

Selected Excel Basics

Throughout this module it is assumed that course participants have some familiarity with Excel. Because of the diversity of users and potential uses of a general spreadsheet application there are typically some whose knowledge of spreadsheets is well developed in certain areas but may require enhancing in others. More experienced users will have mastered techniques to improve their efficiency while less experienced users are continuing to build skills that will make them *power users* of Excel. In this brief introduction a few skill building techniques are discussed.

Using the Fill Handle

With a cell or range of cells is selected, the *lower right-corner* of the selected cell(s) outline shows a small square with a cross known as the *fill handle*, indicated in the following diagram. When the mouse pointer is placed directly over the *lower right-corner* of the selected cell(s) it forms the shape of a black cross-hair.



Use the *handle* to drag a fill series across adjacent cells. The following types of series may be created using the fill handle:

- to copy the same entry into other cells, type the information into the cell once, select the cell, and then drag the fill handle with the mouse to fill adjacent cells with the same data.
- to enter the month (Jan, Feb, Mar,...) or day of the week (Mon, Tue., ...) type the first entry, and then drag the fill handle to fill adjacent cells with the complete series. Excel's AutoFill feature completes the series in the correct order.
- to use a number series, type the first two entries in the order you wish the series to increase or decrease. Different examples of series are provided in the diagram on the left. The fill handle is visible at the lower-right corner of the selected cells (bottom-right of cell D2). Place the mouse over the *fill handle* (the pointer looks like a small crosshair), click the left mouse button and hold while you drag to complete the series, the diagram on the right contains the completed series.

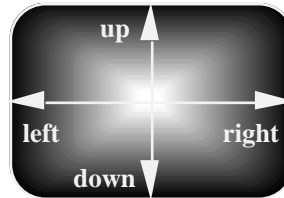
	A	B	C	D
1	1	1	1	10
2	2	3	6	9
3				
4				
5				
6				
7				
8				
9				
10				
11				

	A	B	C	D
1	1	1	1	10
2	2	3	6	9
3	3	5	11	8
4	4	7	16	7
5	5	9	21	6
6	6	11	26	5
7	7	13	31	4
8	8	15	36	3
9	9	17	41	2
10	10	19	46	1
11	11	21	51	0

The Fill Command

Another method of creating a fill series is to use the *Fill* command. If you want to use the same data in neighbouring cells (if, for example, you are copying a category heading), select the cell containing the entry, and then drag over the cells you want to fill.

You can drag in any direction



Excel fills the cells with a copy of the original data.

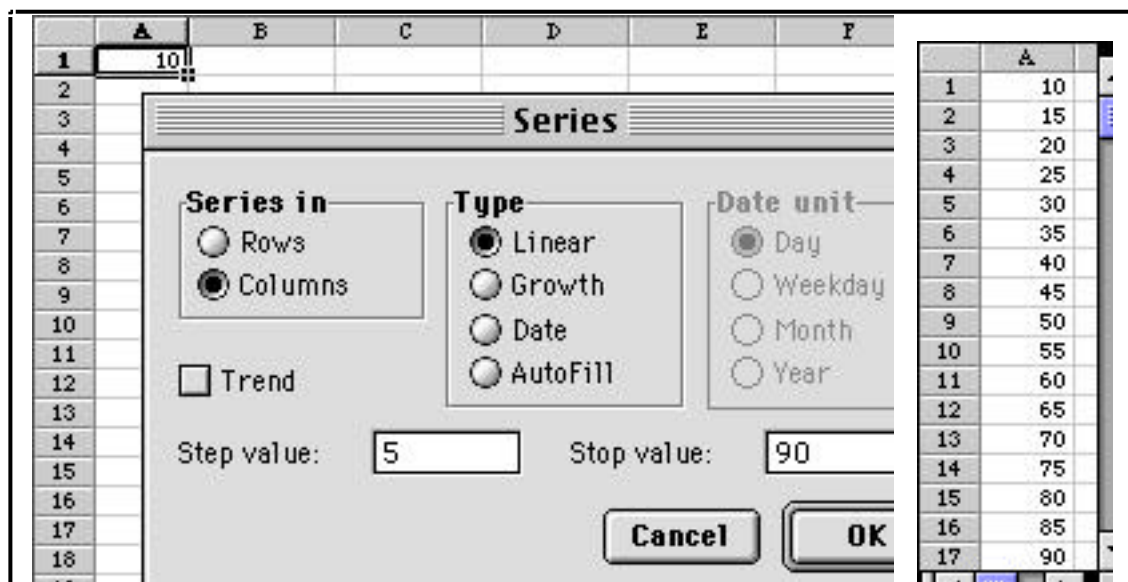
Specific start and stop values may be entered for a data series using the Series dialogue box. The following steps demonstrate how to use the Series dialogue box to create a data series in column A, the start value is 10 (entered in cell A1), the stop value is 90 and the step value is 5.

