Making a Student Record Sheet using Excel

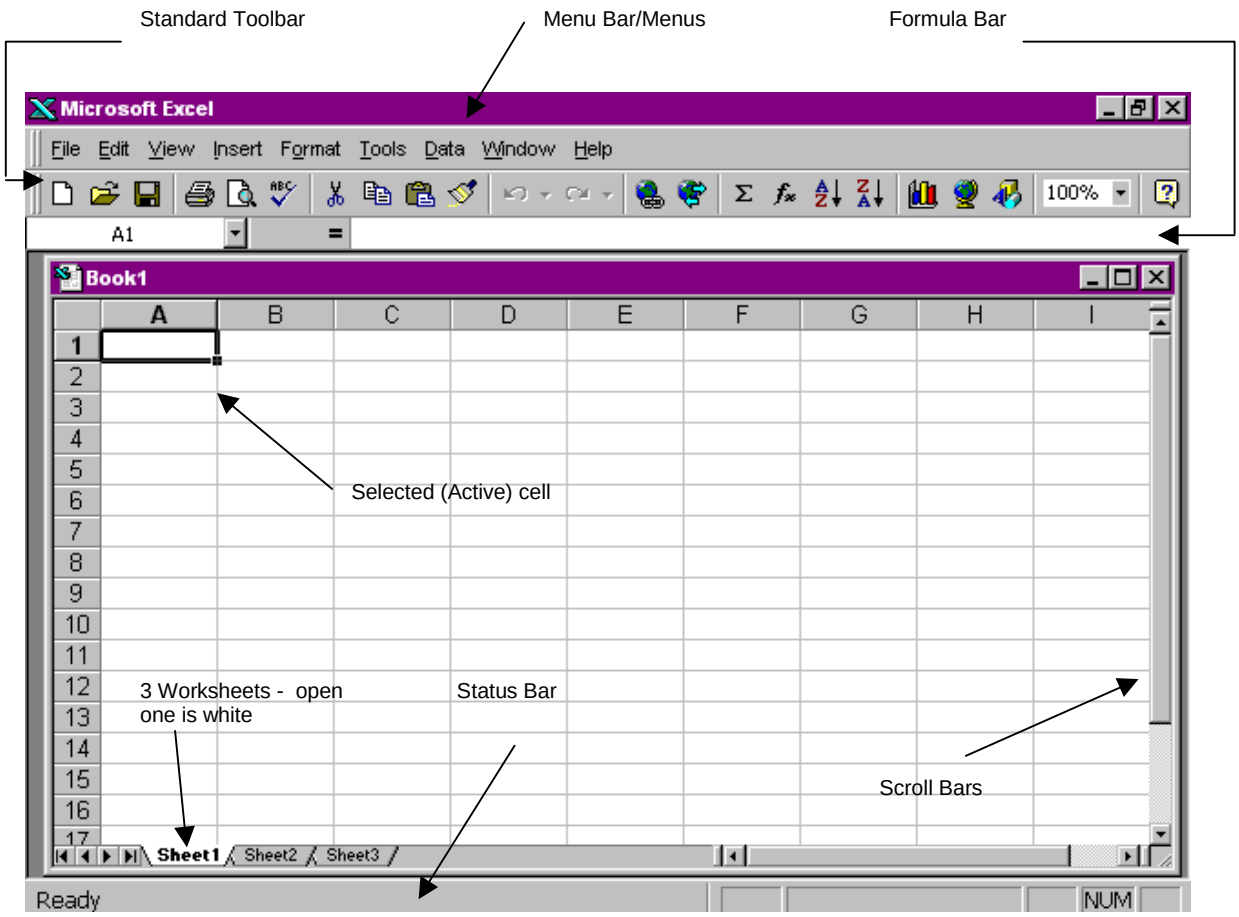
This sheet contains:

- The basics of getting round Excel
- Entering data, and using formulae
- Creating charts and printing

The basics

The Excel screen has many of the elements found in other Windows applications, such as menus and toolbars. When Excel is started a blank grid called a **worksheet** is displayed, which exists in its own window.

