EXCEL

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Course Overview

What is EXCEL?

A spreadsheet is like electronic graph paper, where each cell can act as an electronic calculator! Information and calculations can 'flow' from one cell to another. It is a 'What-If' analysis tool, where cells can hold text, numbers, calculations and functions of all sorts and you can see the result if you make any change.

The Many Uses of a Spreadsheet

Most people think of spreadsheets as super number crunchers used only for handling bookkeeping tasks. Spreadsheets have all sorts of uses; bankers can calculate and chart your loan payments on a monthly basis, English teachers can create self-correcting English exams, statisticians can analyze complex data, simple invoicing and inventory management systems can be created.

The History of Spreadsheets

VISICALC was the first spreadsheet application on the market, designed by three Harvard MBA students to help with their case studies. Lotus Corporation purchased the rights from VISICALC and ran with it. Lotus 123 for DOS was one of the few computer applications available at that time. It was not as user friendly as EXCEL is today. It was, however, a fast and powerful application and ran well on older computers. Microsoft developed EXCEL for Windows, ushering the new era of Windows based WYSIWYG spreadsheet applications. EXCEL is, today, the most popular of the three spreadsheet giants (EXCEL, Lotus 123 and Quattro Pro).

Purpose

To become an efficient user of computerized spreadsheet applications, in particular, EXCEL. To become familiar with navigation and selection techniques as well as data entry methods.

By the end of this course, you should be able to work with EXCEL to design basic spreadsheet tables, incorporate basic formula and functions, format the project then print and graph your work as well. You will also become familiar with some of the powerful tools built into EXCEL.

Basic Mouse Skills

Holding the Mouse - cupped in palm, index finger on left button.
Moving the Mouse (Lift & reposition when get to edge of pad or desktop)
Select = Click (anchor the mouse with your palm and left button click)
Move = Click & Drag (Holding the left button down)

Basic Window's Skills

TASK	DESCRIPTION	TECHNIQUE	ICON
Move	To move a Window around the screen	click and drag the title bar when mouse is an arrow	
Minimize	To hide an Application or Close a Window	press the minimize icon	
Maximize	To make the Window fill the monitor screen	press the maximize icon	
Restore	To restore Window to its smaller size (un-maximize)	press the restore icon; (same place as Maximize)	
Resize	To change the size of an object (Window / Graphic)	Double headed arrow at object's edges, Click & drag to resize	
Close	To Close a Window no longer required in view	press the Window's CLOSE icon, or [CTRL] [F4]	

Pointer Shapes

	**Select** or Move an object or selection
	**Cannot** put that 'here' or action not allowed Move My Computer into the Recycle Bin
	Resize object (obtained on edges of re-sizable objects or pick points of re-sizable objects **-** Taskbar is re-sizable - Windows are re-sizable
	**I-Beam –** text can go here… Dialogue boxes, word processors, font size dialogue box, etc.
	**Move an object** (usually for graphics)
	**Please wait…**Program loading into memory (RAM space) i.e. copying from the hard drive into RAM workspace…locked up? [CTRL][ALT][Delete]

EXCEL Overview

Steps to Spreadsheet Design

1 Define your Inputs and Outputs

What data are you going to have to analyze, what calculations or formulas will you require to achieve the outputs desired

2 Construct the Spreadsheet

Setup the basic structure that can store the Inputs and accomplish the required Outputs. The design of the layout depends on many variables, whether you set it up on a single sheet or multiples, whether your data is in columns or rows...

Try to keep separate tables of data on separate sheets. Have a separate sheet or region to discuss the Inputs and Output requirements, another one for the data analysis

3 Test your spreadsheet

Thorough testing is necessary to confirm accuracy of your logic and formulae. Try simple data to be able to visualize problem areas. Simply put in ones, add up ok? You should also test for decimal place errors, so do not currency format until the project is completely tested. Test on a separate sheet if possible.

You can also test on paper and a calculator to prove accuracy. Some people run the old manual system along side of the new spreadsheet method for a few months to prove accuracy and reliability.

4 Document your spreadsheet

On a separate sheet, document what the spreadsheet is for and how to use and change it. Proper documentation helps in future revisions as well as if the creator of the project leaves the company...

EXCEL Settings

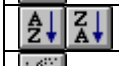
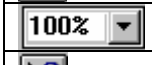
Before we begin, we will cover a selection of EXCEL settings to make sure we are all on the same screen.

The Tool Bars

The two default toolbars are Standard and Formatting. To see where you can set other toolbars or re-set them back to the default;

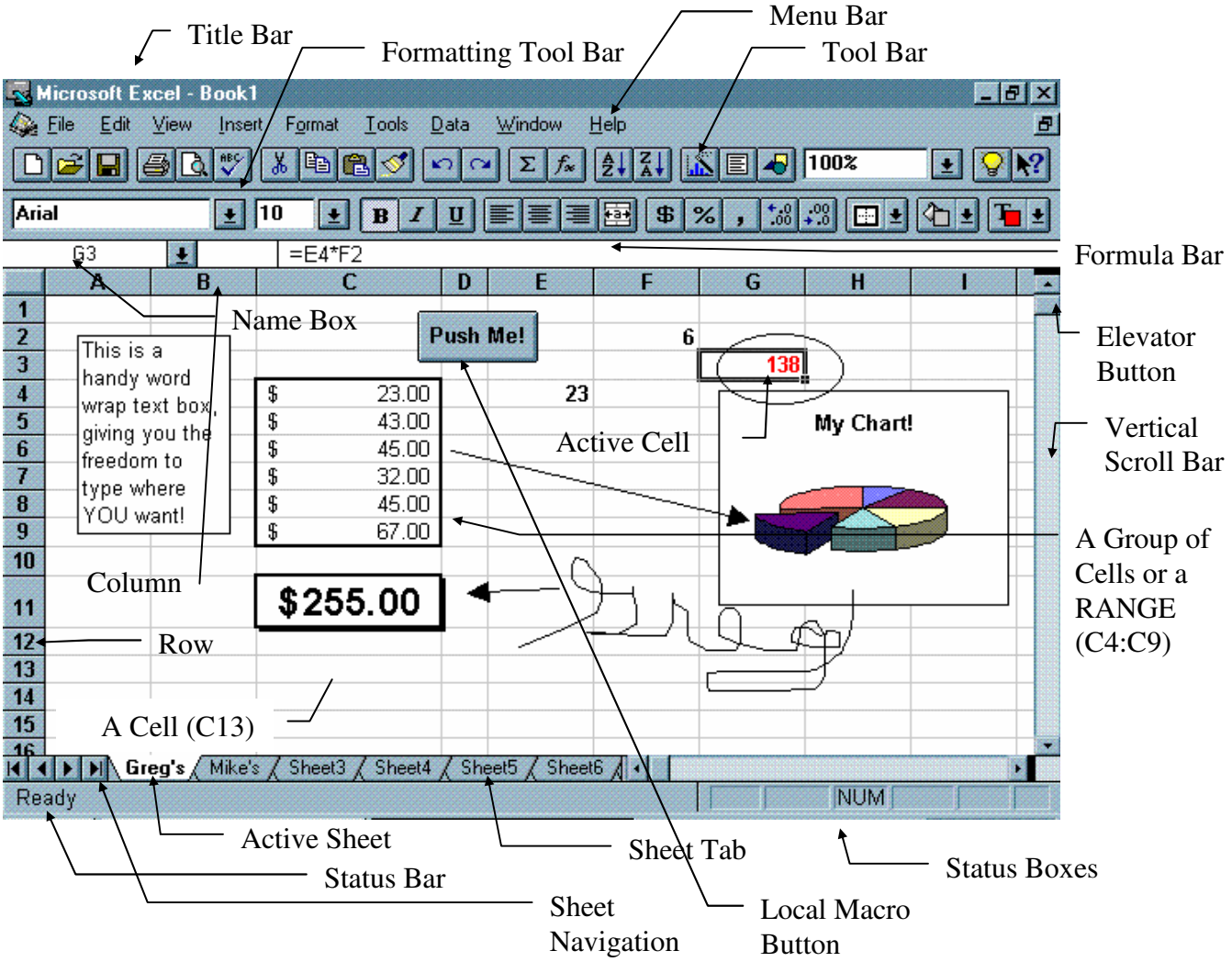
View | Toolbars - make sure that only the **Standard** and **Formatting** are active.

