Microsoft Excel Hints and Tips

Introduction

The aim of this document is to show you how to make the best use of some of the facilities in Microsoft Excel and, in particular, to save you time when using it.

Be aware that we have several other documents on using Excel, including *A Beginners' Guide*, *An Intermediate Guide*, plus a host of advanced topics.

Starting Microsoft Excel and Opening Files

Launching Excel via the **Start** menu and **All Programs** isn't the most efficient way of doing things; it's much easier to do so from an icon on the *Desktop*:

1. Open the Windows **Start** menu and choose **All Programs** then **Microsoft Office**
2. Instead of clicking on **Microsoft Office Excel 2003**, hold the *right* mouse button down and drag *Excel* from the *Microsoft Office* menu onto the *Desktop* - choose **Copy Here**
3. Now (and in future) *double click* on the *Microsoft Excel* icon to launch the software

You can also place shortcuts to files you are currently working on the *Desktop* in a similar way - this time (when you drag the file icons from *My Documents* using the *right* mouse button) choose **Create Shortcuts Here** from the pop-up menu. When you have finished working on a file then you can **<Delete>** the shortcut (leaving the file itself safe in *My Documents*).

Another feature which makes opening a file easier is to alter the number of documents which feature in the list of recently used files (the list which appears at the foot of the **File** menu):

1. In Excel, open the **Tools** menu and choose **Options...**
2. Click on the *General* tab and increase *Recently used file list:* to **9** *entries* (the maximum)
3. Press **<Enter>** or click on **[OK]** to close the *Options* window

You'll now have easy access to more of the files you've been working on, though ITS PC Lab users will find that changes to *Options* aren't retained (unless they use the same PC each time).

Making Good Use of the Keyboard

Having to take your hands off the keyboard to use the mouse slows down your work considerably. Mice can be very temperamental at times and it's always useful to know how you can avoid using them. It's a good idea to gradually build up your knowledge of the special key presses you can use to issue commands and to reinforce this by using the keyboard whenever possible. Most of the tips work throughout Microsoft, so try using them in other programs too.

<Ctrl a> - Select All **<Ctrl b>** - Bold **<Ctrl c>** - Copy **<Ctrl f>** - Find
<Ctrl h> - Replace **<Ctrl i>** - Italic **<Ctrl n>** - New **<Ctrl o>** - Open
<Ctrl p> - Print **<Ctrl s>** - Save **<Ctrl u>** - Underline **<Ctrl v>** - Paste
<Ctrl x> - Cut **<Ctrl z>** - Undo **<Ctrl Home>** - Move to top **<Ctrl End>** - Move to end
<Ctrl ;> - Insert Today's Date **<Ctrl :>** - Insert Current Time

You probably know most of these already, but practice using them if you don't. The last two only work in Excel.

Sometimes, key combinations open dialog boxes. These can usually be closed by pressing **<Esc>**:

1. Press **<Ctrl p>** for **Print** then, having seen this work, press **<Esc>** for **[Cancel]**
2. Press **<Ctrl s>** for **Save** - again, press **<Esc>** for **[Cancel]**

<Ctrl s> is perhaps the most important *control key combination* and you should get used to using it. Whenever you are developing a spreadsheet (or using other *Office* programs), press **<Ctrl s>** every ten minutes or so to save what you have done so far. That way, you never lose your work.

Only the commonly-used commands have control key combinations assigned to them; others have to be issued via the menu system. Even here, however, you can use the keyboard (instead of the mouse). The tip is provided by the underlined letters in the menu and command names:

3. To open a menu, hold down **<Alt>** and type the underlined letter - eg press **<Alt f>** for **File**

4. To issue a command just type the underlined letter - eg press **<a>** for **Save As**
5. Type in a name for your file (eg `tips`) then press **<Enter>** for **Save**

Save was the default final command so you could use **<Enter>** to end the process. If you want to activate a different option then you can either use ***<Alt>*** and the underlined letter or ***<Tab>*** to it and press ***<Enter>*** - eg **<Alt t>** in *Save* would allow you to change *Save as type* (***<down_arrow>*** then lets you select the required type).

An easy way to close Excel (don't try it yet) is to press **<Alt f>** for **File** followed by **<x>** for **Exit**.

