets. It can be a bit fiddly but well worthwhile.

Open the file **cars1.xls** – a list of 79 old cars.

Hold the **Ctrl** key down and **drag** the tab **Sheet1** towards the right. A small arrow ▼ will move to the right and a small + symbol will show.

Let go of the mouse button then release the **Ctrl** key. There should now be an extra tab called, a bit confusingly, **Sheet1(2)**

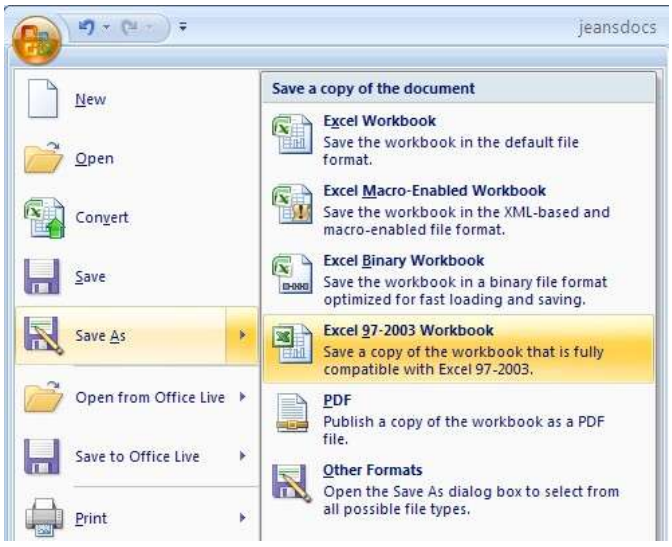
If you didn't get a new tab then you may have either not dragged far enough across or you may have let go of the **Ctrl** key before the mouse button.

Now to change the tab names to something you'll find a bit more useful: I suggest **original data** for Sheet1 and maybe **cars list** for Sheet1(2). To change a tab name, double click on it and type what you want. Certain characters may not be allowed.

A *right click* on a tab will also give you similar options for these tasks as well as some other options. You'll do more with this file later.

Saving Excel files so that others can use them easily

Excel 2007 files may not be readily opened in earlier versions. Microsoft have released a translation application which can be downloaded by someone who doesn't have Office2007 but it can take a while and, for the time being, I suggest that you save files in a format that will open quickly for others.



For the files you have open, use **File>Save As>Excel97-2003 workbooks**. Rarely will this have any effect on the appearance of the data and there will be a warning if there might be.

Displaying information better

Open the file **shopping.xls**. This has a list of items already entered and some prices to save you getting bored typing things. You can always add some more or change them if you wish. Your job will be to work out whether you can buy this lot within a budget.

You'll notice that the columns aren't wide enough so spread them out. Use the mouse to drag the line between column headings A|B, B|C, C|D and so on.

You may find it better to align headings to match the data in the columns too – *text aligned left, numbers right* is a good rule to follow.

Calculations

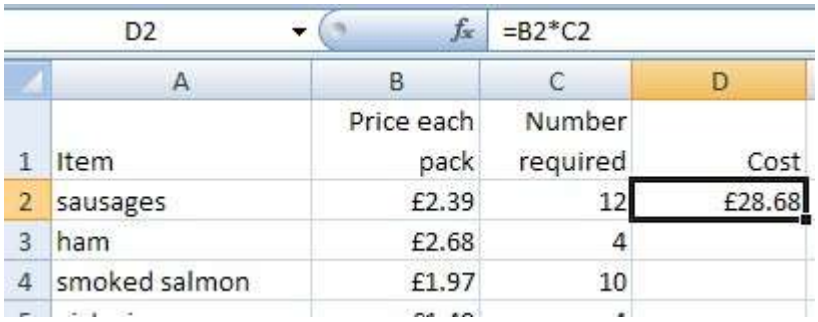
There's a box on the sheet where you can set a budget for yourself, or your tutor may have set a figure already.

The first *formula* you need is to *multiply* the **price** of each item or pack by the **number** required.

The answer needs to go in column D, starting with D2 for sausages.

Type **=b2*c2** in that cell and press **Enter**. The answer should show. In the **formula bar** above the sheet your formula will be displayed when you go back to cell D2.

So you can probably guess what's needed in the other cells D3, D4 etc.



	A	B	C	D
1	Item	Price each pack	Number required	Cost
2	sausages	£2.39	12	£28.68
3	ham	£2.68	4	
4	smoked salmon	£1.97	10	

But there is a quicker way! Look at cell D2. At the bottom right corner of a selected cell is a tiny black square. **Double click** on that and see what happens. Sometimes you may have to drag the area to copy formulae to if the double click doesn't work, highlight the right area.

Now you need a total in cell D20.

Select cell D20. Click on the **Σ** symbol on the **Home** bar. This will highlight all the column figures and suggest a total formula in the cell. The formula for a **total** is **=SUM(D2:D19)** if you want to add

everything from **D2 to D19**. If the **Σ** method doesn't give you what you want (eg where there are gaps in a list) then you'll need either to drag the selection area to get the right area or just enter the formula yourself. Press **Enter** to accept the formula.