The Standard Toolbar;

ICON	Name	Function	Menu Choice
	New	To start a new blank document	**File | New** (template choice)
	Open	To OPEN a file on disk	**File | Open**
	Save	To Save a file to disk	**File | Save or <CTRL><S>**
	Print	To dump document to printer	**File | Print** (get choices)
	Print Preview	To preview doc. before printing	**File | Print Preview**
	Spelling	To spell check your document	**Tools | Spelling**
	Cut	To cut object/text to clipboard	**Edit | Cut or <CTRL><X>**
	Copy	To copy object/text to clipboard	**Edit | Copy or <CTRL><C>**
	Paste	To paste clipboard to document	**Edit | Paste or <CTRL><V>**
	Format Painter	To duplicate format of selection	
	Undo (oops!)	To UNDO a mistake	**Edit | Undo or <CTRL><Z>**
	Redo	To UNDO an UNDO...	**Edit | Repeat...**
	AutoSum	To add a group of numbers	
	FunctionWizard	To bring up the Functions	**Insert | Function**
	Sorting	To sort a selection of data	**Data | Sort...**
	ChartWizard	To activate the charting Wizard	
	TextBox	To create a graphical text box	
	Drawing	Toggles drawing toolbar on/off	**View | Toolbars - Drawing**
	Zoom Control	To change your zoom view	**View | Zoom**
	Help	'Click Help' – specific on object	**Help or F1** (general HELP)

Tool tips – hover over button – description of button

A Quick Tour of EXCEL



The EXCEL Screen

Title Bar: Gives you the name of the APPLICATION you are using and the current filename in use.

Menu Bar: You can get to MENU choices without the mouse, use ALT-(letter underlined), then the arrows to navigate and ENTER to select. In dialogue boxes, TAB moves forward, SHIFT-TAB moves back. ESC gets you out of most situations...

Cursor: Your CURSOR or arrow will change depending upon what you are hovering over. It is an arrow when you can select something, an I-Beam when you can put text (you are in EDIT mode) A big cross when you can select a cell, group of cells, a column, a row or groups of both. A double-headed arrow means you can re-size an object, a column, row, box, etc. A small cross is given when you hover over the bottom right corner dot of a cell or group of cells, this means you can COPY-DRAG, which duplicates the cell or cells as a series...

Click & Drag: A very useful technique, to select multiple cells, rows or columns, to move a selection and to draw objects.

Double Click: A general method of 'going into' an object, such as to edit a graph, to edit a cell, to change a dialogue box item, change the SHEET TAB name, to OPEN a file, etc.

Right Click: A new, highly useful feature of most new software packages, as well as WIN '95. This brings you a mini-menu, of options available to you concerning the object you right clicked upon! It is called a quick menu, a subset from all the MENU bar options, not showing you the ones that do not apply to the current selection and situation.

Right Click & Drag: Results in an action menu of choices instead of simply moving something as click & drag would.

Basic Navigation

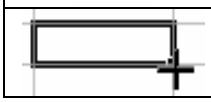
Cursor Keys (Arrows) - To move a cell in any direction
Mouse CLICK - To move to a cell
F5 or [CTRL][G] = GOTO (a specific cell or range of cells)
CTRL + HOME = To go back to the top left-most active cell (usually A1)
CTRL + UP = To the top most cell with content
CTRL + DOWN = To the bottom most cell with content
CTRL + RIGHT = To the right most cell with content
CTRL + LEFT = To the left most cell with content
END + ARROWS = As above with the CTRL key...
Scroll Bars = To scroll your *VIEW* horizontally or vertically (click to MOVE)
Page Up / Down = Moves you one screen up or down
ALT+PgDn = Screen Right
ALT+PgUp = Screen Left
Ctrl+PgDn = Next Sheet
Ctrl+PgUp = Previous Sheet
Named Range Box = To go to the cell or cells you have previously named
TAB = One data entry spot to the next
SHIFT + TAB = Back up from data entry spot

Editing Cells

Replacing a cell - you do not have to DELETE the cell first, simply select the cell and type on top of it. If you copy something on top of a cell that is not empty, it will warn you. Type your name in the "your name" cell. [Delete] the "hello!".

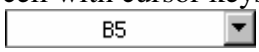
Editing a cell - You can double click to enter the cell, use the EDIT key (F2) or **edit in the formula bar**. As you are editing, your basic word processing skills come into play. [HOME] will bring you to the front of a line of information, [END] will bring you to the end. Double clicking upon a word is word select. Word jump is [CTRL] with the arrows or cursor keys left or right. Edit the title to say the current year at the end. Use [HOME] to go to the beginning and add "MY" then press [Enter].

EXCEL Mouse Pointer Shapes

	CROSS = cell selection possible (or column or row)
	I-BEAM = text entry possible (in the formula bar or a text box)
	DOUBLE-ARROWS = Resize possible (column, row, text box, graphic, window)
	ARROW = move possible, simply click & drag (edges of selection)
	SM. CROSS = at the bottom right corner of cell(s) you can SERIES COPY

Selection Skills

Why Select?
You can now DELETE, Copy, Move, Format and Sort your selection. Columns and Rows can be re-sized, auto-sized, etc. Right Click selection gives you the QUICK menu of what you can do with the selection.

Cell - click or simply get to the cell with cursor keys (note that the cell address appears in the name box 

Group of cells (range) - click and drag
(start from the bottom right corner for a large table
- Click one corner then SHIFT click opposite corner
- [SHIFT] + Navigation skills = Select

Column = Click the column header 

Row = Click the center of the row header 

Multiple columns or rows - Click and drag (be careful not to re-size)
- Click first then [SHIFT] click last

Non - Adjacent Cells - Select first cell, range. row or column
- [CTRL] select next desired item(s)

All = [Ctrl][a] (works in almost any software and/or situation)

Large region = Select from the bottom right corner upwards (if using the mouse)

Range = Select from the range name dropdown

Current Region = Edit – Goto – Special – Current Region (Ctrl – Shift – 8)

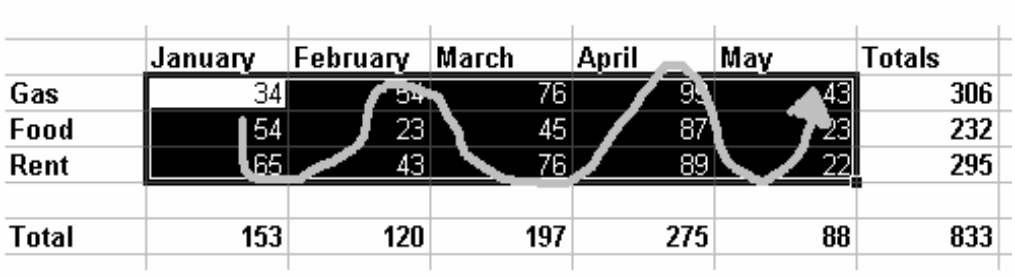
Data Entry Skills

The most common use of EXCEL is data entry.
(The Tools – Options – Edit – Enter move down – is a simple measure…)
The safest and easiest method to do data entry is to select the data range that you wish to fill up or modify. Then you move from one cell to the next with the [ENTER] key (downwards) or the [TAB] key (sideways). To backup if you made an error, simply hold down the [SHIFT] key with [ENTER] or [TAB].
(cannot use the arrow keys with this technique)

This method prevents accidental over-writing of your formulae even if protection is not utilized.