Data Entry and Cell Formatting

There are a few tricks to follow when entering data or formulae into cells. Excel automatically applies a data type and format as you type in information. You should be aware that:

- Using a slash or hyphen (minus sign) between numbers gives a *date* format
- Using a colon between numbers gives a *time* format
- Preceding a number with a currency symbol (£, $ or €) gives a *currency* format
- Including a comma in a number (eg 1,500) gives a *comma* format
- Having a percentage sign (%) at the end of a number gives a *percent* format
- To get a *fraction* format, precede the fraction with 0 (or a number) then a space before the fraction (eg 0 1/3)
- Preceding a number with a single quote (') forces it to be stored as *text*
- Press **<Alt Enter>** to get a new line when entering data into a cell

Note also that data stored as *text* appears left-justified in a cell (by default); data stored as a *number* appears right-justified. *Dates* and *times* are in fact stored as numbers (the number of days since the start of the last century - ie 12 noon on 3 Jan 1900 is stored as the number 3.5) but an appropriate display format converts this into the date/time.

1. In cell *A1* type `1` then press the ***<right_arrow>*** key to move to cell *B1* - note that the value is right-justified, indicating that the data has been stored as a number

Tip: It's much better to use the arrow keys rather than **<Enter>** when typing in data or formulae.

2. In cell *B1* type `'2` then press the ***<down_arrow>*** key to move to cell *B2* - this time the value is left-justified, showing the data has been stored as text (even though it looks like a number)
3. Now press ***<left_arrow>*** to move to cell *A2*

Having to press more than one key to move to the next required cell can be annoying. To get over this problem, Excel lets you pre-select the area for data entry. Try the following:

4. Select the cell range *A2* to *B4* by dragging though them with the mouse
5. Type `3` then press **<Enter>**
6. Repeat step **5** typing `4` then `5` into cells *A3* and *A4*

The current cell should now be *B2* - Excel automatically moves directly to the second column.

7. Repeat step **6** typing `6` then `7` and `8` into cells *B2*, *B3* and *B4*

You should now find the current cell is again *A2* - Excel automatically scrolls around the selected cells until the selection is released. If you want to fill in a selected area across the rows rather than down the columns, use the **<Tab>** key to move between the selected cells - try this next:

8. Press **<Tab>** and the current cell moves to *B2* (with the selection intact) - type `4`
9. Press **<Tab>** again (to move to *A3*) then press ***<up_arrow>*** (the selection ends)

You can also enter data using a *Data Form*. This relies on column headings being present and is particularly useful where you have data values supplying formulae in other columns:

10. Press **<Ctrl a>** to select all the filled cells then **<Delete>** the contents - press ***<up_arrow>***
11. In cell *A1* type `x` then press ***<right_arrow>*** and in cell *B1* type `y` - press ***<down_arrow>***
12. In cell *B2* type `=a2*a2` then press ***<left_arrow>*** and in cell *A2* type `1` - press **<Enter>**
13. Open the **Data** menu and choose **Form...**

14. Click on **[New]** to add a new value to column x and type `2`
15. Press **<Enter>** for another new value and type `3`
16. Repeat step **15** a further *seven* times - ie up to and including the value `10`
17. Press **<Esc>** or click on **[Close]** to close the data entry form

You will have noted that the calculation in column *y* is carried out automatically. Data forms are also useful where data has to be entered into a large number of columns (more than fit on a single screen).

Moving Around and Selecting Cells

It's much quicker to use the keyboard rather than the mouse to move around your cells (and even select them). Only through practice will you learn which is the best method for you (and in which circumstances). When moving around your worksheet:

- Use **<Tab>** and **<Shift Tab>** to jump across/back cells in a row
- Use **<Enter>** and **<Shift Enter>** to move down/up a column
- Use **<Ctrl Enter>** to preserve the position of the current cell
- Use **<Home>** to move to column A
- Use **<Ctrl Home>**/**<Ctrl End>** to move to the start/end of the data
- Use <**Ctrl** *left/right_arrow*> or **<End>** then <*l/r arrow*> to move to the start/end of a block
- Use **<Ctrl** *up/down_arrow*> or **<End>** then <*u/d arrow*> to move to the top/bottom of a block
- Use **<PageUp>** and **<PageDown>** instead of the scroll bar to move up and down worksheets
- Use **<Alt PageDown>** and **<Alt PageUp>** to move a screenwidth across/back the worksheet
- Use **<Ctrl PageDown>** and **<Ctrl PageUp>** to move to the next/previous worksheet