So now you know the total and need to calculate the amount you're over or under budget. (OK it may be obvious but there is a purpose in this, bear with it!)

You need to *subtract* the **total** in **D20** from the **budget** in **D24**. The formula is: **=D24-D20** so type that in **D26**.

An additional message will appear too – this uses some advanced formulae which your tutor may explain in a later session.

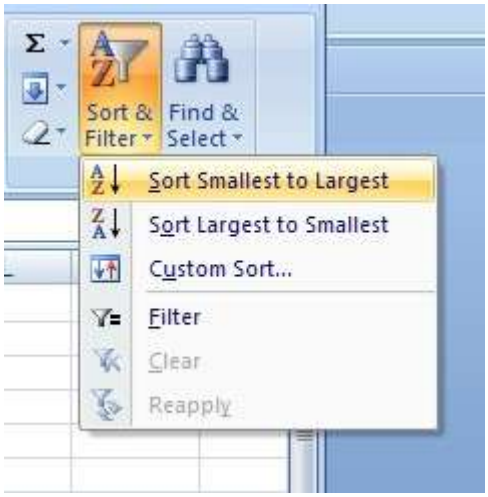
Try changing the **quantities** for some items and see how close you can get to the budget figure. This demonstrates just how useful formulae can be, even simple ones like those you have entered.

Save the workbook – there is another task coming later using this data.

Data management – sorting records in different order

This task will give you some ideas as to how Excel can be utilized to sort data in various ways and how to extract just certain records from a database.

Open the file **cars1.xls** (a list of 79 old car details you may have used earlier). If you haven't already done so, before you do anything else, *copy* **Sheet1**, rename it **original data** and name the copy **price order**.



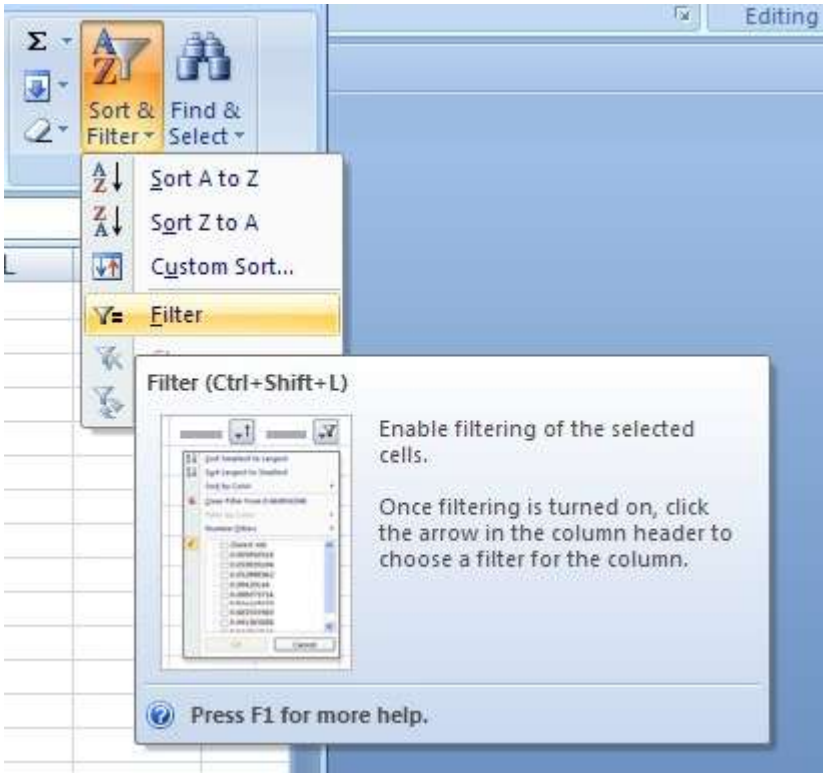
The original was in **A-Z order** of *make*. The **price order** sheet should be put in order of *price*, cheapest at the top. To do this use the **Sort and Filter tool** in the **Home** bar. *Before using that tool, though, click on a cell in the value column. If you don't it'll sort the wrong column!*

The list should have changed so that the Renault 4 is at the top.

Try some other sorting to see how it works, ending with a return to the original order by sorting on the **price** column.

Data management – showing certain records only

Extracting just the data you want that meets certain criteria is called *filtering*. It is quite easy to do in Excel using, again, the **Sort and Filter tool**.