TASK: Make sure you have the standard toolbar. Under **View** select **Standard** and **Formatting.**



The **Menus** on the **Menu bar** provide access to all the commands used by Excel. Clicking on a menu title causes the menu to 'drop down'. **Toolbars** are made up of **buttons** which provide shortcuts to some of the menu items. The **Status bar** can be very useful – it offers prompts when performing spreadsheet tasks.

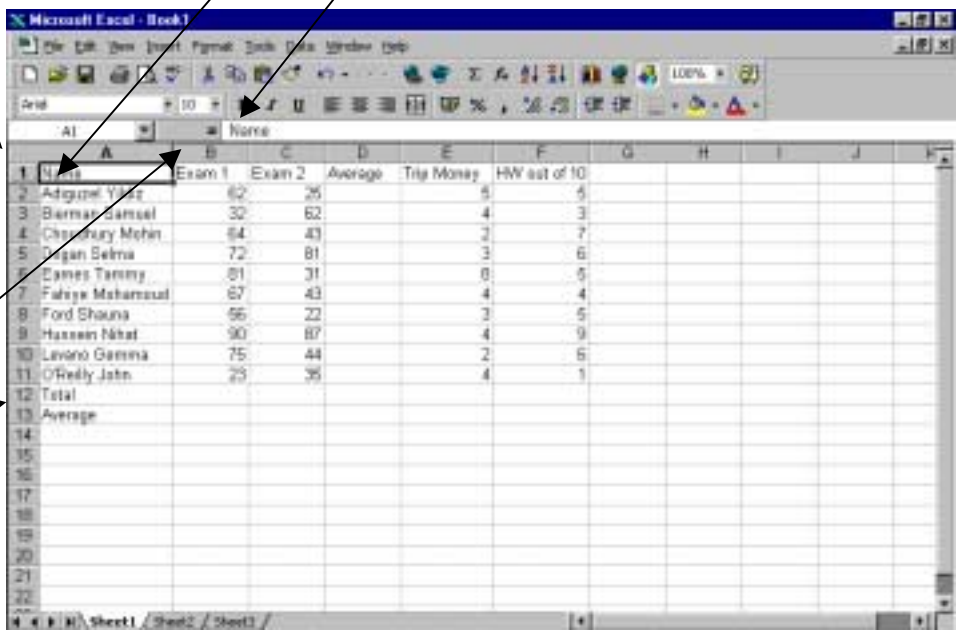
Worksheet Basics

A **worksheet** is a rectangular grid of 256 columns (labelled A to Z to AA to IV) and 16,384 rows (numbered). Parts of the **worksheet** not displayed in the window can be accessed using the **scroll bars**. Each box on the grid is known as a **cell** and has its own unique **cell reference**, based on the column and row headings. For example, the top left cell is A1.

The reference of the currently selected or **Active** cell is displayed on the **formula bar**. **Cells** are navigated by clicking on them with a mouse pointer or by using the arrow keys.

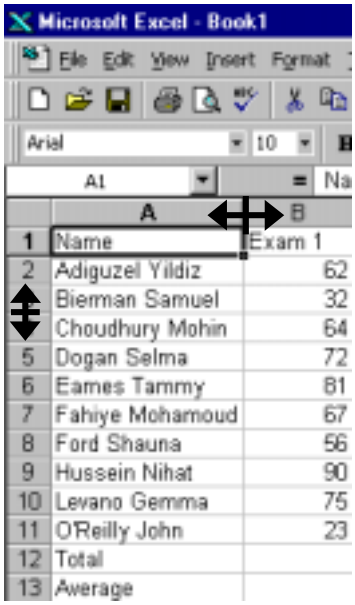
The whole worksheet can be selected by clicking on the top left corner of the headings.

Entire columns or rows are selected by clicking (and dragging for more than one) on the column/row headings.



The height of each row and width of each column in a worksheet can be adjusted using the mouse. When the pointer is moved over the row and column headings (e.g. A,B,C/1,2,3 etc.) it changes shape to a two way arrow. At this point the gridlines can be dragged to the desired position.

TASK: Make column A wider to allow the names to be entered.