Step 1 Select the first cell of the series (Cell A1) and enter the starting value (10)

Step 2 Select the range of cells to fill (not required for the present example)

Step 3 From the **Edit** drop-down menu, choose **Fill** and from the cascade menu select **Series**

Step 4 Complete the **Series** dialogue box as follows and click **OK**. This will produce the completed series shown in the right of the diagram.



A useful application of the **Fill Command** is in conjunction with the **Fill handle**. Suppose that the contents of a particular cell had to be replicated a large number of times across consecutive rows. If the cell contents in the adjacent column, either to the left or the right,

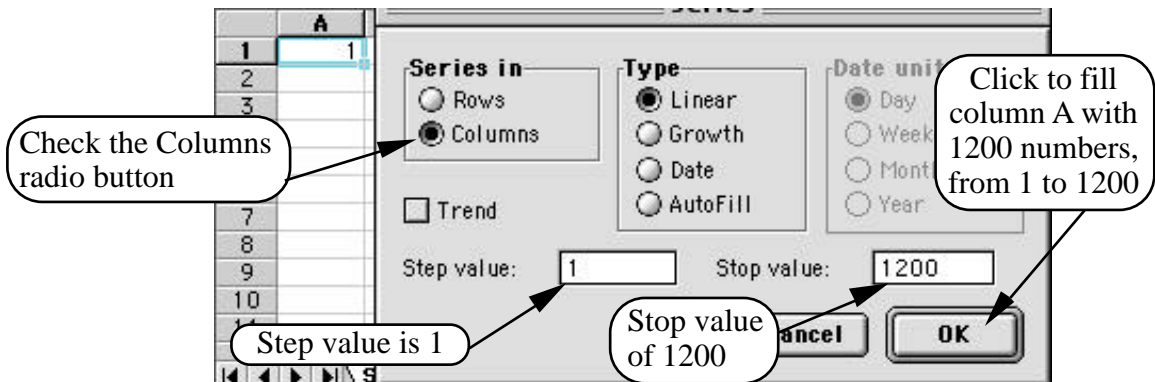
contain data of any description, then **double-clicking** the **fill handle** will replicate the cell's contents automatically, in line with the adjacent column. The following example, which requires replication of the contents of cell **B1** 1200 times, illustrates this feature.

Place the number 1 in cell A1 and select cell **A1**.

From the **Edit** drop-down menu, choose:

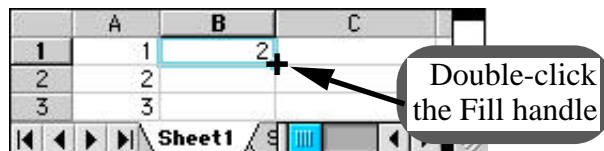


Complete the **Series** dialogue box as follows:



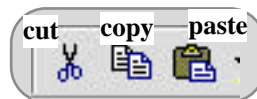
Now enter the following formula in cell **B1**: $=2*A1$

Select cell **B1** and double click the fill handle to enter 1200 formulae in column B.