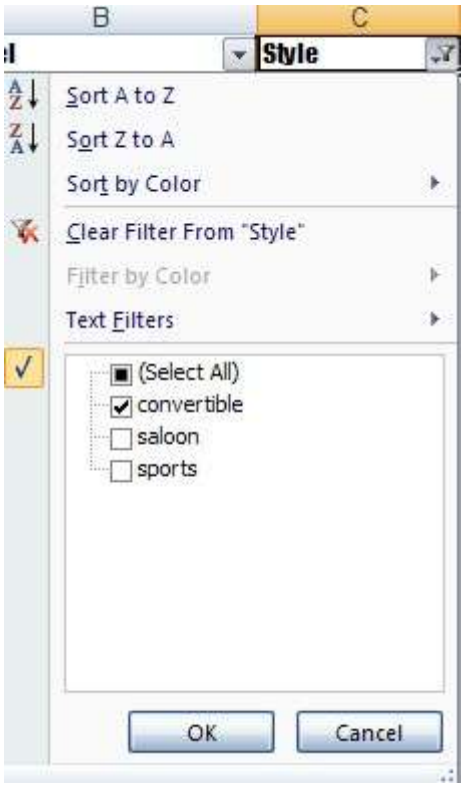
This will place small ▼ marks next to each heading. (As long as you have set up the spreadsheet sensibly with a single row of headings above your data, that is. If you have multi-row headings, gaps here and there then you'll have to do some tidying up first.)

Before doing any *filtering* it is a good idea to make separate sheets for each different selection. It's not essential but as this type of list is the most likely to be printed it

will be more readily available another day if you do.

So copy either sheet again and change the tab name to **convertibles**.

Click on the filter arrow on the **Styles** heading.



Change the *filter* by clicking to deselect **saloon** and **sports**, leaving just **convertible** ticked. Press **OK** or **Return** and the records displayed should now just be the **convertible** cars.

In further copies, try and obtain lists of just **sports** on one sheet and **saloons** on another.

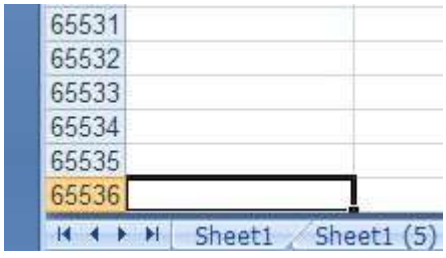
Label the sheets appropriately too. *You'll need them for a Charts task later.*

More advanced selections can be made – for example you could look for all the **sports** cars with a **GB** origin by using both the *Style* and *Origin* filters. Try these out in copies of one of the complete lists (original data, cars list or price order)

Printing

You may have a superbly crafted spreadsheet with great formula and really good data management but when it gets printed the result can be seriously disappointing and give quite poor or amateur impression to recipients.

It seems to be something that is left out of many training sessions but I think it's worth getting right.



Firstly, a golden rule: ***never just hit print for a spreadsheet!*** Excel 2007 has over a million cells and it isn't difficult accidentally to type something in the 65536th row. (Use **Ctrl+↓** to see just how easy it is to get there!)

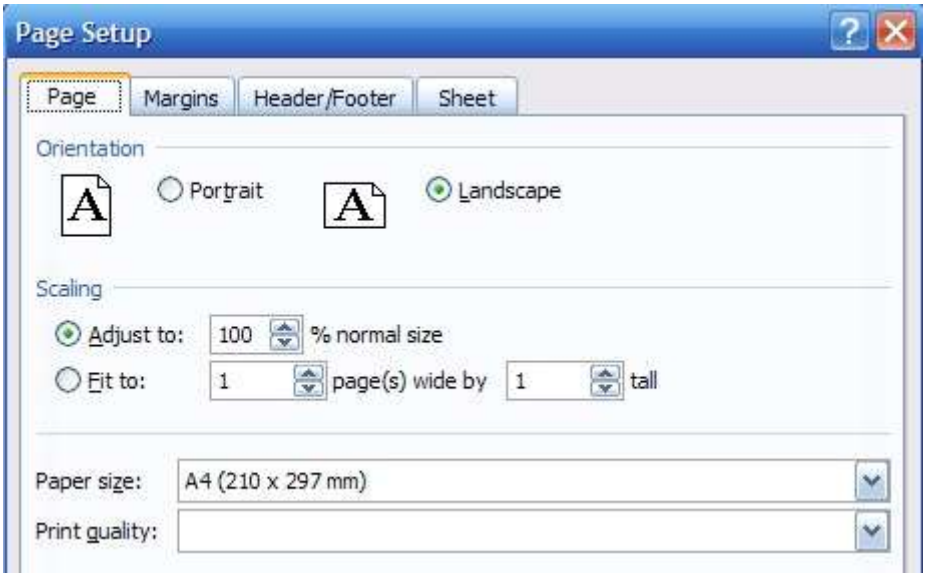
If anything gets in that cell then your printer will go on and on until, several hundred sheets later, it gets there. Chaos!

Instead, use the **Office button** and select **Print>Print Preview**.

Then select **Page Setup** and there are four tabs to get familiar with.

The first is **Page** where you should check the Paper size as well as things like whether it is best portrait or landscape.