Entering and Editing Data

Data in the form of numbers and text is entered into a cell by selecting the cell, then simply using the keyboard. The data is displayed in the formula bar as well as the cell itself as it is being entered. The formula bar also displays a √ button to confirm data entry, and a X button to cancel data entry. Data entry can also be confirmed by pressing the **ENTER** key or by simply moving to another cell on the sheet and can be cancelled with the **ESC** key.

TASK: Enter all headings for all the columns and all the names in the first column. (Don't put in the numerical data yet!)

Name	Exam 1	Exam 2	Average	Trip Money	HW out of10
Adiguzel Yildiz	62	25		5	5
Bierman Samuel	32	62		4	3
Choudhury Mohin	64	43		2	7
Dogan Selma	72	81		3	6
Eames Tammy	81	31		8	5
Fahiye Mohamoud	67	43		4	4
Ford Shauna	56	22		3	5
Hussein Nihat	90	87		4	9
Levano Gemma	75	44		2	6
O'Reilly John	23	35		4	1
Total					
Average					

Formatting Cells

A wide range of formats can be applied to cells, depending on their contents. The **Font** and **Alignment** for each cell or a range of cells can be specified from **Cells** on the **Format menu**.

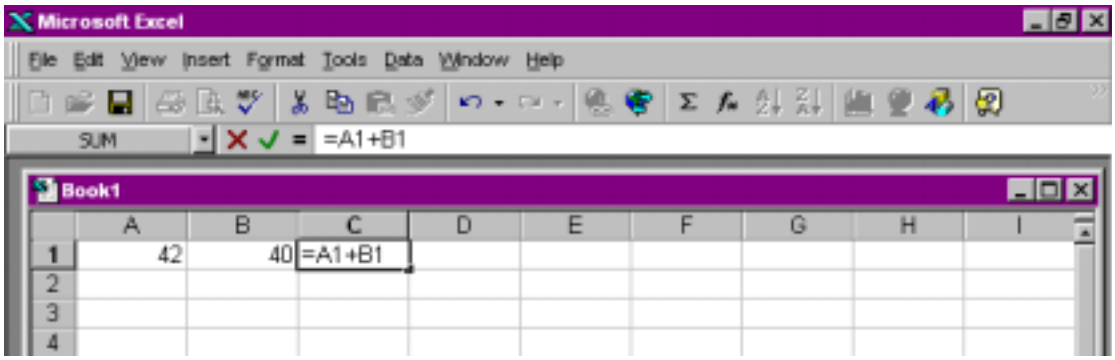
Number from **Cells** in the **Format menu** can be used on cells containing numbers to specify a type of number e.g. date, currency, decimal, percentage etc. When cells have been formatted with a particular number type, Excel automatically performs any necessary rounding and adds appropriate symbols (e.g. £, $, %).

TASK: Columns titled Exam 1 and 2 should be changed to percentage. Columns titled Trip Money should be currency. Now enter the numerical data.

Data is edited by selecting the cell and clicking inside the **Formula bar** – a cursor or insertion point appears for keyboard editing. Cell contents are deleted by pressing the **delete** key or using **Clear** from the **Edit menu** – a box appears for selecting the attributes to be deleted.

Formulas

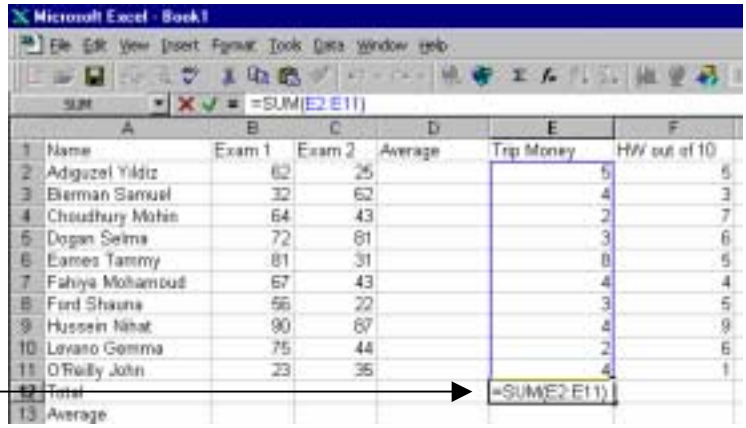
One of the most fundamental features of spreadsheets is the ability to perform calculations using data contained in the cells and to display the results. This is achieved by entering **formulas**. A formula is entered in the cell in which the result is to be displayed and is begun by typing =. Data is included in a formula by using its cell reference. For example, to add two numbers contained in A1 and B1, putting the result in C1, select C1 and in the **formula bar** type '=A1+B1'. Confirm the formula by pressing the **ENTER** key. The correct result (82 in this case) should appear in Cell C1.