The Cut, Copy and Paste Icons

The toolbar icons for copy, cut and paste are:



Keyboard shortcuts are:

cut
Ctrl+X

copy
Ctrl+C

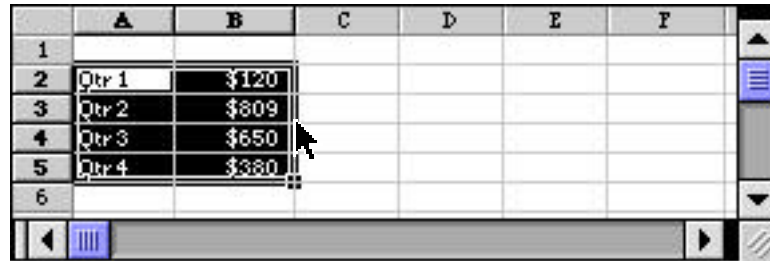
paste
Ctrl+V

The Drag-and-Drop Technique

To move or copy a selected range, the **drag-and-drop** method may be used. This is achieved by selecting the cell range to move or copy, placing the mouse pointer in the correct position and then dragging to the new location. For example, suppose the cell

range **A2 : B5** are to be moved to a new location two columns to the right in the same row location, we would proceed as follows:

- Step 1** Select the cell range to copy or move.
- Step 2** Move the mouse pointer over the selection's border. The mouse pointer should change to an arrow, as follows:



- Step 3** To **copy** the range, hold down the **Ctrl** key.
To **move** the range nothing is required at this step.
- Step 4** Drag the border. As you drag, an outline of the selected data is visible. When the selected cell range is at the required location, release the mouse button to complete the task.

Copying Data from Non-Contiguous Columns

To copy the information contained in columns A, C and E, in the following diagram, and move it to a new position in the spreadsheet, the steps are:

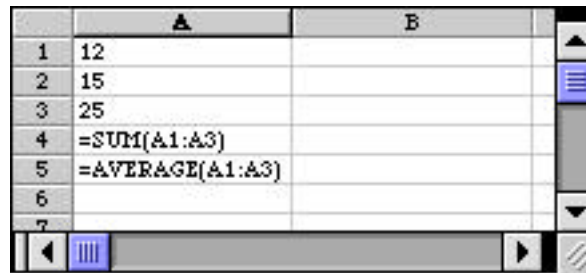
	A	B	C	D	E	F
1		1993	1994	1995	1996	1997
2	Qtr 1	\$120	\$206	\$162	\$166	\$153
3	Qtr 2	\$809	\$903	\$903	\$837	\$840
4	Qtr 3	\$650	\$679	\$682	\$669	\$744
5	Qtr 4	\$380	\$413	\$385	\$462	\$384
6						

- Step 1** Select the cell range **A1 : A5**
- Step 2** Press and hold the **Ctrl** key (Steps 1 and 2 may be carried out in any order)
- Step 3** While holding the **Ctrl** key down, select the cell range **C1 : C5** and then the cell range **E1 : E5**
- Step 4** Place the mouse pointer in the first cell of the target cell range and **Paste** the contents of the clipboard. This procedure arranges the data in contiguous columns.

Copy and Paste Special

Frequently we wish to copy data from one worksheet location to another and paste the values in the new location. This requires the use of *Paste Special* when the data to be copied is the result of formulae.

To copy the values stored in cells **A4 : A5** in this worksheet use *Paste Special*.