Excel is made by Americans who use **Letter** size paper. Unless the initial installation was correct you may have a default paper size of Letter which can produce odd results. You need **A4**. (Your printer set-up may need looking at too, incidentally).



Here you can also adjust the layout so that you don't find orphan rows or columns printed on separate sheets.

Next is the **Margins** tab which is not illustrated here, being pretty self-explanatory. The only use I can see for this is where you need to reduce margins to squeeze a lot of data onto a sheet or, possibly, want a centred table.

Next is the **Header and Footer** tab. This is important. The main body of a spreadsheet should usually just contain data – the place for most *titles* and certainly *date*, *filename*, *author* etc is in the header or footer.

Unfortunately, Microsoft have not advanced much since the early Excel days and it is unlikely that you will want any of the ready-made entries. So you'll need **Custom Headers** and **Footers**, accessed by clicking the appropriate button. In the panel that opens you have three areas in which to enter information. If you have a long heading, it may appear to be wrapped in a section panel but will actually spread across the page when printed.

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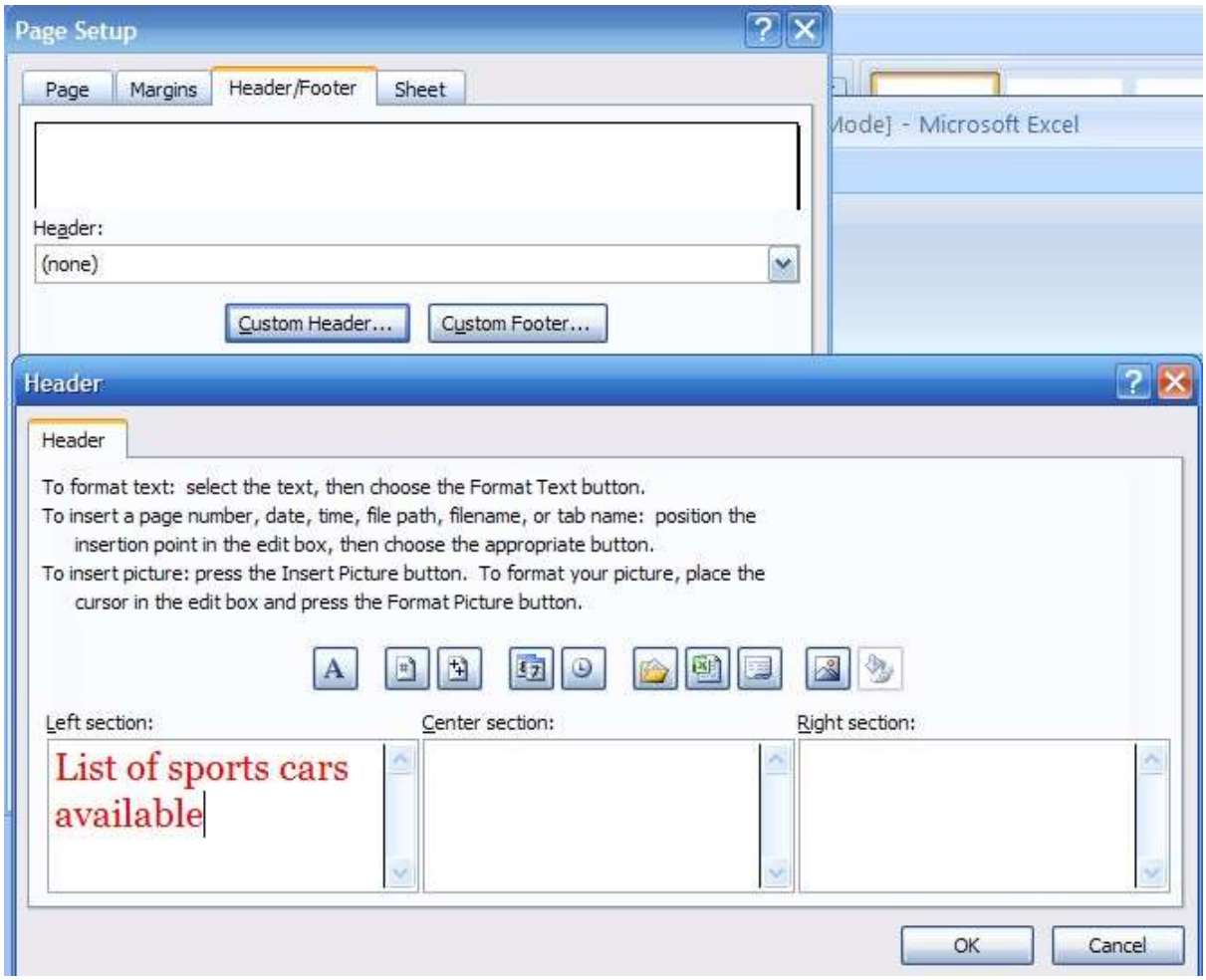
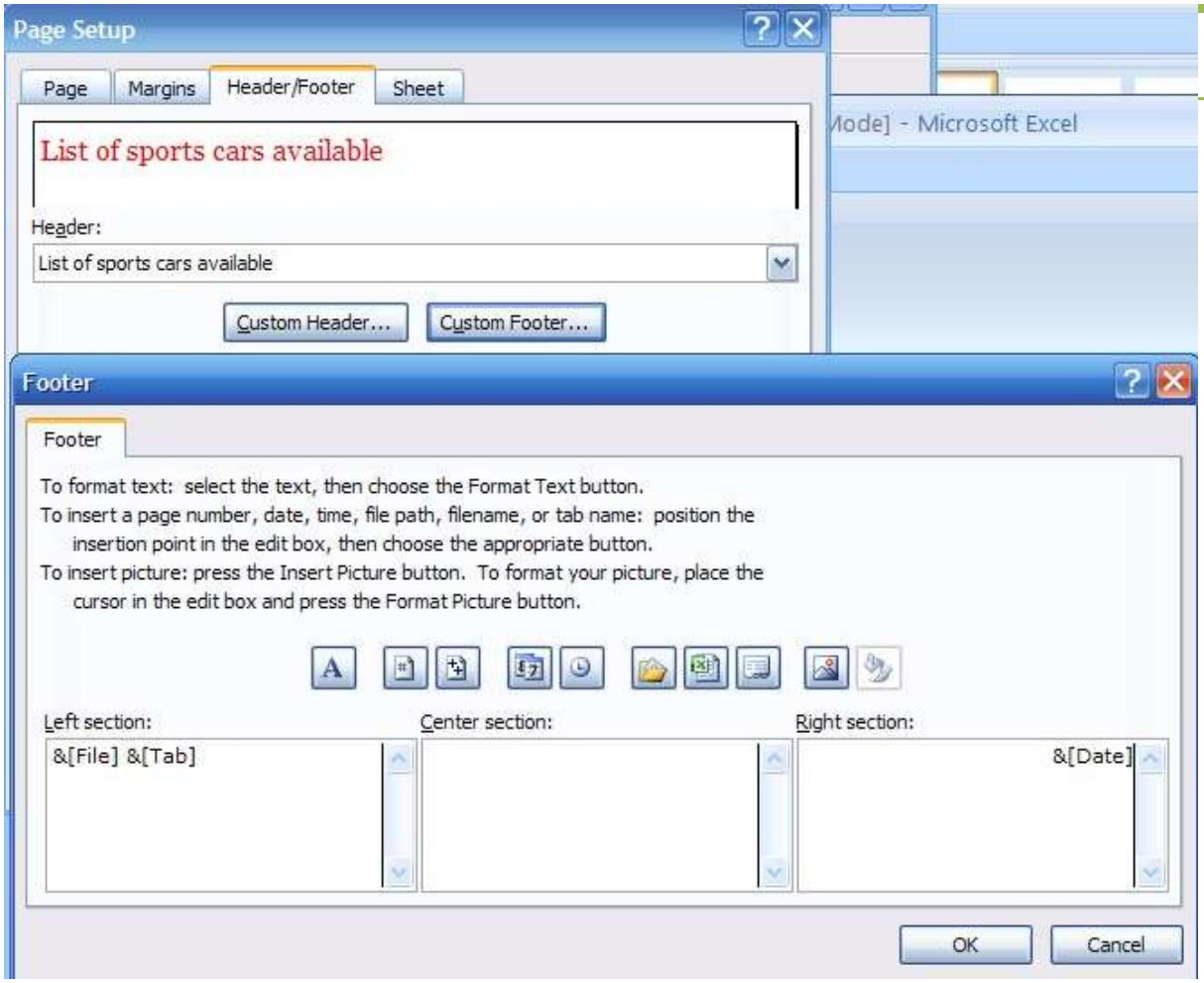
To change the font is still a fiddly process with a tiny window requiring you to scroll a lot to get to the font you want. And you have to select the text first.



