

SPREADSHEETS

Menus

As with all computer programs there is a main menu bar, with tabs identifying different options available. These are usually grouped by relevance, the common tabs which we will make use of are:

- File, Home, Insert, Page Layout, Formulas, Data, Review and View

It is possible your menus may differ depending on your software installation, Often some of the more common options can be accessed by RIGHT mouse click.

Help

If you require additional information or clarification on any action, formula or general enquiry, **Help** is available within your spreadsheet program by clicking on **Help** icon (Usually a ? in a blue circle situated to the far right of the main menu bar). Alternatively, press the F1 function key.

WHAT IS A SPREADSHEET?

A spreadsheet is a grid or table of rows and columns which is used to manipulate numbers and perform calculations.

Rows, columns and cells

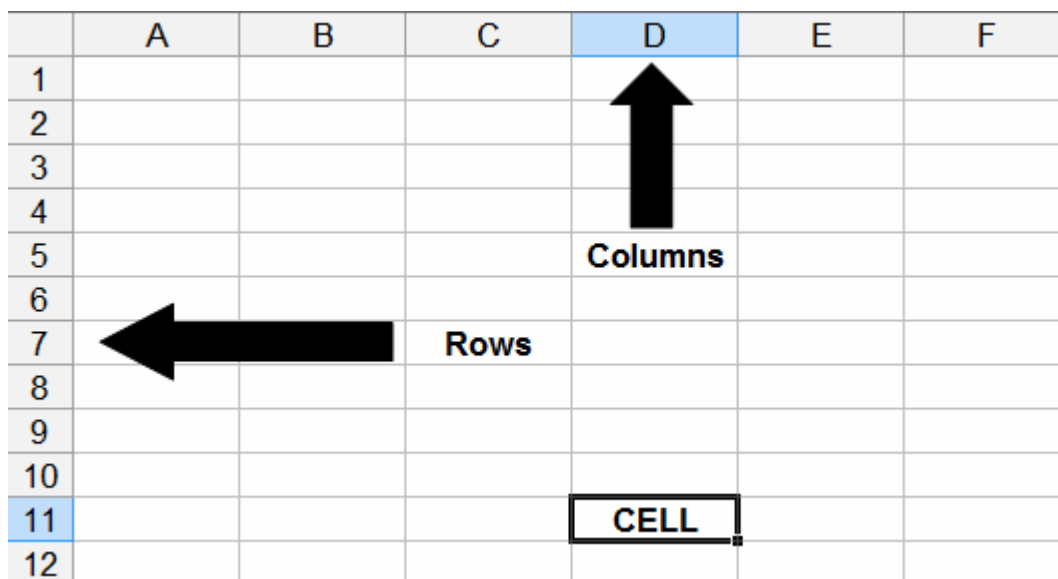
Rows are in a horizontal direction, and are identified by numbers: 1,2,3 and so on. This is known as the row header.

Columns are vertical and are identified by letters: A,B,C and so on through the alphabet. This is known as the column header.

Columns beyond Z (26) continue in the format AA, AB, AC and so on, changing to BA, BB etc for columns 53 and onwards.

The maximum number of rows and columns allowed in a spreadsheet is determined by the software package you are using and the memory within your computer. For example, Excel can have more than one million rows and more than 16 thousand columns if your computer has the capacity.

	A	B	C	D	E	F
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						



When a row and column intersect, it is called a **cell**.

The cell is referred to by a combination of a letter (the column header) and a number (the row header) to identify its location. This is known as a **cell reference**.

Cell reference D11 would refer to the cell at the intersection of column D (The fourth column) and row 11. See the cell highlighted on the screen on the previous page.

The lines marking the edges of the rows and columns are called **gridlines**.

Scroll bars are provided to cater for larger spreadsheets and allow scrolling both vertically and horizontally, changing the rows and columns displayed as you move up, down and across the spreadsheet.

WORKBOOKS AND WORKSHEETS

A **workbook** is the computer file created when you start a new application.

A **workbook** contains a group of one or more **worksheets**.

Each **worksheet** is an individual spreadsheet.

For example, a workbook could have two work sheets, one worksheet with data and a second worksheet containing a chart representing the data.

FILES AND FOLDERS

Each workbook is held as one file. A file is the computer equivalent of a paper document containing the information which you have entered. Each file has a name which you specify when it is created. This should be chosen to be meaningful and help identify what the file contains, for example: Timesheet March 2014.

To organise our files in a logical way we store related files in a **folder**, which we again name when we create it to clarify the sort of files/documents the folder will contain. For example: Timesheets 2013-2014.