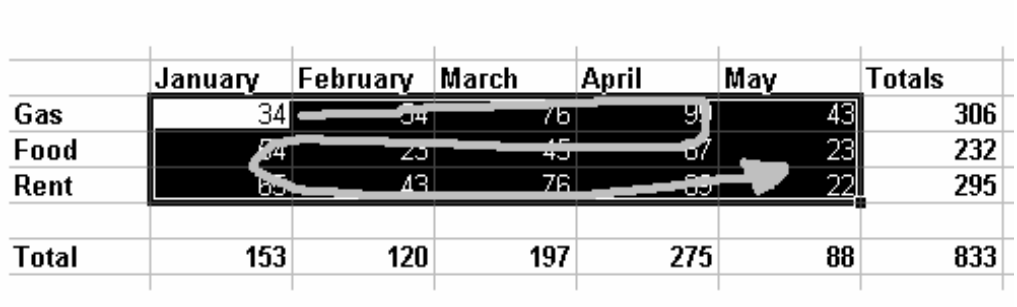
You could also de-activate the 'Move Selection after [Enter]' option;
Tools – Options – edit – remove the checkbox

[Enter] to 'snake' down then up – [Shift] [Enter] to reverse;



	January	February	March	April	May	Totals
Gas	34	54	76	9	43	306
Food	54	23	45	87	23	232
Rent	65	43	76	89	22	295
Total	153	120	197	275	88	833

[Tab] to 'snake' sideways – [Shift] [Tab] to back up;



	January	February	March	April	May	Totals
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Rent	65	43	76	89	22	295
Total	153	120	197	275	88	833

Combined with range name – to get to the data entry range – is the way to go…

Try Ctrl - selecting cells far apart - Tab from one to the next…Same effect with setting protection on (later in guide)

Duplicating Information

1) Select object (cell, range, column, row, graphic, and graph)
2) COPY it to the clipboard (memory)
   Edit - Copy
   Right Click object - COPY
   CTRL+C
3) Select destination (cell or group of cells to fill with the item copied)
   (you can select any SHEET, FILE or even another program like WORD!)
4) PASTE the item (you can PASTE as many times as you wish)
   Edit - Paste
   Right Click destination - PASTE
   CTRL+V

Note: or simply [Ctrl] drag item, selection, sheet tab to copy it

COPY Corner

You can also COPY items by using the COPY corner of a cell or range:

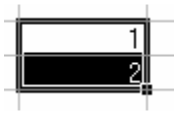
When you move your mouse over the copy corner, the big cross mouse pointer becomes a small cross, simply click & drag and you are copying. If the item is a potential series, you will get the series or formula logic copied down or across as you drag.

1) Select cell or range of cells to be duplicated

2) Position mouse over bottom right corner of selection (dot) your arrow becomes a small cross.

3) Drag across or down and the contents are duplicated. If the content was a SERIES item, the series is duplicated. Monday becomes Tuesday, QTR1 becomes QTR2, dates, etc.

Tip: Double click at the copy corner to fill down to last used row.



For number series, such as 1,2,3,4... you must type two numbers, so the computer knows the starting value and the desired increment or 'step'. So, select two cells, type the two numbers then copy drag the two cells down the desired amount.

For more complex situations or when you want to control the stop value; type the starting value in the first row, select the column then use the Series Fill in the EDIT menu - step by 1 - stop at 10.

Add: select list - ***Tools – Options – Custom Lists - Import***

Basic Math and Formulae

Cell Contents

Text - labels, titles, documentation
Numbers - values, dates
Formulae - calculations

you could type in a number by using a preceding apostrophe
ex. for ZIP codes, ‘350904

Start formulae with the = symbol or the + symbol
unless using the AutoSum (it does it for you)

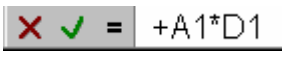
Use the numeric keypad , it is so much easier! The [Numlock] key must be activated.

Operators;

Plus = +
Minus = -
Divide = /
Multiply = *

Formula: You could write a formula like = 3 + 89 and you will get the answer in the cell, the formula appears in the formula bar. However, in spreadsheets, the power is when you refer to a cell's contents not a value, so the formula could look like = A3 + A4. The cell references can be typed in or simply selected with the mouse (safer and easier).

Try – Type your age in A1, the amount of days in a year in cell D1
Type in C5; ***=A1 * D1*** or type ***+A1 * D1***
This is how many days old you are…
Try changing the age and see the formula’s answer change automatically
Delete the formula in cell C5

In cell C5 Type **+** or **=** then click on cell A1
(the reference is typed for you)
type **+** then click on D1 then press the checkmark 

or [ENTER] key to complete formula

This method of creating formulae is faster, easier and safer since you select the cells you are referring to, you are less likely to refer to the wrong cell.

BEDMAS = Brackets, Exponents, Division, Multiplication, Addition then Subtraction. The order of operations in mathematical formulae.

So, what this means is = 3+4*2 actually equals 11 not 14 as some would think... If you wish to change the operation priority, simply add Brackets! = (3+4) *2 does equal 14!

Formulae usually refer to another cell's value, so that if the value in the cell changes, the formula instantly updates itself! Constants and rates can also be brought 'out' of a formula making changes to the constant or rate easy. A formula calculating the GST on a total could look like this; = A10 * 7% or if the rate is in a cell of its own (B12) then you could refer to it as such; = A10 * B12. Writing formulae by typing in the cell reference shows understanding yet it is easier and safer to click the cell reference while typing your formula.

Try the following;

QTY	DESC	COST	TOTAL
8	socks	3.98	+B5*D5
4	shoes	89.95	
9	ties	18.99	

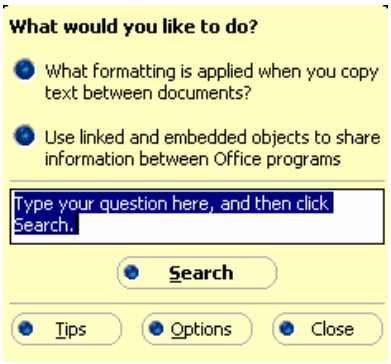
QTY	DESC	COST	TOTAL
8	socks	3.98	**31.84**
4	shoes	89.95	
9	ties	18.99	

QTY	DESC	COST	TOTAL
8	socks	3.98	**31.84**
4	shoes	89.95	**359.8**
9	ties	18.99	**170.91**

Try changing the QTYs and COSTs to get the following;

QTY	DESC	COST	TOTAL
3	socks	2.99	**8.97**
5	shoes	125	**625**
4	ties	23.98	**95.92**

The HELP System

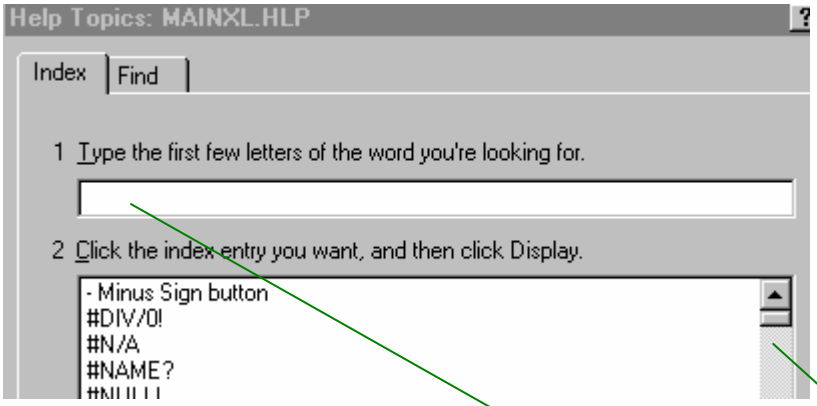


The HELP function can be very useful but it does take a bit of time to get used to using it. The HELP ICON gives you help about what you click on. The F1 key brings up the HELP system as does going to the HELP menu. In Excel '97 it brings up the Assistant – ask your question;