Using key combinations to select data is even more important – it's easy to lose control of the selection with the mouse:

- Make use of the **<Shift>** key to select cells – ie use **<Shift>** and the *arrow keys* to extend or reduce a selection
- Use **<Ctrl Shift>** and <*left/*> to extend a selection to the end/start of a line – you can also hold down **<Shift>** and press **<End>** then <*left/*> to do this

- Use **<Ctrl Shift>** and <*up*/> to extend a selection to the top/bottom of a column – you can also hold down **<Shift>** and press **<End>** then <*up*/> to do this
- Use **<Ctrl Shift>** and **<End>/<Home>** to extend a selection to the end/start of the sheet
- **<Ctrl a>** or **<Ctrl *>** selects the *current region* (delimited by an empty column and row)
- Avoid clicking on row/column headings (to select whole rows/columns) or dragging through the headings (to select several rows/columns) unless this is specifically required

There isn't time to practice all of these key presses in this course but some of them will be used in the exercises which follow.

1. Press **<Ctrl *down_arrow*>** to move to cell *A11* then **<*down_arrow*>** again to move to *A12*
2. Click on **[AutoSum]** to **SUM(A2:A11)** then press **<Ctrl Enter>** to complete the calculation

Remember: Pressing **<Ctrl Enter>** keeps a cell as the current cell after data entry

3. Press **<Ctrl c>** to **Copy** the formula then press **<*right_arrow*>** and **<Enter>** to **Paste** to sum the equivalent cells in column B

Note: You should already know the difference between **Copy** & **<Enter>** and **Copy** & **Paste** - get into the habit of only using **Paste** when the same information has to be copied repeatedly to several cells or data ranges.

The **AutoSum** button summed only cells *A2* to *A11* (and *B2* to *B11*). This is, in fact, what's required. Try including the Row *1* as well:

4. Press **[F2]** to display the formula and, using the **<*left_arrow*>** key (and **<Backspace>**), amend it to read `SUM(B1:B11)` - this is easier than using the mouse on the *Formula Bar*
5. Press **<Ctrl Enter>** to perform the calculation and stay in cell *B12*

You should find that the formula gives the same result (namely *385*).

Making Good Use of the Mouse

Sometimes it’s the mouse that offers the quick and easy way to do something, as is demonstrated in the following exercises.

a) Moving/Copying Data and Filling a Series

The mouse is particularly useful when moving or copying cells and when dealing with data series.

- Hold down the mouse on the cell/range border to drag it/them to another location
- Holding down **<Ctrl>** when dragging copies the data (instead of just moving it)
- Dragging with the *right* mouse button gives further options when moving/copying
- Drag using the cell/range handle to copy a value, fill a series or copy formulae
- Dragging with the *right* mouse button on a handle gives further options when copying/filling
- *Double click* on a cell/range handle to fill down a column (with a formula, value or series)

Try out the following:

1. Position the mouse cursor on the border of cell *B12* (an arrow with a four-headed cross appears) then hold down the mouse button and drag and drop the contents in cell *K12*
2. Press **<Home>** to move to cell *A12* and repeat step **1** but this time hold down **<Ctrl>** as well (a + sign is added to the cursor arrow) and drop the contents in cell *J12*

Note how the value remains in *A12* but that *J12* appears as 0 - that's because it's *SUM(J2:J11)*, as shown on the *Formula Bar*. Remember that holding down **<Ctrl>** copies the formula.

3. Press **<Home>** then ***<up_arrow>*** to move to cell *A11*
4. This time, position the mouse cursor on the black corner handle of cell *A11* (it becomes a plain black cross) then hold down the mouse button and drag down to cell *A51*

When you release the mouse button, you'll find that the number *10* is copied down the cells. This is the default action when a single value is copied. However, Excel gives you other *fill options*:

5. Click on the **[Auto Fill Options]** button (showing over cell *B52*) and choose **Fill Series**

You should now have numbers up to 50. You can also invoke the fill options by using the *right* mouse button when you drag out a value (or formula). Once you have a set of values in one column, it's easy to complete the other columns on your spreadsheet

6. Press ***<right_arrow>*** to move to cell *B11*
7. Position the mouse cursor over the cell handle and *double click* on the mouse button

The formula calculating the squares of the numbers is automatically copied down the whole column.