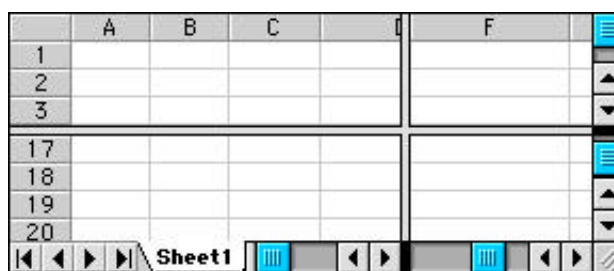
- Step 1** Select cells **A4 : A5** and copy the contents to the clipboard.
- Step 2** Select the first cell of the destination location, cell **B4**.
- Step 3** From the **Edit** pull-down menu choose **Paste Special**
- Step 4** Complete the **Paste Special** dialogue box by checking the **Values** radio button and click **OK** to complete the task.

Splitting the Worksheet Window

Many spreadsheet tasks take up an area of the worksheet far greater than is visible on the average computer screen. The ability to split the worksheet window increases the flexibility of the work environment. Two methods of arranging the worksheet window are presented here.

Method 1

- Step 1** From the **Window** drop-down menu select **Split**
This will split the worksheet into 4 sections as follows:



Note that within each section it is possible to scroll through the worksheet independently of any other section, each window has it's own vertical and horizontal scroll bars.


- Step 2** **Removing the left (or right) section:**
Place the mouse pointer on the bar dividing the worksheet vertically, click the left mouse button and drag to the left (or right) of the worksheet until it disappears.

A similar approach may be used to remove the top (or bottom) panels.


- Step 3** Drag the horizontal bar to the desired position, it is generally a good idea to split the worksheet so that the top portion represents about two-thirds and the bottom about one-third.
- Step 4** Arrange the information in the worksheet so that both the beginning and ending sections of the data set are visible.

Method 2

Split worksheet horizontally



Split worksheet vertically



Using the Shift key to Select a Range

Open a new worksheet and place 1200 values in column A.

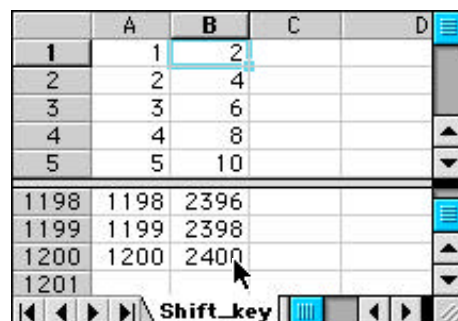
Place 1 in cell **A1** and then use **Edit** ➔ **Fill** ➔ **Series** to place 1200 values in column **A** (see previous section headed **Fill Handle**).

Enter the formula in cell **B1**: $=2*A1$

Now use the **Fill handle** to replicate this formula 1200 times.

Split the worksheet window so that both the top and bottom of the data are visible.

Select cell **B1**
Hold the **Shift** key down
and select cell **B1200**.



	A	B	C	D
1	1	2		
2	2	4		
3	3	6		
4	4	8		
5	5	10		
1198	1198	2396		
1199	1199	2398		
1200	1200	2400		
1201				

Copy the selected cell range.

Select cell **D2**.

From the **Edit** drop-down menu (or *right-click*), choose **Paste Special...**

Check the **Values** radio button and click the **OK** button.



Enter the formula in cell **C1**: **=A1+B1-D1**

Select cell **C1** and choose **Copy** from the **Edit** menu.

With **C1** selected, hold the **Shift** key down and select cell **C1200**.

Choose **Paste** from the **Edit** menu.

Custom Formatting

Excel has a selection of standard numerical formats, which are accessed by choosing **Format** from the drop-down menu, then choose **Cells** and click on the **Number** tab.

Open a new worksheet and place any numeric values in cell range **A2:A6**.