Help – Contents (Excel '97) and Index and Find

The Contents is a table of Contents of all the help pages grouped by categories – double click opens and closes a chapter or page.

words underlined are called jump terms or hypertext, they are not just words, they will, when clicked, bring you to that page of HELP. Words with a dashed underline will give you a pop-up definition of the term. You can PRINT the HELP topics to read later... There are many ways to navigate the HELP system... explore!



a) A searchable list of help topics - Type in the dialogue box and the screen auto-scrolls
b) Pick a main topic that you are looking for
c) Double click the sub-topic (the actual help page) you want

Back

To backup to the last place you were working in the help system

Annotate;

Edit - Annotate = To add your own words to a help page

A paper clip will show up after you save the bookmark

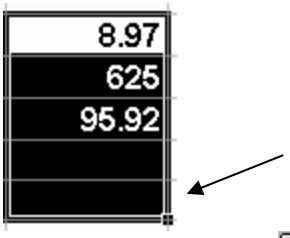
Built-in Functions

The SUM function is for adding up a range of numbers. You require only to specify the first and last cell reference. Rather that = A1 + A2 + A3 + A4 you could simply type =SUM(A1:A4)

The power of the SUM or other functions, is that as you insert other rows or columns into the range of numbers (adding clients or expenses) the formulae still refer to the appropriate range! You must INSERT data inside the range and verify it works before trusting it 100%.

One Method

Over-highlight the cells you wish summed up to the destination cell where you want the answer (The fastest and safest method)



press the AutoSum button 

You can get SUMs both under and to the right of your data range
Try the following sample;

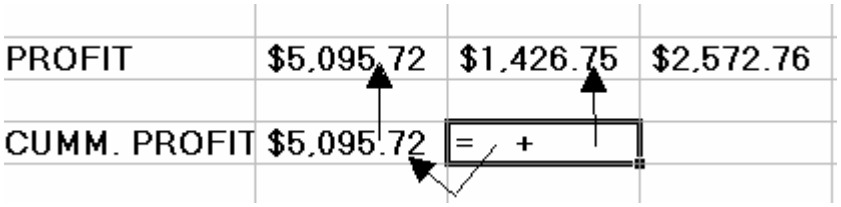
	QTR1	QTR2	QTR3	QTR4	TOTAL
GAS	34	67	45	78	
BELL	54	45	56	56	
HYDRO	56	34	67	45	
TOTAL					

With the range as above selected (destination cells selected as well)
Clicking the AutoSum will put the answers in the appropriate cells

Create your own;

Home Inventory (Item / Serial Number / Value) total the values
Home Reno (Room Name / Room Length/ Width / SQ Ft / Material / Cost per SQ Ft. / Cost for room) total the SQ FT of all rooms, total the total cost for each room
Inventory (QTY / Desc / Cost / Markup / Retail / Value) Total Values

To create a cumulative formula (running totals)



Profit = Income - Expenses
The first CUMM. PROFIT is simply '+ then click the cell above then [ENTER]'
The second month is the previous CUMM. PROFIT + the month's PROFIT
This formula can be copied across...

Formatting Your Work:

Column Width

Drag at junction between column headers 

Select multiples - all effected
Numerically set - Right Click - Column Width

AutoWidth

Autosizes the column to fit its largest entry in the entire column. In column header region, double click on right junction between two columns, when you have the double headed re-size arrows. Select more than one column - double click any header junction to autosize all the columns selected. Then, manually re-size the largest column just a tad bigger to get all the columns a uniform width if desired.

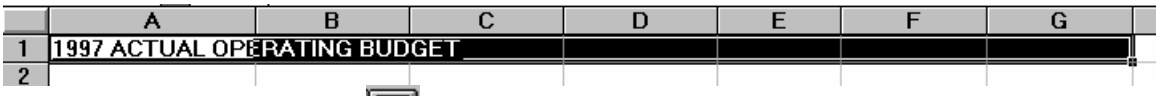
Hide / Unhide Columns/Rows/Sheets/Files

Right Click - Hide (Column width retained when you do an unhide)
Resize column width into the negative hides but the width is altered as well
Select All columns – unhide or one on either side
Format – Sheet – Hide/Unhide
Window – Hide/Unhide file

Left, center, right alignments are within the cells 

Center Titles

a) select cell with the title (usually column A) and adjacent cells to 'center across'



b) Use the center across icon 

Warning: *Center Across titles last – so it does not interfere with column select…*

Borders & Shading

Borders/Backgrounds/Text Color - Available in the toolbar  (borders, background and Text) as well as in the menu (FORMAT - Cells).

Remove Formatting - Sometimes you get a horrible looking spreadsheet and you want to do it over, without re-typing the data and formulae.
Simply EDIT - CLEAR - Formats.

Paint Formatting - Allows you to duplicate the appearance of one cell or region onto another.

a) Select the cells having the appearance you wish to copy or 'paint with'.
b) choose the icon  (double click it to 'lock' it in painting mode
c) paint over the cells you want to beautify! (by selecting them)

Format – Autoformat - The auto-formatting capabilities are great. You can fine-tune the look afterwards as well. I usually apply accounting style then again for colour style.

Number Formatting

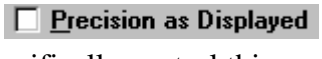
The currency format is the most common, hence readily available. 
The percent format is achieved simply by always typing percentages as 4% rather than .04 (there is also less likelihood of an error). Sometimes it is easy to think of 2% as .2 , which we know, is actually 20%! It is a common error.. You can alter .04 to display as % with 

Select the data range to format comma (2,500.00) or currency ($ 2,500.00)
select the comma icon  or currency icon 
to 'hide' or 'show more' decimal places use the decimal icons 

Tip: To remove the currency format select the comma icon 

(remove all - Edit - Clear - Formats or right click - format – general – or paint unformatted cell onto the formatted one)

The hidden decimals are still being used in calculations,

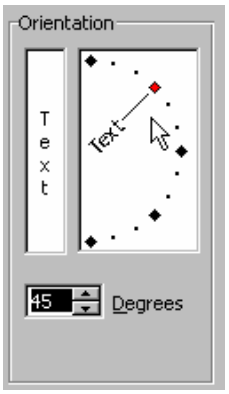
unless your TOOLS-OPTIONS- Calculations - are set to 

or use the =round(number, decimal places) function to specifically control this.

Fancy

Word Wrap – [Alt] [Enter] or right click – format – Alignment -
Merge selected cells -

Slant Labels – Format – Alignment –



Dates

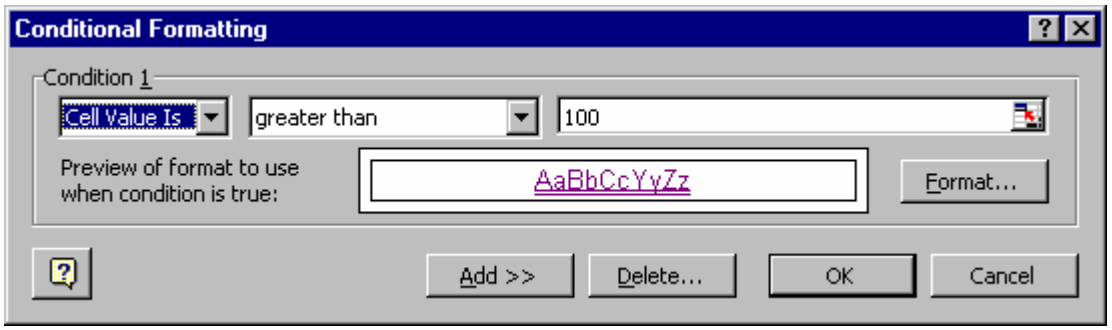
Dates in Excel start in 1900. Date formats are automatic when you type a recognized date, such as Sep 5, 98 or 23/2/96. You will see in the formula bar if the date you type was not recognized and changed to text, it will be left justified as text in the cell as well as be useless in any formula.