You should be aware of the series that are built into Excel:

- The days of the week - in full (eg *Monday*) or abbreviated (eg *Mon*)
- The months of the year - in full (eg *January*) or abbreviated (eg *Jan*)

and that you can create your own series (**Tools** ... **Options...** then go to the *Custom Lists* tab). With these series you only have to type one value, which you can then use to generate the others:

8. Press **<Ctrl *up_arrow*>** then ***<right_arrow>*** to move to cell *C1*
9. Type `Day` then press **<Enter>** and type `Monday`
10. *Double click* on the cell handle to copy the series down the column

Note: If you use the right mouse button and drag down the handle, one of the fill options allows you to select just weekdays (ie omitting *Saturday* and *Sunday*). You can do the same with dates and can also fill for the same date each month or year..

b) Other Useful Mouse Tips

Here are some other useful mouse tips:

- Instead of typing in cell references in formulae, click on the cell (or drag through the range)
- Hold down **<Ctrl>** and click to select non-adjacent cells or ranges
- Hold down **<Shift>** and click to select a region (starting from the current cell)
- *Right click* on a cell to display a shortcut menu
- *Double click* inside a cell to edit it directly (instead of on the *Formula Bar* or using **<F2>**)

- *Double click* on a cell border to move left/right/up/down (same as **<Ctrl *arrow*>**)
- Click the mouse wheel then use the mouse to scroll left/right and up/down (click to turn off)
- Hold down **<Ctrl>** and rotate the mouse wheel to zoom in/out

Try out the above if you don't already know them and think they might be useful.

Screen Layout

There are various things you can do to the screen layout, which can make it easier to use Excel:

- Data can be justified vertically as well as horizontally
- The **Wrap Text** option allows text to wrap around on several lines within a cell
- *Double click* on a column (or row) heading border to fit the column to the data
- Drag on the column (or row) heading border to show the actual width (height)
- Avoid empty rows or columns (unless you are creating different data regions)
- To separate row/column headings from data, simply increase row height or column width
- Use **Freeze Panes**, in the **Window** menu, to permanently display row and/or column headings
- Use **Split** in the **Window** menu to see different sections of a worksheet at the same time
- Set **[Zoom]** to a higher / lower magnification if you want to see less / more cells.

The following exercise demonstrates some of these tips:

1. Press **<Ctrl Home>** to move to cell *A1* and make it **[Bold]** and **[Centred]**
2. Next, open the **Format** menu choose **Cells...** then, on the *Alignment* tab, set *Vertical:* to **Centre** and, under *Text control*, turn on **Wrap Text** - press **<Enter>** for **[OK]**
3. Click on the **[Format Painter]** button and then on the row indicator number (ie **1**) - all the cells in row *1* are now *bold* and *centred* (horizontally and vertically)

4. Move to cell *C1* then press **<F2>** and change *Day* to **`Days of the Week`**
5. Press **<Ctrl Enter>** to complete data entry - note how the text wraps onto three lines
6. *Double click* on the border in the column headings between columns *C* and *D* - the column widens slightly to fit *Wednesday* and the heading in *C1* now fits onto two lines
7. *Double click* on the border in the row headings between rows *1* and *2* - the row shrinks slightly
8. Drag down the row border between rows *2* and *3* to separate the headings from the data
9. Check you are in cell *C1* then press **<F2>** then ***<up_arrow>*** and move the insertion point to the space between *of* and *the*
10. Hold down **<Alt>** and press **<Enter>** to force the line break at this point

Note: You can use **<Alt Enter>** to force a new line when entering data into a cell at any time - you do not need to turn on the *Wrap Text* option

When your spreadsheet no longer fits on a single screen, it's very annoying working out what data is stored in which column. Excel allows you to *freeze* column (and/or row) headings so that they are permanently displayed. **Freeze** works by showing all cells to the left and above the current cell. To freeze column headings, you need to activate the command from cell *A2*; to freeze row headings, activate from cell *B1*; to freeze both, make *B2* the current cell.

11. Move to cell *A2* (press **<Enter>** then **<Home>**) - you just want the column headings here
12. Open the **Window** menu and choose **Freeze Panes** - a line appears under the top row
13. Using ***<down_arrow>***, scroll down the rows (to row *51*) and watch what happens
14. End by pressing **<Ctrl Home>** to move to the top of your data (now defined as cell *A2*)

Using Colours and Adding Comments

One of the easiest ways to improve the look of a spreadsheet is to make full use of colour - both for text and cell backgrounds. Sometimes colour is used just for cosmetic reasons but it can also be used to give a visual warning if something goes wrong.