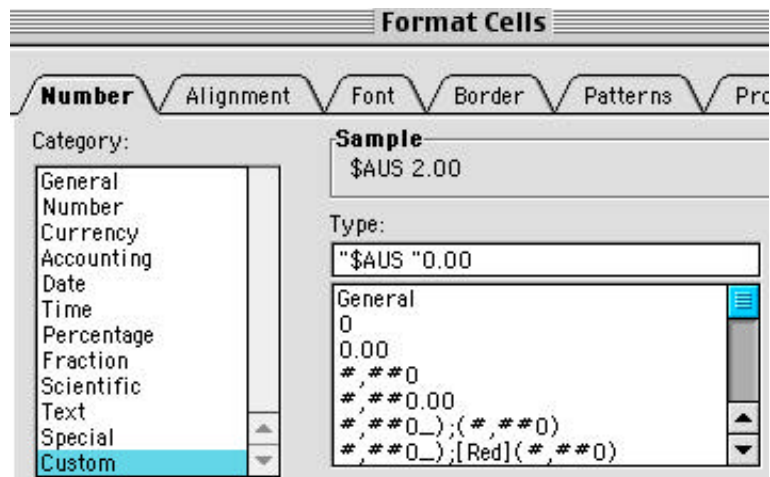
Select cell range **A2:A6**

Activate the format cells dialogue box.

Click the **Number** tab. Select **Custom** from the **Category** list.

In the **Type** text box enter: **"\$AUS "0.00**

Click the **OK** button.



The information embedded in the double quotation marks precedes the data formatted to two decimal places. The double quotes may be placed before or after the required number format to achieve the desired result.

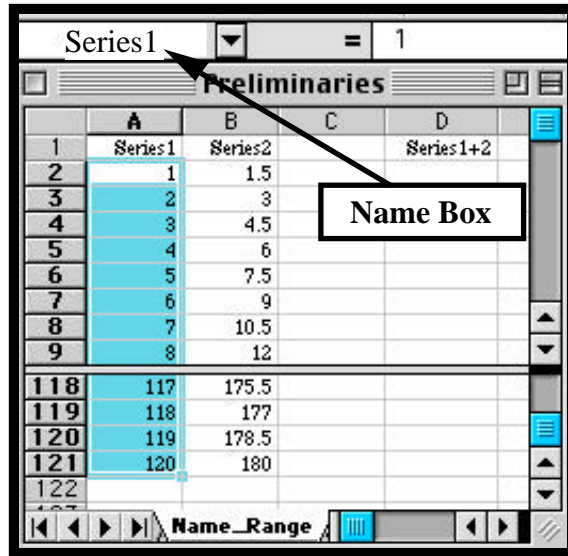
Naming Cell Ranges

Open a new worksheet and place 120 values in column **A** starting from **A2**.

Enter the labels: in cell **A1** **Series1**
 in cell **B1** **Series2**
 in cell **D1** **Series1+2**

Enter the formula: in cell **B2** **=1.5*A1**

Use the **Fill handle** to replicate the formula so that it fills the cell range **B3:B121**



Select cell range **A2:A121**

Click in the **Name Box**
Enter the range name: **Series1**
and press the **Enter** key.

Repeat the process for the data in column **B**.

- select cell range **B2:B121**,
- click in the **Name Box**,
- enter the range name **Series2** and
- press the **Enter** key.

Standard spreadsheet operations may now be performed on these cell ranges using the range names assigned to them. Complete the following tasks in the nominated cells:

Cell	Formula
D2	=AVERAGE(Series1)
D3	=SUM(Series1)
D4	=SUM(Series1,Series2)
D5	=SUMXMY2(Series2,Series1)

A Quick Look at Charts

Open a new worksheet and place 120 values in column **A** starting from **A2**.

Enter the labels: in cell **B1** **Series1**
 in cell **C1** **Series2**
 in cell **D1** **Series2**

Enter the formulae: in cell **B2** **=INT(RAND()*100)+600**
 in cell **C2** **=INT(RAND()*100)+750**
 in cell **D2** **=INT(RAND()*100)+900**

Split the worksheet horizontally so that the beginning and end of the data are visible.


Select cell range: **B2:D2** and double-click the **Fill handle** to duplicate each of these formulae 120 times in columns **B, C** and **D**.

Select cell range **B2:D121** and choose **Copy** from the **Edit** menu.

Select cell **B2** and choose **Paste Special** from the **Edit** menu.