Once you have set up everything, OK your way out of the panel and the preview should show what you'll get. Check this, and the number of pages. Then you can print safely.

Often you will have several sheets in a workbook and the headers, footers, layout etc will be similar for each one. You can save a lot of time by making these changes to all the sheets at the same time. To achieve this, exit Print Preview and, in normal view, hold the **Ctrl** key while you click on each of the sheets to be included.

Then, with a *group* of sheets selected, do the Print Preview and Page Setup and the settings will be applied to all sheets in the *group*.

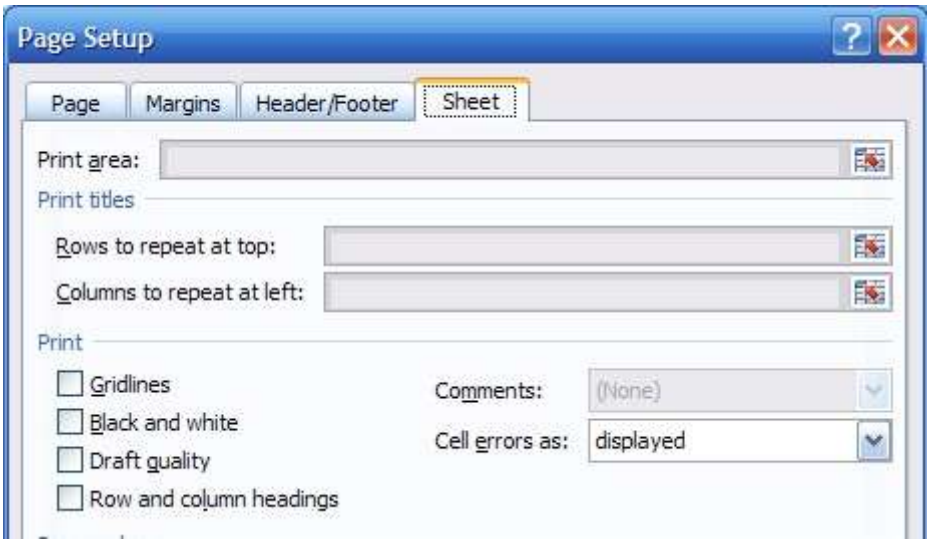


Rather than typing footer entries it is a good idea to use the buttons provided to add the file name, sheet tab name, date etc. This can be useful if you change the name of the file or sheet in future as this will be adjusted automatically. You will probably want to reduce the size of the default entries – again by selecting the code and using the A button to access the font panel.

The last tab is Sheet and is where you should de-select gridlines if necessary. Should your sheet require several pages then it is a good idea to have column or rows repeated on each page. This can be a bit tricky at first as the process is decidedly unintuitive but click on the little icon at the end of the 'repeat' box, select the area to repeat and click the icon again to return to this panel. That should work.

Occasionally you may wish to print out the formulae used on a sheet so that someone can check them. This is the one occasion when you would show gridlines and also Row and Column headings (they're the A B C and 1,2,3 boxes at the edge of a sheet) so that the formulae make sense.

To display formulae for any sheet use Ctrl+*fred*, *fred* being the top left key on most keyboards that has ¬ ¦and `on it.



Charts

Whilst you can do charts in Word using data in tables, it is usually best to do them in Excel (and then transfer them if necessary).

To make a chart you need some data and this has to be set out in a way that can be recognized by the application so that a sensible interpretation of the figures is produced. Rarely can a chart be produced from a mass of information without a bit of organization. In these tasks you shouldn't have too many problems though and they illustrate the key things to look out for.

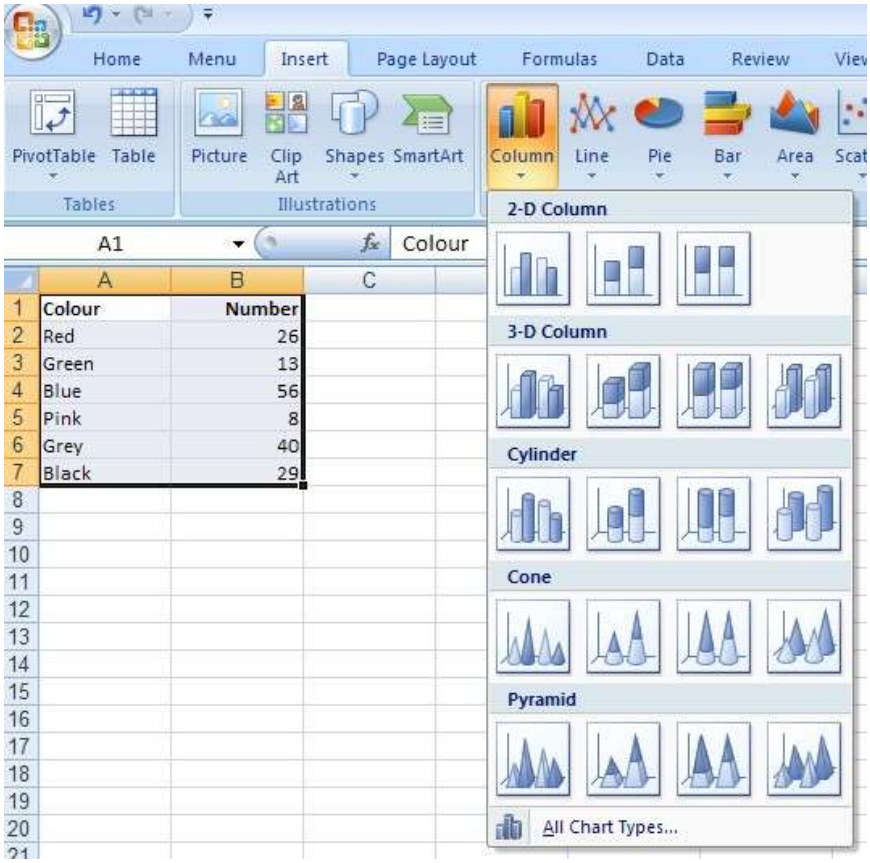
Here is some data that is ready to make a chart:

Colour	**Number**
Red	26
Green	13
Blue	56
Pink	8
Grey	40
Black	29

This could be anything but let's say it's the distribution of colours of some cars in Milton Keynes.