- *Colour code* cells which contain certain types of data or which need further investigation
- Use *conditional formatting* to apply certain formats automatically (eg *colour fill*)
- Add *comments* to cells to explain what is being calculated or what needs to be done
- If you want to hide some text on a sheet, change the font colour to white
- When using multiple sheets, name each sheet suitably (colour coding it also may help)
- Be aware that you can hide rows/columns/sheets - eg to hide background calculations

Try out the following:

1. Select cells *J12* and *K12* by dragging though them
2. Click on the *list arrow* attached to **[Font Color]** and choose **White** from the palette

This is a very easy way to hide information (the data is still present in the cells). Another tip is to move your calculations onto a separate sheet and just display the results on the main sheet. You can even hide the sheet with the calculations, if you want (**Format** ... **Sheet** ... **Hide**)

3. Next, select cells *A1* to *C1* by dragging though them
4. Click on the *list arrow* attached to **[Fill Color]** and choose a colour from the palette (eg **Pink**)
5. Press **<Ctrl a>** to select the current data region then open the **Format** menu and choose **Conditional Formatting...**
6. Using the *list arrow* provided, change *between* to **equal to** then press **<Tab>** and type `Monday`
7. Click on the **[Format...]** Button and, on the *Font* tab, change *Color:* to **Red**
8. Also, change *Font style:* to **Bold Italic** then press **<Enter>** for **[OK]**
9. Next, click on **[Add>>]** for a second conditional format
10. Press **<Tab>** *twice* then type **s**, press **<Tab>** and type `T`
11. Click on the **[Format...]** Button and, on the *Patterns* tab, change *Color:* to **Black**
12. Click on **[OK]** twice to set and then close the conditional formatting

You should find that some of your cells have been blacked out, while others show red text. This isn't a particularly useful example, but it does demonstrate what conditional formatting can do. Incidentally, this takes precedence over all other formatting:

13. Click on cell *C2* then, using the **[Font Color]** *list arrow*, choose **White** instead - it stays red
14. Right click inside the cell and, from the pop-up menu, choose **Pick From Drop-down List...**
15. Choose **Sunday** - the cell shows white letters on a black background (the background is from the conditional formatting and the font colour from step **13**)

Another feature for indicating problems or explaining things on a spreadsheet is a comment:

1. Open the **Insert** menu and choose **Comment**

A box appears with a comment heading giving the *User Name*. This can be useful in an office, where several people may be using the same spreadsheet file and may need to indicate to each other what changes they have made. You can set the *User Name* on the *View* tab in **Tools** ... **Options...**

2. Use **<Backspace>** to delete the *User Name* (if you don't like it) then type your own comment: eg **`This cell has white letters because the font colour was set explicitly`**
3. Press **<Esc>** *twice* (or click away from the cell) to return to normal working

Comments can be permanently displayed or hidden (a red triangle in the top right corner indicates that a cell has a comment) and can also be printed out if required (the default is not to but an option can be set on the *Sheet* tab in **Page Setup...**).

4. Open the **View** menu and choose **Comments** to hide the comment (or display it again)
5. Move the mouse over cell *C2* and the comment temporarily reappears

Cell Referencing

When you enter a cell reference in a formula in Excel, it is not fixed by default. This means that the reference can change if the formula is copied and pasted to another cell (or if it is dragged out across a range of cells). Sometimes, you need to fix a cell reference so that it doesn't change. This can be done by naming the cell (or range of cells) or adding a $ before the column letter and/or row name.

- A colon between two cell references indicates a range (ie all cells between the two references)
- To reference a whole row/column, repeat the row number or column letter - eg *A:A* or *3:3*
- Several rows/columns can similarly be referenced - eg *1:50* or *C:E*
- A comma can be used to separate cell references in a formula - eg *SUM(A2,A5:A8,A10)*
- When referencing cells on another sheet, separate the sheet name from the cells with an exclamation mark - eg *Sheet2!C3:C6*
- To fix any part of the cell reference, use the *$* notation - eg *$A$5* or *$A5* or *A$5*
- Use **<F4>** when entering a formula to add the required *$* notation to a cell reference
- In a macro, it's usually best to use *R1C1*(ie *relative* references), not normal *A1* references

In this next exercise you are going to divide the numbers in column *A* by a fixed cell, *B11*. This isn't a particularly useful calculation but if you use *B11* (ie *100*), it will be easy to check the answers.