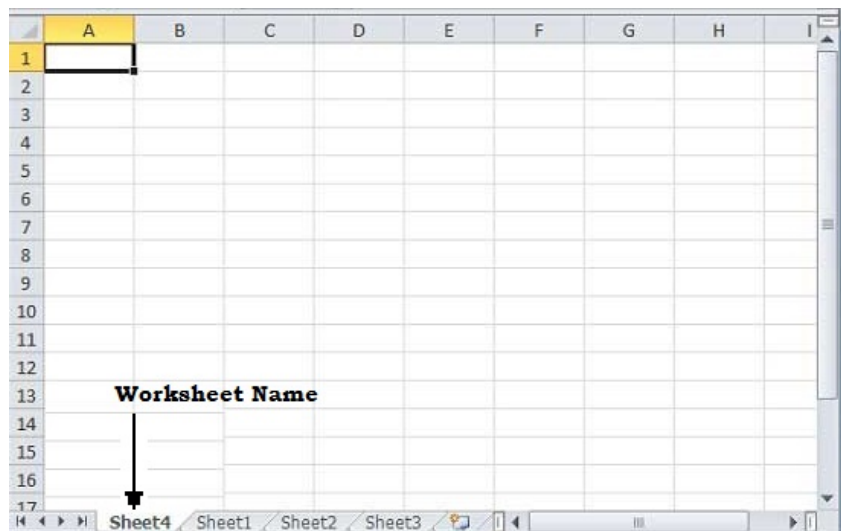
Create a folder

Creating a folder can be achieved by using the New Folder option, and naming the folder appropriately.

DEALING WITH WORKSHEETS

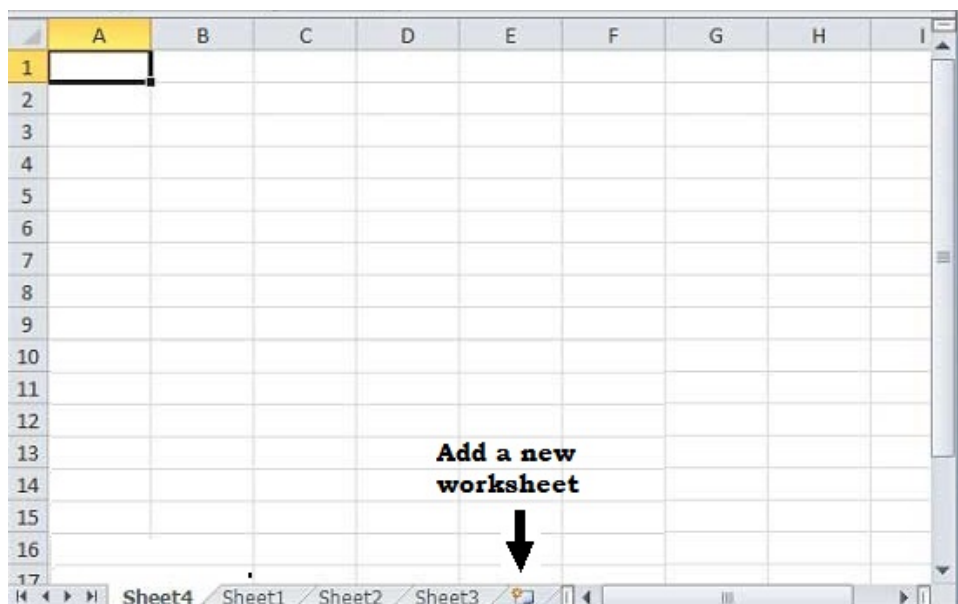
When you create a new workbook it will normally contain three worksheets named Sheet1, Sheet2 and Sheet3, as can be seen in the image below.

Each worksheet has a name, which is displayed as a tab at the bottom of the spreadsheet work area.



Worksheet names can be changed by double clicking on the name tab, and entering the new name.

It is possible to add more worksheets should you require them. New worksheets are added one at a time, either by clicking on the sheet tab which has no name, but has the standard Windows symbol for a "new" folder, or by RIGHT clicking on a worksheet name tab, selecting **Insert**, and selecting **Worksheet**



Worksheets which are not required can be deleted by RIGHT mouse clicking on the sheet tab to be deleted and selecting **Delete**.