Check the **Values** radio button and click the **OK** button.)

All data in columns **B, C** and **D** are now values.

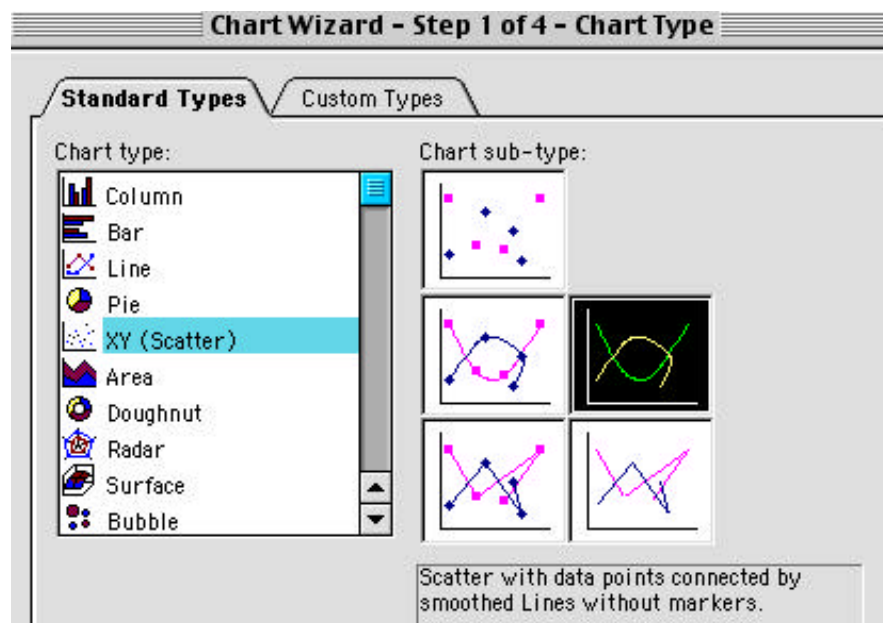
Sort the data: Select cell range **B2:B121** and click on the  *sort descending* button on the tool bar:

Repeat the sort for data in columns **C** and **D**.

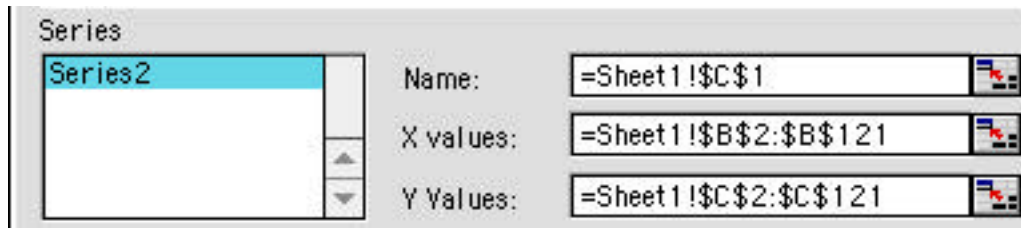
Select cell range: **B1:C121** and click on the **Chart Wizard** button .

Select the following **Chart type** and **sub-type**:

Click the **Next >** button.



In **Step 2** of the **Chart Wizard** click on the **Series** tab and ensure the column **B** values are in the **X values:** text box. The values in column **C** represent the Y-axis values.



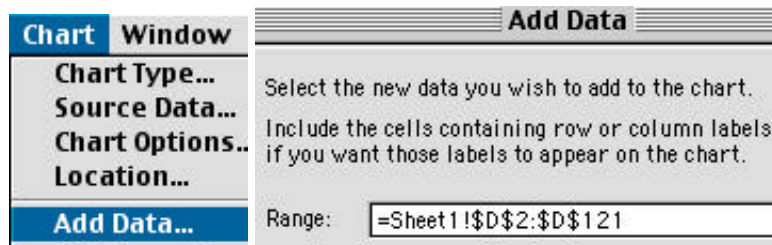
Click the **Finish** button to complete the chart and place it in the active worksheet.