1. Press ***<right_arrow>*** to move to cell *D2* then type **`=A2/B11`** then *double click* on the black cell handle to fill down the column

If you examine the results carefully, you'll see they are wrong (apart from the answer in *D2*). This is because the cell reference *B11* was not fixed - it has become *B12* in cell *D3* and *B13* in *D4*. At the end of the column there are error messages because you are dividing by empty cells. To fix the cell:

2. Press **<F2>** to enter *edit mode* then press **<F4>**

This should have changed the formula to *=A2/B11*, which fixes both the *B* and the *11*. If you press **<F4>** again you will find that only the *11* is fixed. Press it again and it's the *B* which has the *$* preceding it. You'll need to

press it twice more to circle round to *B11*. Whenever you want to fix a cell in a formula, use **<F4>** as you type in the cell reference.

3. Finally, press **<Ctrl Enter>** which not only leaves *D2* as the current cell but copies the new formula down the whole column

The alternative to using the *$* notation is to give the cell you want to fix a name. Named cells (and ranges) do not move around. To do this:

4. Using the mouse, click on cell *B11*
5. Next click in the *Name Box* (where it currently reads *B11* to the left of the *Formula Bar*)
6. Type a name for the cell, eg type **`xxx`**, then press **<Enter>**
7. In cell *E2* type **`=A2/xxx`** then *double click* on the cell handle to fill down the column

You should find you have the same values as in column *D*.

Charts

There isn't time to cover Excel charts in detail in this course (there are plans to develop a separate one in future). Here's just a few tips, which should be of interest:

- It's a good idea to create them on separate *Chart* sheets (unless you need to see the data too)
- To move a chart to a different or new sheet use **Location** from the **Chart** menu
- Use an *X-Y* graph if you want the data plotted along the horizontal axis (as well as vertical)
- Charts can have two vertical y-axes - *double click* on a data series and go to the *Axis* tab
- To create a chart quickly, select the data then press **<F11>**
- You can **Copy** data and **Paste** it directly to a chart - **Paste Special** gives further options
- To change the default colours used in charts, go to the *Color* tab in **Tools** … **Options**
- Use fill patterns for shading (instead of colours) for black & white printing
- You can create your own customised chart types (like a template)

Printing Tips

Excel provides various additional printing features (compared to other Microsoft Office applications), which you should be aware of:

- You can define the area to be printed using **Set Print Area** from **Print Area** in the **File** menu
- You can zoom the print area in or out using scaling under **Page Setup** from the **File** menu
- Here, you can also fit the print area onto an exact number of pages
- If you use **Page Break Preview** (from the **View** menu) you can adjust where page breaks occur by dragging them with the mouse - this also resets the *Print Area*
- Hide any rows/columns in the print area which you do not wish printed out
- On the *Margins* tab in **Page Setup** you can centre the output horizontally and/or vertically
- On the *Sheet* tab in **Page Setup** you can setup **Print Titles** (row headings you want repeated at the left or column headings at the top of each page)

Other Tips

Finally, here are a few more useful tips:

- Use **Arrange** from the **Window** menu to see two open worksheets side by side (these could either be from different files or the same one if the **New** Window command is first used)
- Use **Protect Sheet** from **Protection** in the **Tools** menu to stop data entry (except in cells which have been unlocked - a setting on the *Protection* tab from **Format** … **Cells...**)
- To add text to a formula, type it in double quotes and separate it from the calculation by **&**
- Text in a cell can be rotated to any angle between +90° and -90°
- Cells can be merged using **[Merge and Center]** - to centre a title over several columns
- If you have more than one data value in a cell, the **Text to Columns** command in the **Data** menu can be used to separate the values into several columns
- Be aware of the numerous functions that are available. For example:
    - **SUM** - gives the total value of data held in several cells
    - **IF** - allows you to set more than one value depending on a condition

- **SUMIF/COUNTIF** - sums the values or counts the cells if a condition holds true
- **COUNT/COUNTA** - counts the cells containing numeric/any data
- **VLOOKUP/HLOOKUP** - searches for a value in the leftmost column (or top row) of a range and returns the value in the specified column (or row)

End the session by closing down Excel:

1. If you want to save this exercise, press **<Ctrl s>** for **[Save]** and give the file a name
2. Now press **<Alt f>** for **File** followed by **<x>** for **Exit**.