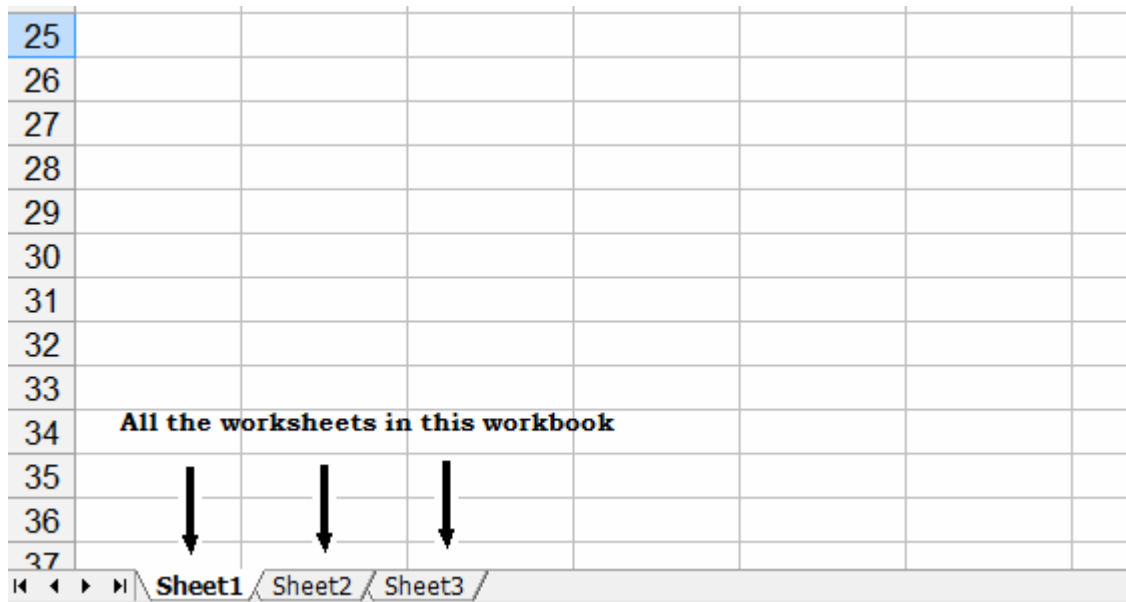
You can easily change the relative order of the worksheets within the workbook, just by selecting the name tab, holding the mouse down, and dragging the worksheet to its new position in the order.

Switching between worksheets is achieved by clicking on the name tab of the worksheet which you want to see on the screen.

Each worksheet can represent one set of data. It is also possible for data from different worksheets to be linked together to form a more complex spreadsheet. This is covered later in the book.

DEALING WITH WORKBOOKS

As described earlier, a **workbook** is a collection of worksheets ranging from one work sheet upwards to a maximum number which is dependant on the software package and available computer memory.



When you want to **Create** your first spreadsheet, you will select New, from the File menu, then select **Blank Workbook** from the available templates, and a new workbook will open, usually containing three blank worksheets ready for you to enter data.

As with other computer programs, once you have entered some data into a spreadsheet, the workbook file should be regularly saved using the standard disk icon, or **Save** from the File menu.

To open a previously saved workbook, you can either select **Open** from the File menu, navigate to the required folder and select the required workbook, or if it is listed, select the workbook from the list of recently opened documents.

To save a copy of a workbook with a different name either as a backup or as a fresh starting point, you can select **Save As** from the File menu and supply a new name for the copy of the workbook.

For security purposes a copy of an important workbook should be saved to removable media such as a memory stick and stored off-site. It is also good practice to add a version number or part of a date to the filename so that different versions can be saved as the spreadsheet evolves. This also allows a previous version to be identified and opened, if required.