The main arithmetic operators used in **formulas** in Excel are: + for addition, - for subtraction, * for multiplication and / for division.

The SUM Function

To add up a row or column of numbers (probably the most common function required of Excel) the **SUM** function is used. To achieve this, select the cell in which the total is to appear. In the formula bar type =SUM(?:?). Replace the question marks with the references for the first and last cells in the row or column of numbers. Press **ENTER** and the total should appear.



TASK: Now create a cell to show the total trip money collected.

Averages

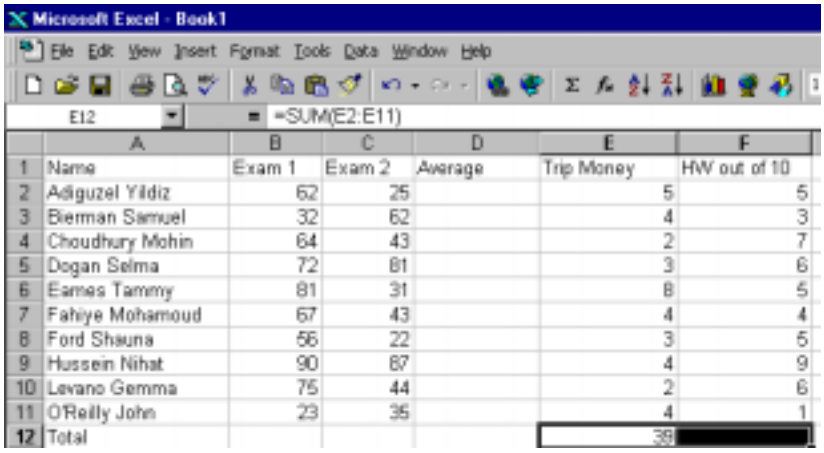
Excel can also calculate the average of a column or row of numbers. To do this, select the cell where you want the average to appear and in the **formula bar**, type '=AVERAGE (?:?)', replacing the question marks with cell references for the first and last numbers of the column or row to be averaged.

TASK: Select cell D2 type in formula =AVERAGE (B2:C2). This will give you the average grade.

Replicating Formulas

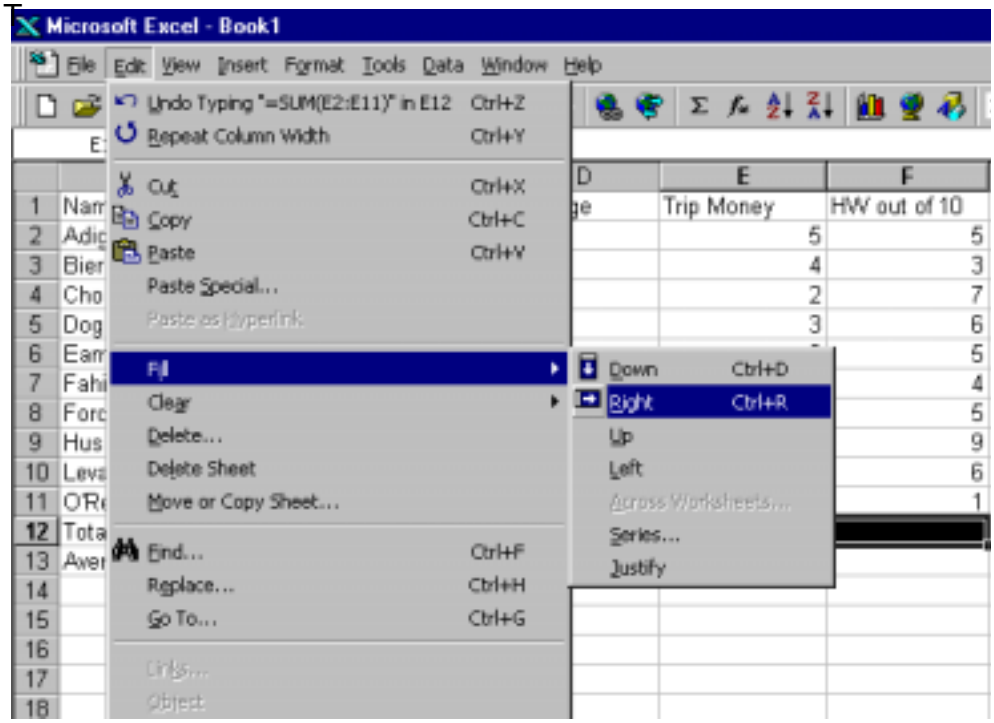
When setting up a worksheet it is often necessary to use the same formula for a series of rows or columns of data. To save time, when the first formula has been entered, it can be copied onto the remaining cells – a process known as replicating. There are several ways to achieve this, the most common being the **Fill Down** and **Fill Right** commands on the **Edit menu**.