Accepted Dates: 4/4/98 4-Apr-98 4-Apr Apr-98 Apr 4, 1998
(not Apr 4; this becomes April 1, 2004)
Delete Cell – format is still there…
Delete format – Set to Currency or comma or 'Paint' another cell on top
Change Format - Right click - format cells –date – select desired look
=today() gives the current date

Conditional Formats

In case you want all negative numbers in RED or numbers greater than 100 in purple, etc…

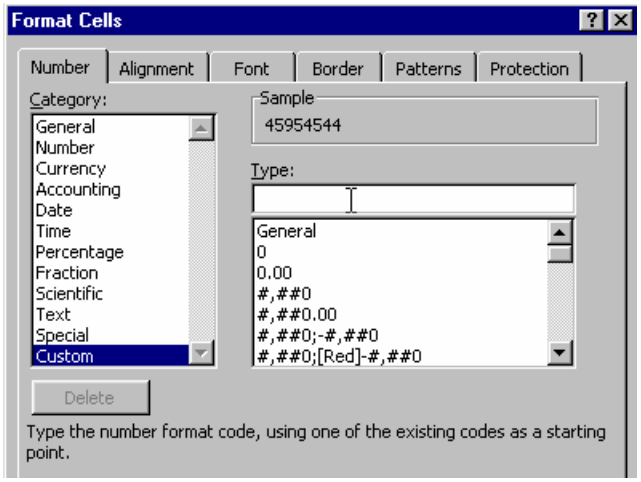
Format – Conditional format



Add to apply another format (less than 300)

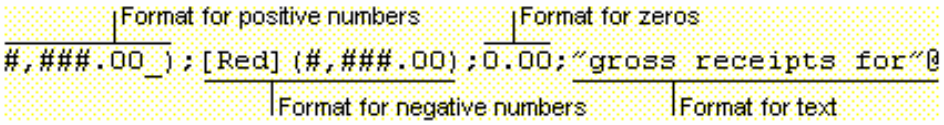
Custom Formats

Right Click - Format Cells - Numbers



Custom number, date, and time format codes

If a built-in number format is not available to display data the way you want, you can create a custom number format by using the **Custom** category on the **Number** tab (**Cells** command, **Format** menu). You create a custom number format by specifying format codes that describe how you want to display a number, date, time, or text. You can specify up to four sections of format codes. The sections, separated by semicolons, define the formats for positive numbers, negative numbers, zero values, and text, in that order. If you specify only two sections, the first is used for positive numbers and zeros, and the second is used for negative numbers. If you specify one section, all numbers use that format. If you skip a section, include the ending semicolon for that section.



- # displays only significant digits; does not display insignificant zeros.
- 0 (zero) displays insignificant zeros if a number has fewer digits than there are zeros in the format.
- ? adds spaces for insignificant zeros on either side of the decimal point, so that decimal points align. You can also use this symbol for fractions that have varying numbers of digits.

To display	Use this format code
1234.59 as 1234.6	####.#
8.9 as 8.900	#.000
.631 as 0.6	0.#
12 as 12.0 and 1234.568 as 1234.57	#.0#
44.398, 102.65, and 2.8 with aligned decimals	???.???
5.25 as 5 1/4 and 5.3 as 5 3/10, with aligned division symbols	# ???/???

- To display a comma as a thousands separator or to scale a number by a multiple of one thousand, include a comma in the number format.

To display	Use this format code
12000 as 12,000	#,###
12000 as 12	#,
12200000 as 12.2	0.0,,

Ex: 123,434,897 to display as 123,435 would be #,###,

Make sure there is an abvious note that numbers are display in 1000s and rounded up.

May require ROUNDUP, ROUNDDOWN or MROUND function

Fractions

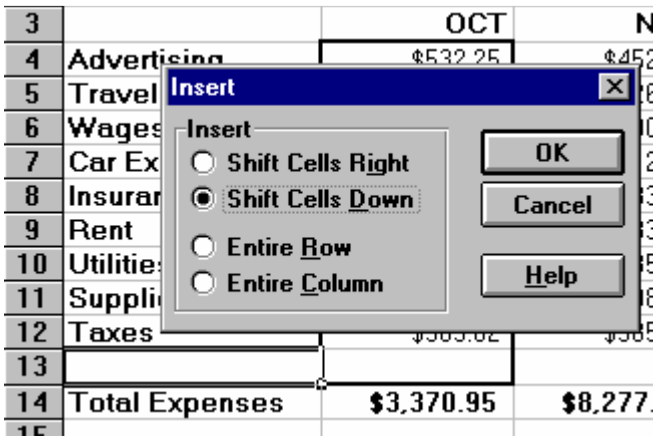
To display a fraction, easy if you type it in with a leading integer like 0 1/2 so it does not default to a date .

Inserting & Deleting Rows/Columns

		OCT
4	Advertising	$532.25
5	Travel	$54.00
6	Wages	$45.00
7	Car Expenses	$4.00
8	Insurance	$5.00
9	Rent	$1,783.33
10	Utilities	$263.17
11	Supplies	$298.58
12	Taxes	$385.62
13		
14	Total Expenses	$3,370.95

1) Select the ROW header (row 13) (since the SUM is adding the cells that have a border, the Inserted ROW will be in the group)
2) Insert - Row or [CTRL] [+] Row 13 will be pushed down and still be included in the SUM

To Insert or Remove multiples, simply select multiples (Click & Drag)
To remove a row or column, select the header row and Edit - [Delete] or [CTRL] [-]



WARNING:

If you see this dialogue box, then you did not select the ROW header when asking to INSERT ([CTRL] [+]) or DELETE ([CTRL] [-])

CANCEL and try again, or you may break your data's horizontal relationships.

The TOTAL column gets pushed over, so the TOTALS are not adding the row's information in the new columns. You can either redo the SUM and copy it down, or you could have had an extra column before the TOTAL that acts as that row's 'bookend' for the SUM, so you can always easily INSERT new columns without redoing your SUMs.

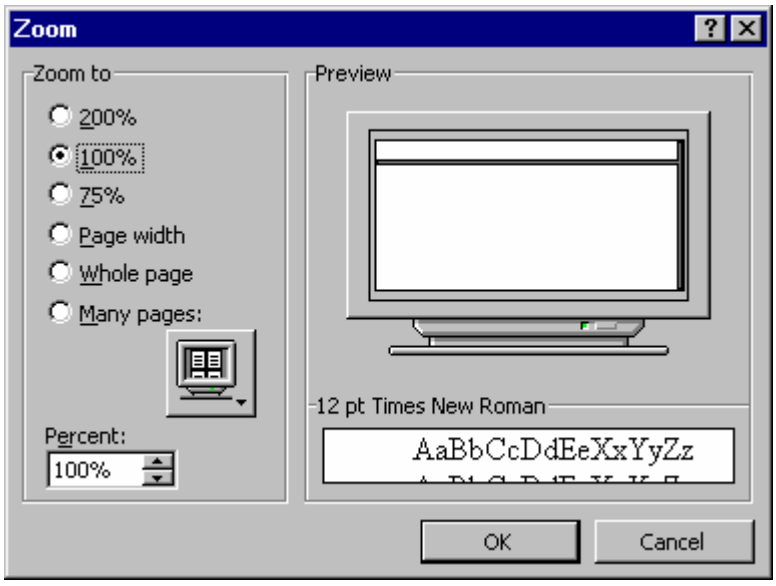
It could look like this;

B	C	D	E	F	G	H	I
	OCT	NOV	DEC	JAN	FEB		TOTAL
Advertising	$ 532.25	$ 452.63	$ 386.35	$ 486.30	$ 550.25		$2,407.78

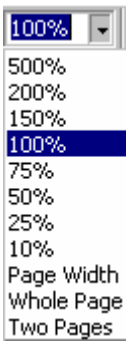
VIEWS

ZOOM - To change your viewing position, to stand back and get a bird's eye view... or zoom in to see more detail. This has no effect on the printout.