First step is to put this into a spreadsheet. Start a new workbook and enter the data, making sure that you don't leave any empty rows or columns. So if you use A1 for the heading Colour, the number for Black, 29, will go in B7.

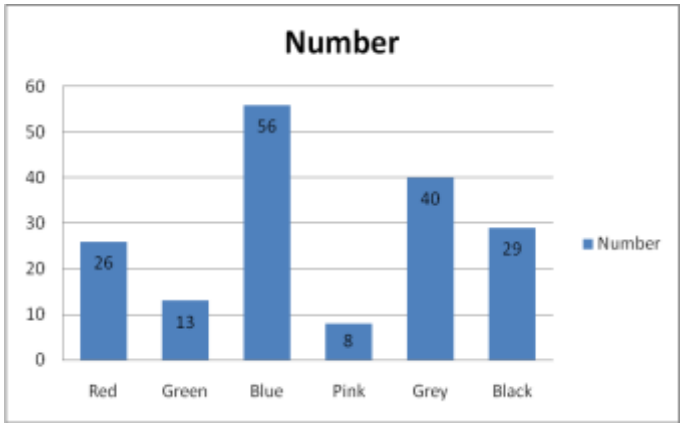
Select the cells (in this case A1:B7) and in the Insert toolbar, select Column (Chart)



To begin with choose the simple 2D at the top left.

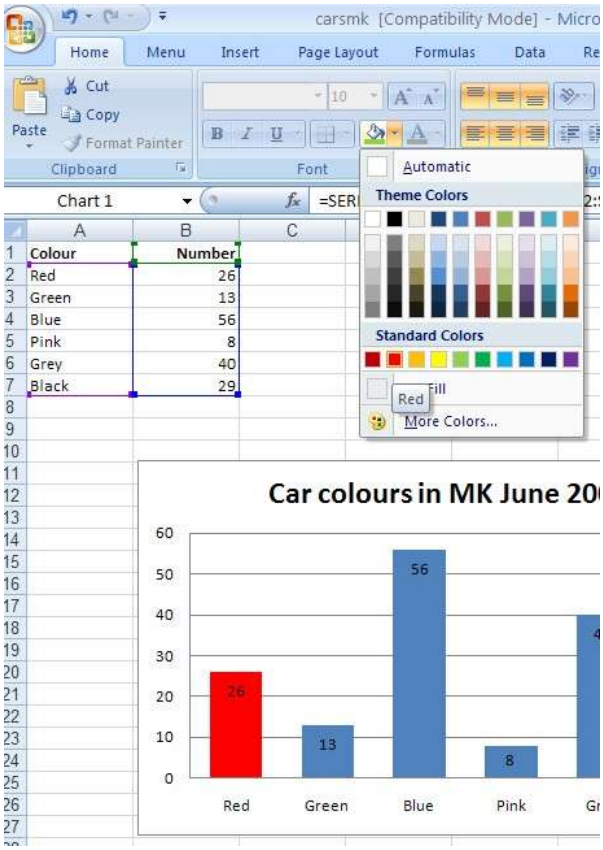
A chart will appear and the Design toolbar includes some alternative displays. As well as a selection of colours, there is a layout section where you can try different default displays.

This one isn't too bad: it just needs a better title and it would be nice to make the bar colours match the data.



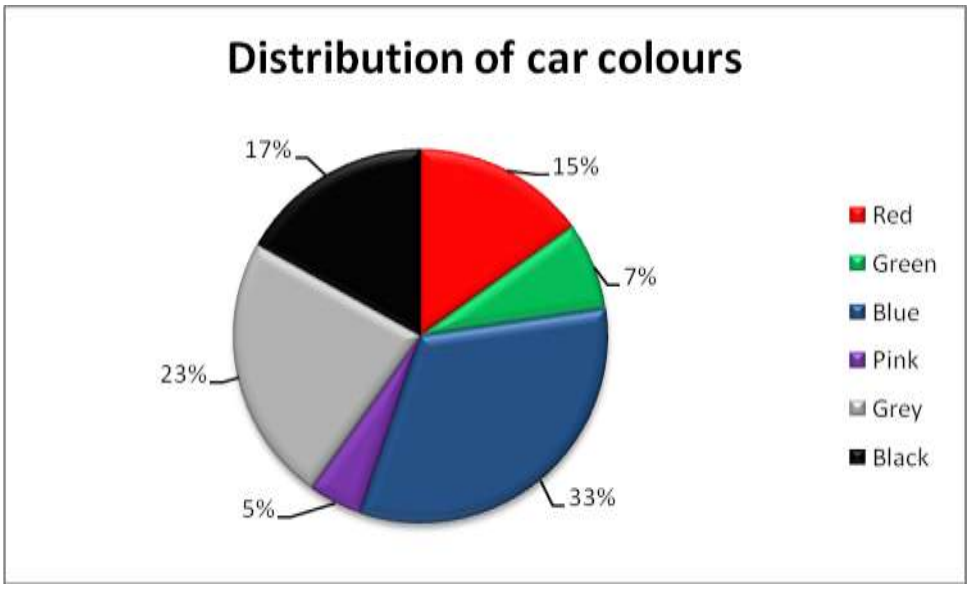
To change the title, click on it and edit it. You can also move it around. If you chose a display that didn't have a title, look at the Design tab on the toolbar and get it from the Layout ribbon.