The data in column **D** has to added to the chart.

Click on the chart, near the outer edge, to select it.

From the **Chart** drop-down menu select **Add Data**.

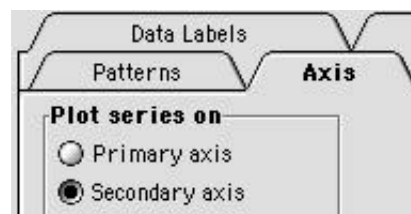
Enter **D2:D121** in the **Add Data** dialogue box. Click **OK**



The magnitude of the scale of Series3 is somewhat larger than for Series 2, it requires its own axis. To add a second axis to the chart, double click the line representing Series3 on the Chart to access the **Format Series** dialogue box.

Click on the **Axis** tab and check the **Secondary axis** radio button.

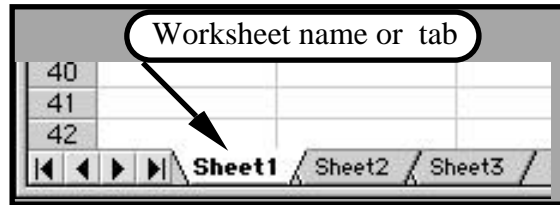
Click the **OK** button.



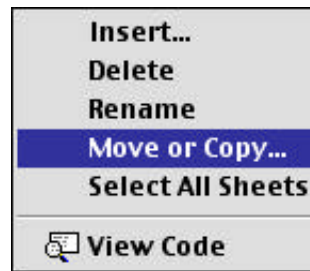
Some additional formatting may be required to complete the chart. Double clicking on the various parts of the chart will provide access to the various dialogue boxes to enable editing. Charts should be correctly labelled; a chart title, and a label for each of the Y- and X-axis. Legend should be included if necessary, this is typically the case if more than one series is included on the chart. If both a **Primary** and **Secondary** axis are used it should be made clear which axis is associated with a particular data series. Beyond this the chart should be as simple and uncluttered as possible.

Make a Duplicate Copy of a Worksheet

Click on the worksheet tab to select it.
Then *right-click* your mouse.



Select **Move or Copy...**
from the *pop-up* window

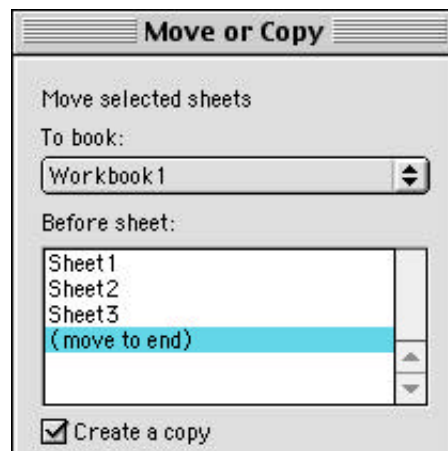


Choose the location for the new worksheet.

To place it at the end (or to the right)
of the existing worksheets:

select **move to end**
and
click the **Create a copy** checkbox.

Then click the **OK** button.



To **rename** the new worksheet, *right-click* its tab, or *double-click* the tab, and type the name to be assigned.