For example, the **SUM** function and AVERAGE function used in the above examples can be copied so that more than one column of figures will be added in the same way or more than one row will be averaged. To achieve this, select the cell where you have already entered the **SUM** function (in the last example, E12) or the AVERAGE function (in the last example D2), then drag the mouse across the required number of columns or rows.



	A	B	C	D	E	F
1	Name	Exam 1	Exam 2	Average	Trip Money	HW out of 10
2	Adiguzel Yildiz	62	25		5	5
3	Bierman Samuel	32	62		4	3
4	Choudhury Mohin	64	43		2	7
5	Dogan Selma	72	81		3	6
6	Eames Tammy	81	31		8	5
7	Fahiye Mohamoud	67	43		4	4
8	Ford Shauna	56	22		3	5
9	Hussein Nihat	90	87		4	9
10	Levano Gemma	75	44		2	6
11	O'Reilly John	23	35		4	1
12	Total				39	

Now, from the **Edit menu**, choose **Fill Right** (for the **SUM** function), or Fill Down (for the AVERAGE function).



The totals for each column should now appear in the relevant cells (E12 and F12 and D3 – D11).

An easier way to replicate formulas is to point the cursor at the small square on the bottom right hand corner of the cell with the original formula in it (E12 or D2 in our examples). Now drag mouse across the adjacent cells. Let go of the mouse button and the totals for the other column should appear as before.

Producing Charts

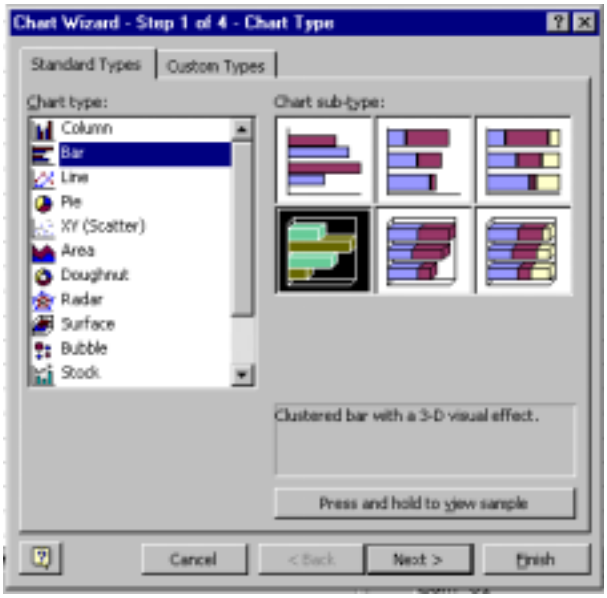
Excel has an extensive range of tools for producing graphs or **Charts** (as Excel prefers to call them). Charts can either be created as separate documents in a Window of their own or as graphics on a worksheet. Before creating a chart of any kind, the data for plotting needs to be selected. This selection can include labels (text) as well as numerical data. Non-adjacent columns or rows can be selected by holding down the **CTRL** key while making the selection.

TASK: Highlight the Names column and HW out of 10.