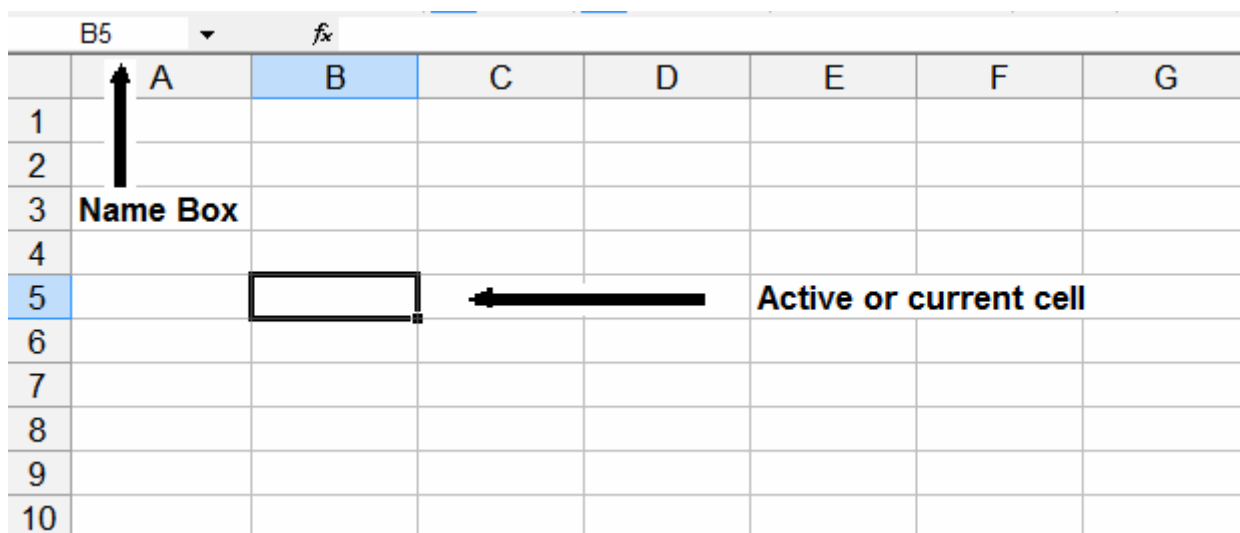
ENTER DATA INTO CELLS

Within the grid of cells on your worksheet, you can move around from cell to cell using various methods:

- The mouse
- The Arrow Keys
- The **TAB** key
- Or the RETURN key

The current cell, known as the **active cell**, is highlighted by solid black lines and is selected by clicking in the cell, or moving to it using one of the above methods.

The active cell reference is shown in the **Name Box** above column A; this is B5 in the example below:

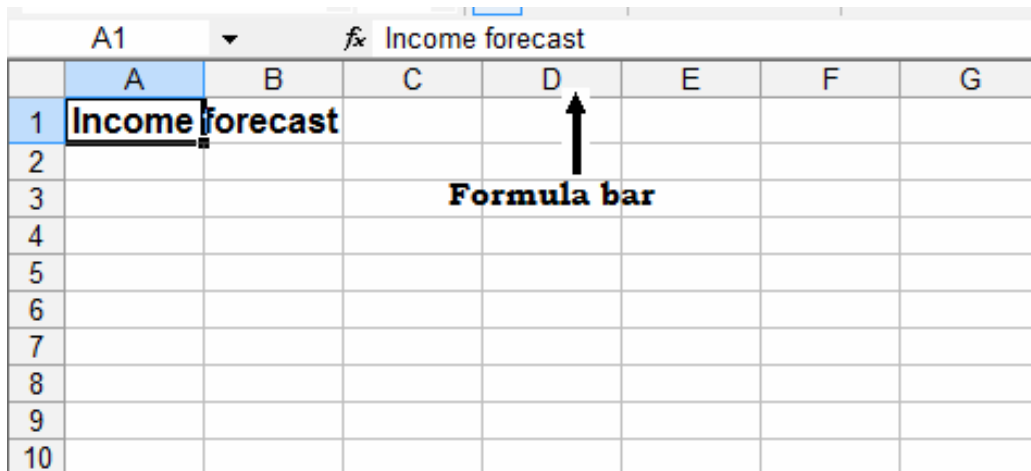


To enter data into a cell:

- Click on the cell where you want the data to go
- Type the data into the cell
- Either press the **RETURN** key, or click on another cell with the mouse.

Other useful keys when entering data are the **TAB** key which moves the active cell to the next cell in the current row, and the **ESC** key which cancels the current data entry.

If you just wish to edit the current data, you will see the data held in the current cell displayed in the **Formula Bar** (in the example Income Forecast)



The image shows a screenshot of an Excel spreadsheet. The active cell is A1, which contains the text "Income forecast". The Formula Bar at the top displays "Income forecast". An arrow points from the text "Formula bar" in the spreadsheet to the Formula Bar. The spreadsheet grid shows columns A through G and rows 1 through 10.

	A	B	C	D	E	F	G
1	Income forecast						
2							
3							
4							
5							
6							
7							
8							
9							
10							

To select data:

As described above there are several ways to select an individual cell and the data it contains.