View – Zoom



Toolbar Zoom -



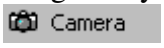
Freeze Titles - WINDOW - Freeze - When you have a large spreadsheet and wish the titles to remain on the screen as you scroll or the clients' names to remain on the screen, you FREEZE those columns or rows. Position yourself in the first cell you want not to be frozen (freezes cells above and to the left of cursor).

Split Panes - WINDOW - Split or drag from scroll bars 

To be able to view disjointed areas of your spreadsheet at the same time. This is used to visually compare data, to create formulae or to see Mr. Alberto at the same time as Mr. Ziggy.

***TILE WINDOWS**- Window - New - so you can view multiple Windows on the same file (to see two sheets at once) or you can open other files - tile view multiple files, to see them at the same time. This again is used to compare or create file links, so one file or sheet gets its information from another. (remove $) [Ctrl][F6] to Switch between Windows…

***The Camera!** - This tool is amazing. It allows you to 'photograph' ranges and place them as graphical objects next to other objects. These 'photographs' are re-sizable and dynamically linked to the actual ranges they represent.

Customize Toolbars – commands – Tools - 

1-Select Range 2-Select Camera 3-Select destination

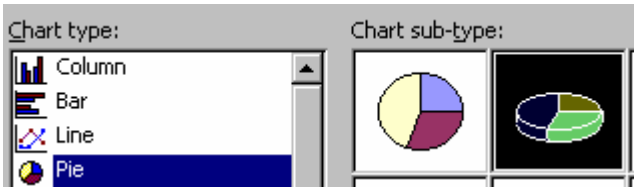
Charting

1) Select Data and labels to graph (totals are not usually selected to graph)

Advertising	532.25
Travel	225
Wages	3000
Auto Expenses	118.67
Insurance	283.33
Rent	1783.33
Utilities	263.17
Supplies	298.58
Taxes	385.62

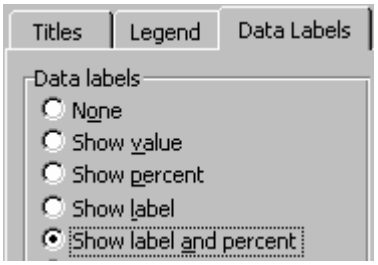
Advertisin	532.25	452.63	386.35	486.3
Travel	225	1526.54	145	185
Wages	3000	3000	3000	3000
Auto Expe	118.67	212.5	250.75	200
Insurance	283.33	283.33	283.33	283.33
Rent	1783.33	1783.33	1783.33	1783.33
Utilities	263.17	235.2	255.14	268.3
Supplies	298.58	398.14	305.12	368.45
Taxes	385.62	385.62	385.62	385.62

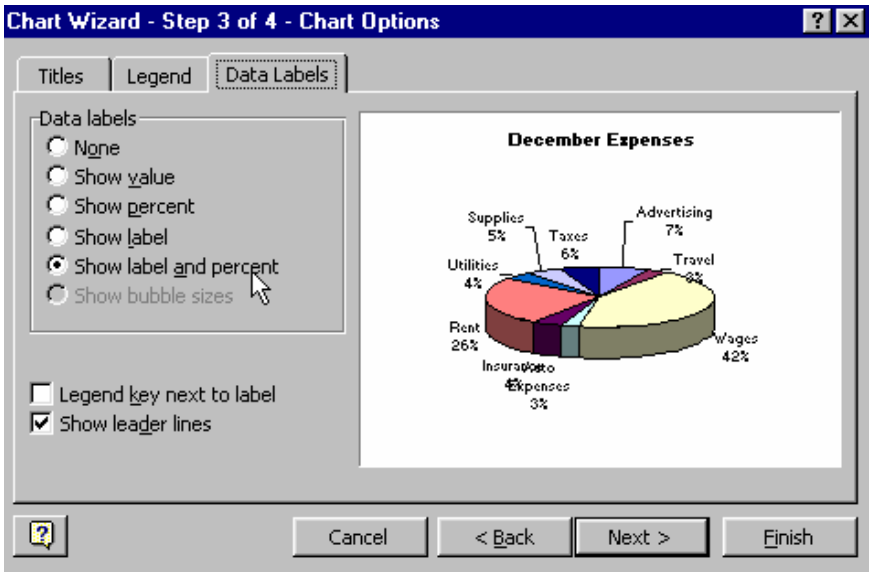
2) Use the graph Wizard  and make your choices



(pies are good only for a single series of data)

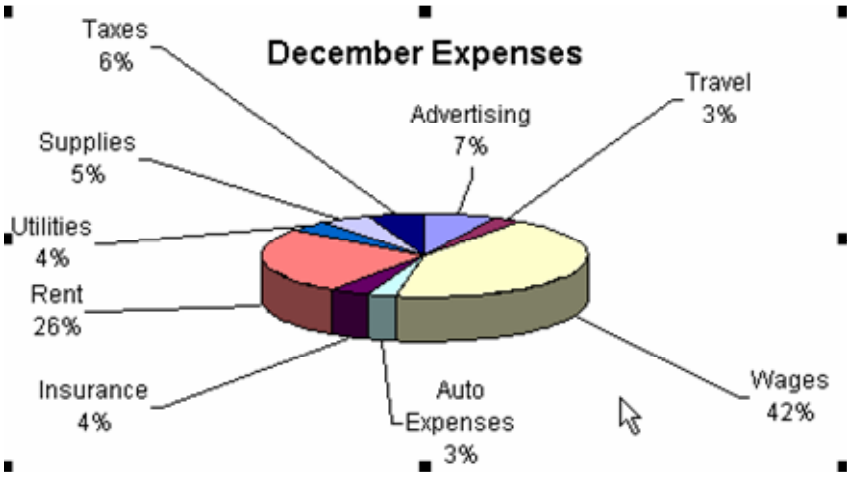
3) No Legend for this PIE 

4) Show data labels and percent 



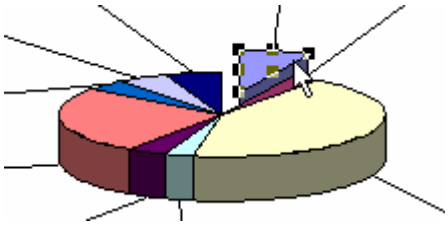
5) As an object on the sheet – to show PIE on top of data

6) Select Labels – Right Click – Format – Font – 9 points (move labels)