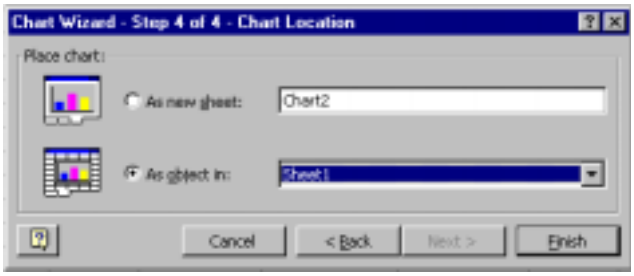
Once the data for plotting in the chart has been selected, produce a graph by first clicking on the **Chart tool** on the toolbar. 

A **Chart Wizard** will appear.

Different types of chart are offered by the **Chart Wizard** on its first page. Any choice can be previewed by clicking on and holding down the '**press and hold to view sample**' button. Once the appropriate chart has been selected, click on **Next**. Click on **Next** again to access Step 3 which can be used to alter the Chart title and axis categories.

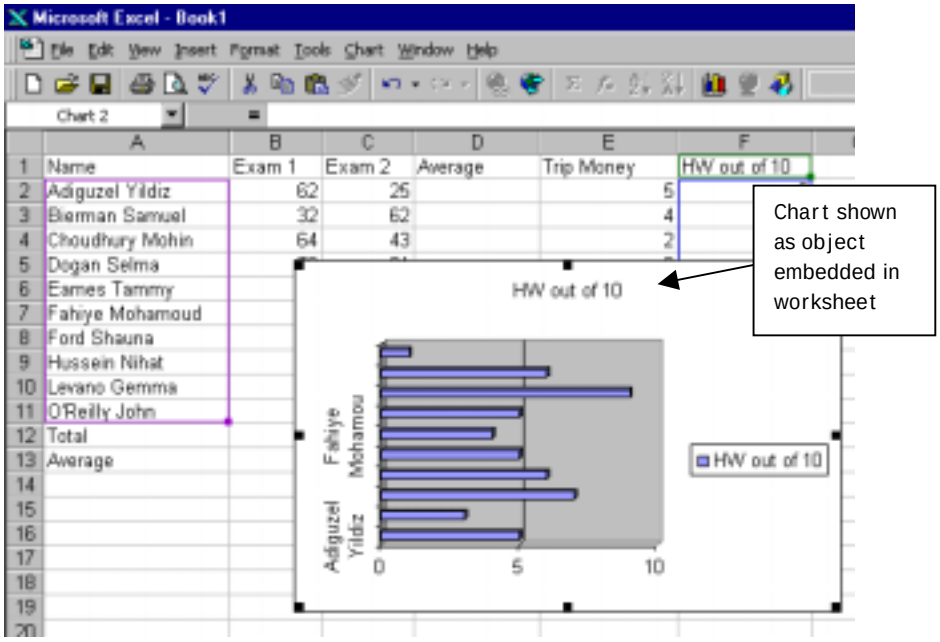


Now click **Next** to access Step 4. The chart can be displayed as an embedded object within your Excel worksheet or as a separate document in its own window. In either case, the finished chart will automatically be updated if any changes are made to the original data.



Once the location for the chart has been selected, click **Finish** and the finished chart should appear in the location chosen.

In the case of the Homework out of 10 Chart there is not enough room to display all the names in an embedded object within a sheet so it is better to display as a new sheet.



TASK: Make a chart in a new sheet to show Homework out of 10.

Formatting Charts

Double-clicking on a part of a chart brings up a dialogue box, from which any formatting can be done.

Printing from Excel

Printing worksheets and charts is fairly straightforward. Entire worksheets and any charts embedded on them, are printed using the Print command from the File menu or clicking on the printer button. Charts displayed in their own window can be printed separately. If the worksheet or chart does not fit on the standard paper size, it will be spread across several pages.

Excel uses various default settings when printing. The worksheet gridlines are printed, along with a header containing the file name and footer showing the page number. These settings, and many others, can be controlled using **Page Setup** from the **File menu**. The documents to be printed can be viewed in advance of printing using **Print Preview**.

(Parts of worksheets can be printed by selecting the desired range using the mouse, then choosing Set Print Area from Print Area in the File menu. The print area is indicated by a dashed gridline on the worksheet.)