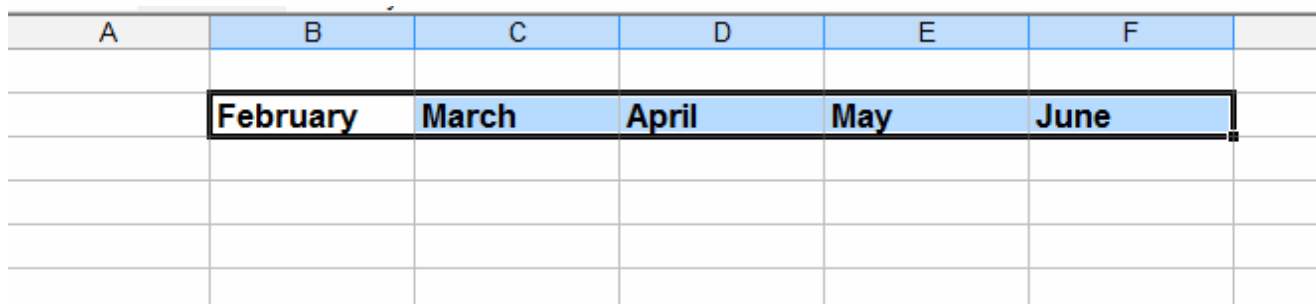
- CLICK with the mouse
- Move to it with the arrow keys
- Press the **TAB** key until you are on the required cell
- Or press **RETURN**

Once selected, you will see the data held in the current cell displayed in the Formula Bar as described above.

If at any time you wish to select more than one cell:

- Select the first cell by clicking on the cell
- Keep the left mouse button pressed and drag the mouse over the other cells you wish to select.

A series of selected cells is shown below:



The image shows a screenshot of an Excel spreadsheet with a range of cells selected. The selected cells are B1 through F1, containing the text "February", "March", "April", "May", and "June". The Formula Bar is not visible in this image.

A	B	C	D	E	F
	February	March	April	May	June

If the cells you wish to select are not consecutive (i.e. next to each other)

- Select the first cell by clicking on the cell
- Hold down the **CONTROL** key while clicking on the other cells you want to select.

An example is shown in the image below.

	A	B	C	D	E	F	G
1							
2		February	March	April	May	June	
3							
4							
5							

It is often useful to be able to select multiple cells as you will see in the following chapters:

To edit or change the contents of a cell:

- Select the required cell
- Either enter the new data directly
- *Or* click into the Formula Bar
- Make any changes
- Press **RETURN**

If at any time you wish to cancel the changes, Press **ESC** before pressing **RETURN**, or if you have pressed **RETURN**, click on the **UNDO** icon as described earlier.

To remove data

- Select the cell to be changed
- Press the delete key.
- *Or* select **Clear Contents** from the drop down menu displayed when you right click on the cell

STARTING FORMULAS

The most powerful feature of a spreadsheet is its ability to perform calculations. To do this we use formula. A formula identifies the cells which we use to perform the calculation on using their cell references, and the action we want, such as addition, or subtraction.

To **create a formula**, click on the cell where you wish to place the formula. Enter the "=" sign to indicate that this cell is going to contain the formula. Once the formula has been entered the cell will display the result of the calculation from the formula.

A simple formula for **addition** might be something like =B4+B5+B6+42. This would add up the values in the cells B4, B5, B6 and the number 42, and display the result.

A simple formula for **subtraction** is: =B4-B5. The value in the cell B5 is subtracted from the value in cell B4.

For **multiplication**: =B4*B5. This is the value in cell B4 multiplied by the value in cell B5. You see here that the symbol for multiply is an asterisk *.

And **division** =B4/B5. this is the value of cell B4 divided by the value of cell B5, where the forward slash symbol / is used to denote division.

When we have a cell reference in a formula, the value within that cell is used in the calculation.

Example spreadsheet

A practical example is shown in the image below, where we want to calculate the total hours worked for each week. Column B, C, D, E, F each represent the number of hours worked each day, for one week. Monday to Friday, represented by the rows 4 through to 8.

	A	B	C	D	E	F
1	Hours worked					
2						
3	Week Beg	1st Apr	8th Apr	15th Apr	22nd Apr	29th Apr
4	Mon	6	7	7	8	6.5
5	Tue	7.5	6.5	7	7.5	7.5
6	Wed	5	7.5	7	6	8
7	Thur	7	6.5	6.5	7.5	7
8	Fri	8	7.5	7.5	5	8
9						
10	Totals	33.5				
11						

To calculate totals for each of the weeks, we would enter the formula in cells B10 through F10. The formula we enter in cell B10 to add up the hours worked in the week of 1st of April (column B) is:

=B4+B5+B6+B7+B8

As you can see this formula is displayed in the formula bar, when we have B10 selected. We would add formulas for each of the other weeks, in cells C10, D10, E10 and F10 to complete the spreadsheet.

Chapter Summary

In this chapter we have covered the following spreadsheet concepts and techniques:

- Basic spreadsheet structure
- Worksheets
- Workbooks
- Rows and columns
- Entering data into cells
- Starting formulas.