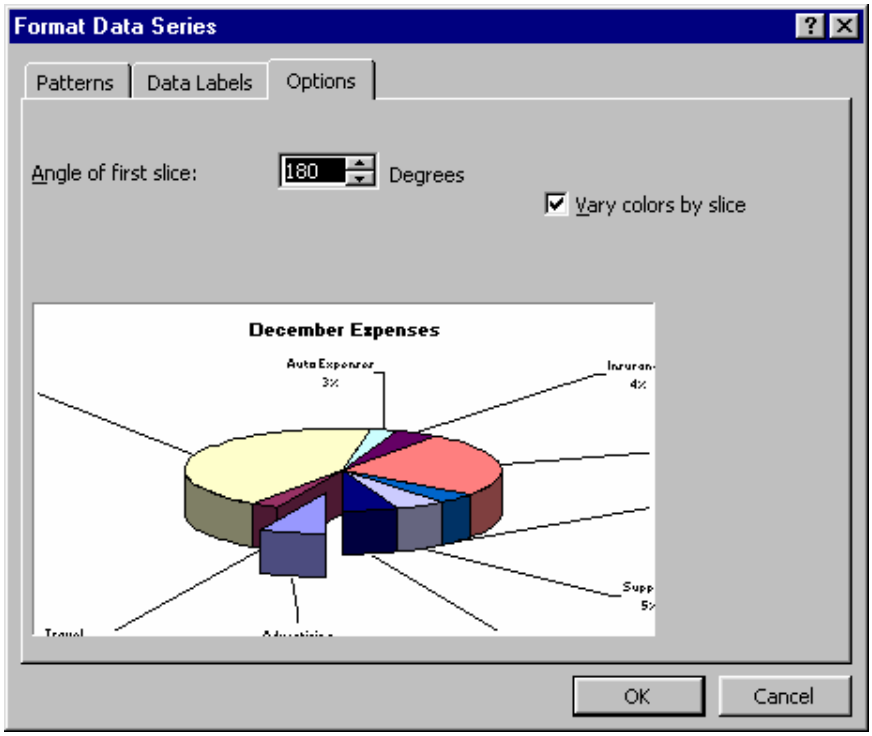


7) Tile Labels via text box and formula bar; type = then click cell on sheet where your Text resides and [Enter]
8) Change data – watch chart change

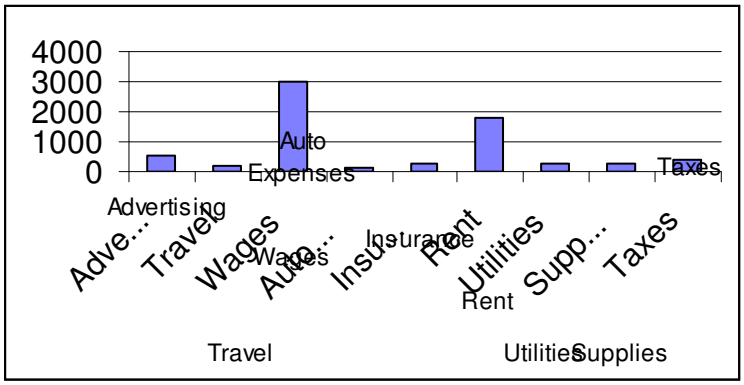
9) Explode pie – select pie – isolate slice – drag out



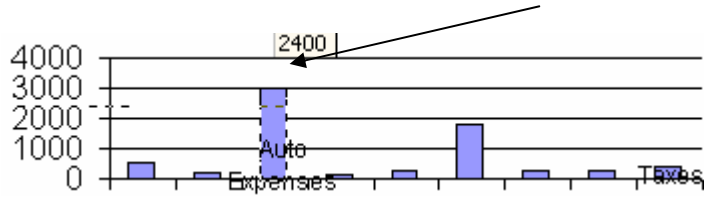
10) Rotate – Right click chart – Format Data Series – Options



11) Change Chart type to Column (must have chart selected first) Select the drop down for the listing of chart styles  Do not select the charting Wizard again…  - delete extra labels…



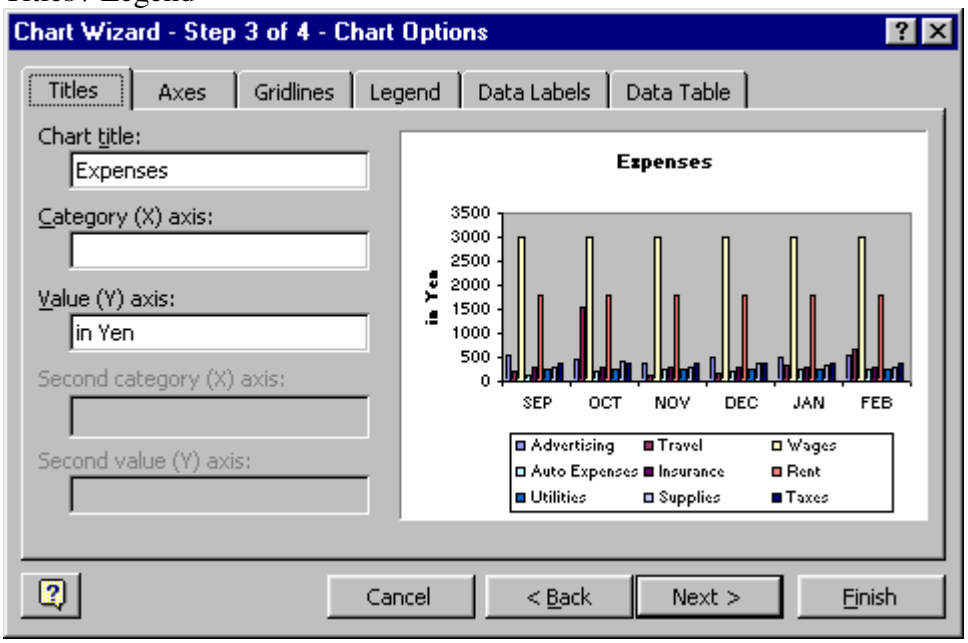
12) Alter height of a single column – changes data!



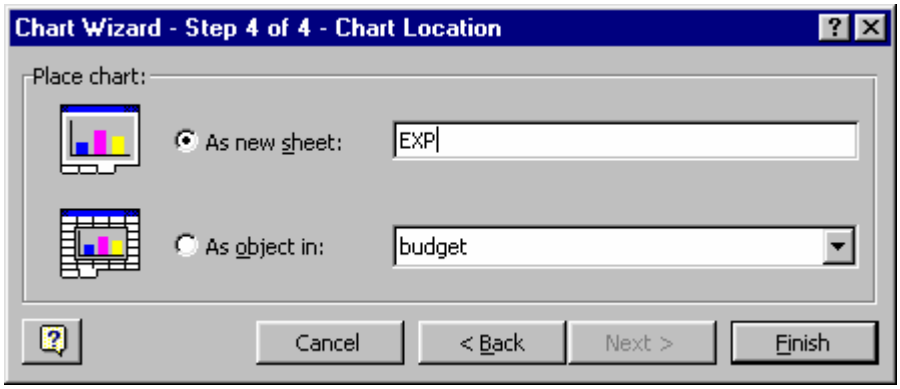
13) Chart All Data

	SEP	OCT	NOV	DEC	JAN	FEB
Advertisin	532.25	452.63	386.35	486.3	480	550.25
Travel	225	1526.54	145	185	325	650.36
Wages	3000	3000	3000	3000	3000	3000
Auto Expe	118.67	212.5	250.75	200	252.6	264.89
Insurance	283.33	283.33	283.33	283.33	283.33	283.33
Rent	1783.33	1783.33	1783.33	1783.33	1783.33	1783.33
Utilities	263.17	235.2	255.14	268.3	246.5	236.94
Supplies	298.58	398.14	305.12	368.45	326.4	299.23
Taxes	385.62	385.62	385.62	385.62	385.62	385.62