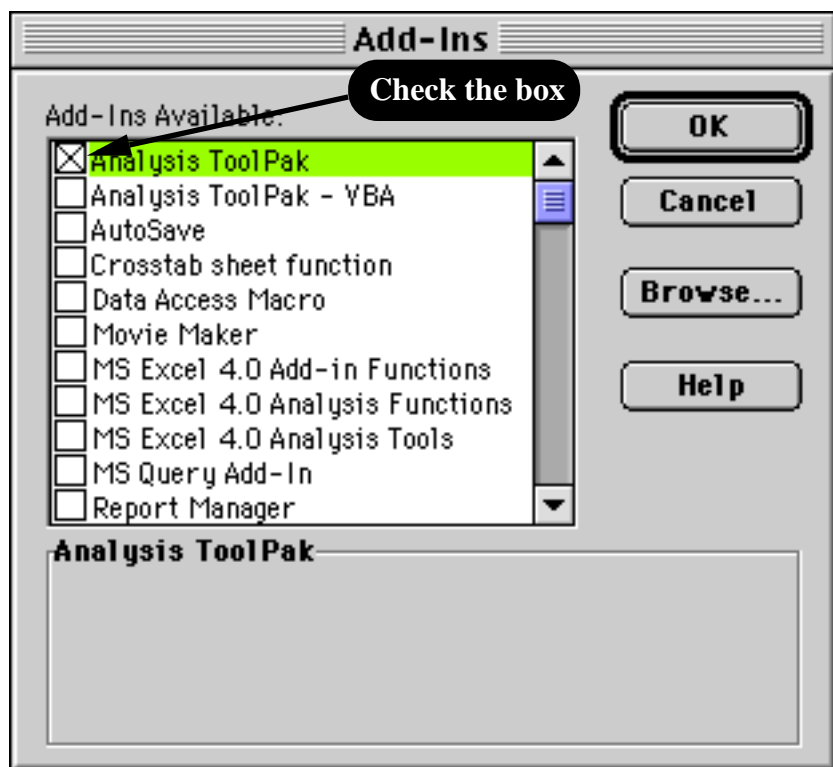
Installing the Analysis ToolPak

When Excel is initially installed on a computer some of its features are not accessible. A feature that is frequently used, and requires installation, is the *Analysis ToolPak* Add-In. This Add-In provides access to additional spreadsheet functions and a collection of statistical procedures.

From the **Tools** drop down menu select:



Click in the check box to the left of *Analysis ToolPak*:



To complete the installation click the **OK** button.

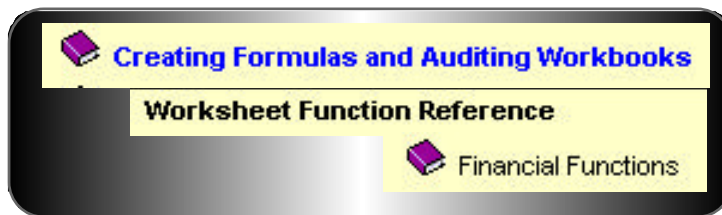
Excel's On-Line Help

Excel provides on-line help for functions and procedures within the application, it also provides Lotus 1-2-3 Help and for users of Office 97 or later there is help available to prepare Web based documents.

From the **Help** pull-down menu select **Contents and Index**.

When the **Contents** tab is active a list of topics is presented.

A category you may wish to explore for Financial models is *Financial Functions*.



Select *Financial Functions* to obtain a list of Excel's financial functions. Select the function you are interested in and click for a description of the function and an example of how it is used.

Using the Index Tab

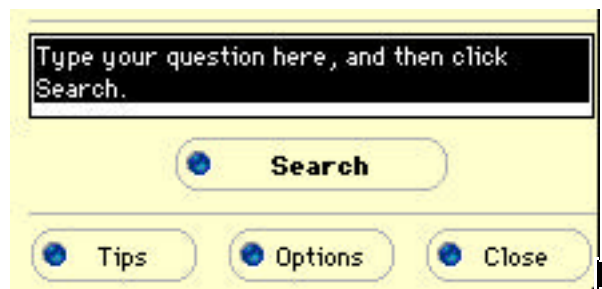
To get help for a specific function or procedure click the **Index** tab after you have selected **Contents and Index** from the **Help** pull-down. Enter your query in the box provided. Suppose you are interested in "Annuities", type this word in the box and click on **Display**.

Using Office Assistant

To activate **Office Assistant**
press the **F1** key or

select **Microsoft Excel help** from the **Help** pull-down menu

Office Assistant provides context sensitive help, simply type your question in the nominated box and click the **search** button.



Don't expect success every time.