Now for the column colours. Click on a column. That selects all of them. Click on the one to change and just that should be selected. Then go to the Home toolbar and use the Fill button (looks like a paintpot) to choose a colour.



Change the others and you'll have a pretty smart display quite quickly.

To make a different chart you simply select the data again and go for something else – here's a pie chart that works well.



Gathering data from several sheets

Often you may have information spread across several sheets – sales or order records for individual months, for example, or a larger list split up into sections. You can use a simple technique to bring selected bits of information together in one table. It can also be much simpler to create a chart too.

Open the file **cars1.xls** which should, from a previous task, now have sheets for each of just *saloons*, *convertibles* and *sports* cars.

A chart to show how total *stock value* is made up from each *style* and another comparing the *numbers* in stock of each *style* is required.

First, you need the **totals**. Excel has a nice formula for finding out how many entries there are in a column. For the *convertibles* sheet, put this formula at the bottom of the *style* column (probably in cell **C81**) which will give you the number required:

=COUNTIF(C2:C80,"convertible")

This counts all the entries in the column from **C2** to **C80** which match **convertible**. To check that it excludes other *styles*, change one entry to something else and the total will change too. (To change it back again quickly press **Ctrl+Z** – the *undo* shortcut)

Use a similar formula for the *saloons* and *sports* sheets.

Secondly, you need the total *values or prices* for each section. There is a similar formula **=SUMIF** which you could use but an even simpler way is to use the **Σ** button used for totals earlier. Go to the cell at the bottom of the *Price* column and click on the **Σ** symbol **twice**. An **=SUBTOTAL** formula will be entered automatically. It will be a subtotal because Excel recognizes that this is a *filtered* list.

Repeat that for the other two styles of car.

Now you have the figures and it is necessary to gather them in a single table. On a new, empty sheet, make this table:

Type	Value	Number
Convertibles		
Sports		
Saloons		

Click in the cell for *convertibles* value (shaded in the above illustration). Type **=** and then click on the **convertibles** sheet tab. On that sheet, click on the cell with the **price total**. Press **Enter**.

That should take you back to the table with the total price or value entered. You may notice a strange formula in the formula bar at the top: **=convertibles!H81** which means *'look at the convertibles sheet and copy cell H81 here'*

Try a similar process to fill the table. If you make a mistake just click on the tab for the new sheet and press the **Esc** key to end the linking process.

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You now have the data in one place and can make a chart for the make-up of value comparison. Do this by *selecting* the group of 8 cells as shown below.

Type	Value	Number
Convertibles		
Sports		
Saloons		

Use the **Insert** ribbon or toolbar and click on **Chart**. Then select whichever type of chart you think appropriate.

For the second chart, however, the data to be selected isn't a single area. A new technique will be needed to select just the two columns and *not include the Value column*.

Type	Value	Number
Convertibles		
Sports		
Saloons		

Do this by selecting the 4 Type cells and then holding down the **Ctrl** key. Keeping that key down, select the 4 Number cells. Release the **Ctrl** key and just the two areas should be highlighted.

Now you can proceed as before to make a suitable chart.

This technique of selecting just parts of a table and linking to other sheets is very useful and can save lots of rearrangements of data or retyping. In this particular task it may not have taken long simply to type a couple of new tables but for any large or more complex tables it saves a lot of time and helps to avoid errors.

Summary

You should now have practised moving around spreadsheets, entering data, using simple and one or two more advanced formulae, changing the order of information in tables and making charts from data held in several places.

Further exercises are available or you may now wish to consider actual tasks which you or your colleagues require or where Excel might be utilised to improve how data is managed in your organisation. Your tutor will be able to advise on individual projects and perhaps create some task notes or samples based on those requirements for the next phase of training.

Recommended additional exercises

Profits this is a pretty simple task to check you can do simple formulae and charts

Staff records this uses Excel as a database and will test sorting and filtering skills

Fantasy Football League and **The College Tea Club** will test your basic formulae skills

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Notes

All course materials, including the files referred to, are available on-line at The Studyzone:

http://ahi2000.com/studyzone

[Click on courses and look for Introduction to Excel 2007]