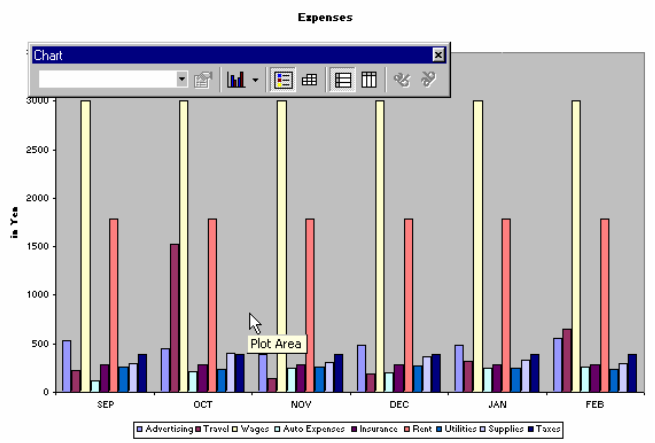
14) Titles / Legend



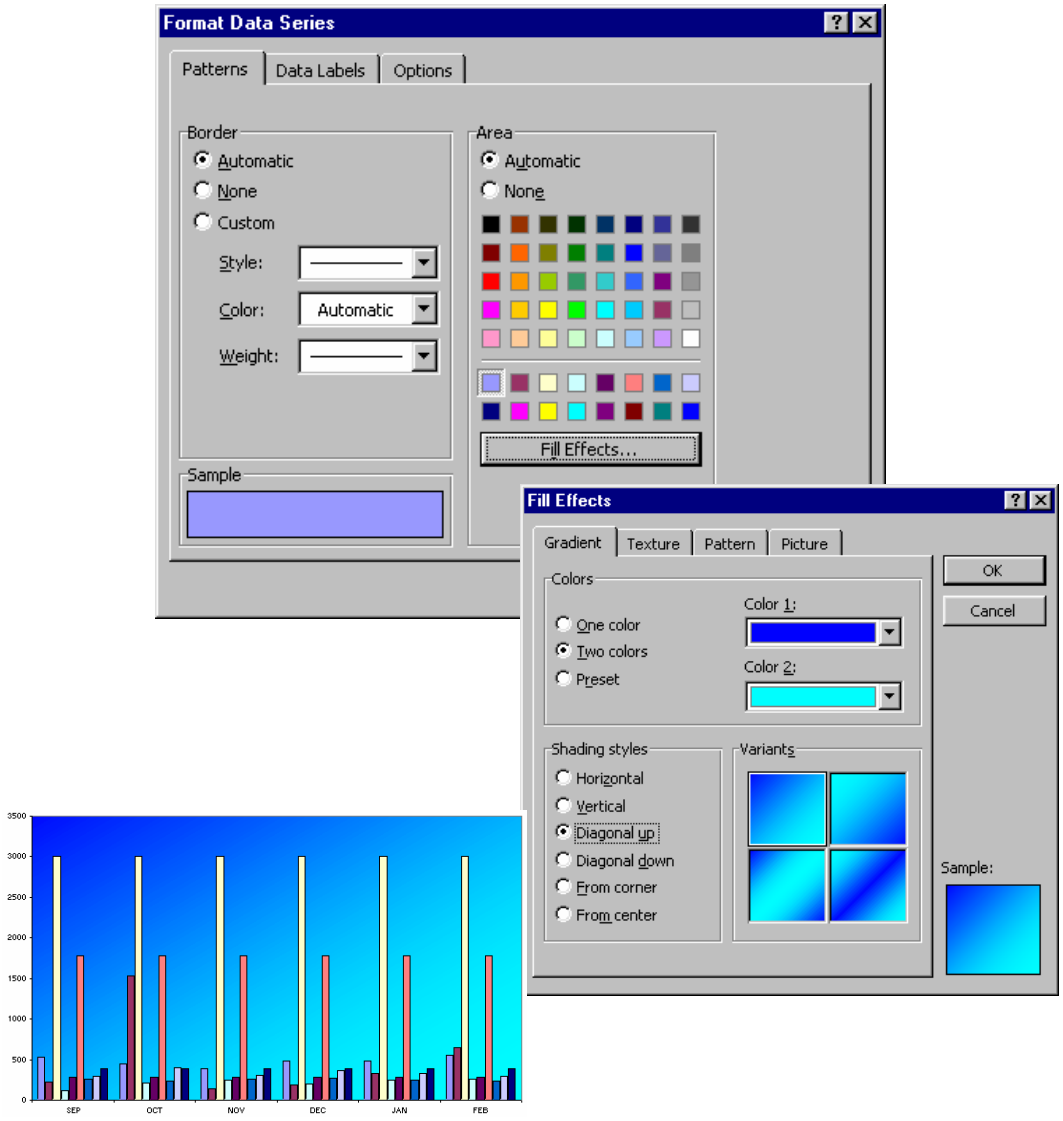
15) As a New Sheet – Auto sized landscape layout



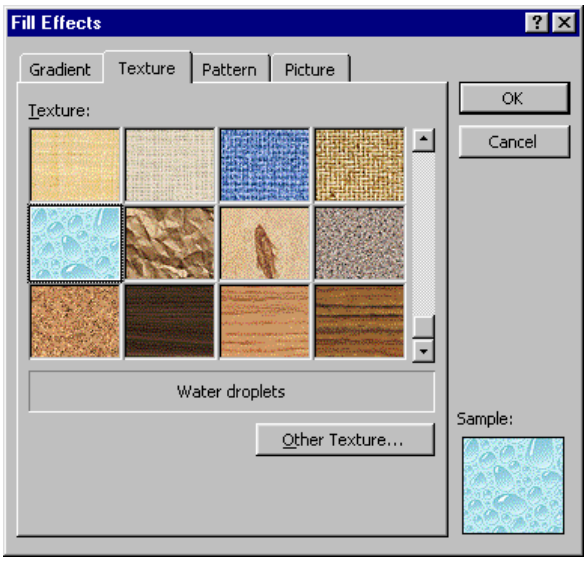
16) Modify Background – Right click – Format Plot Area

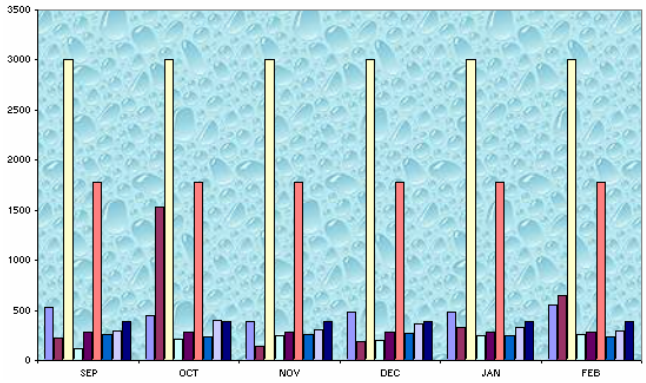


17) Fill Effects (background and/or Chart item/series) - Gradiant

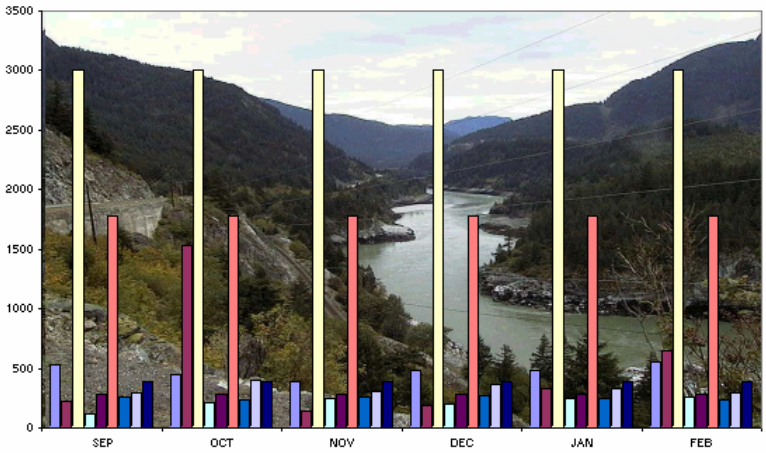


18) Texture

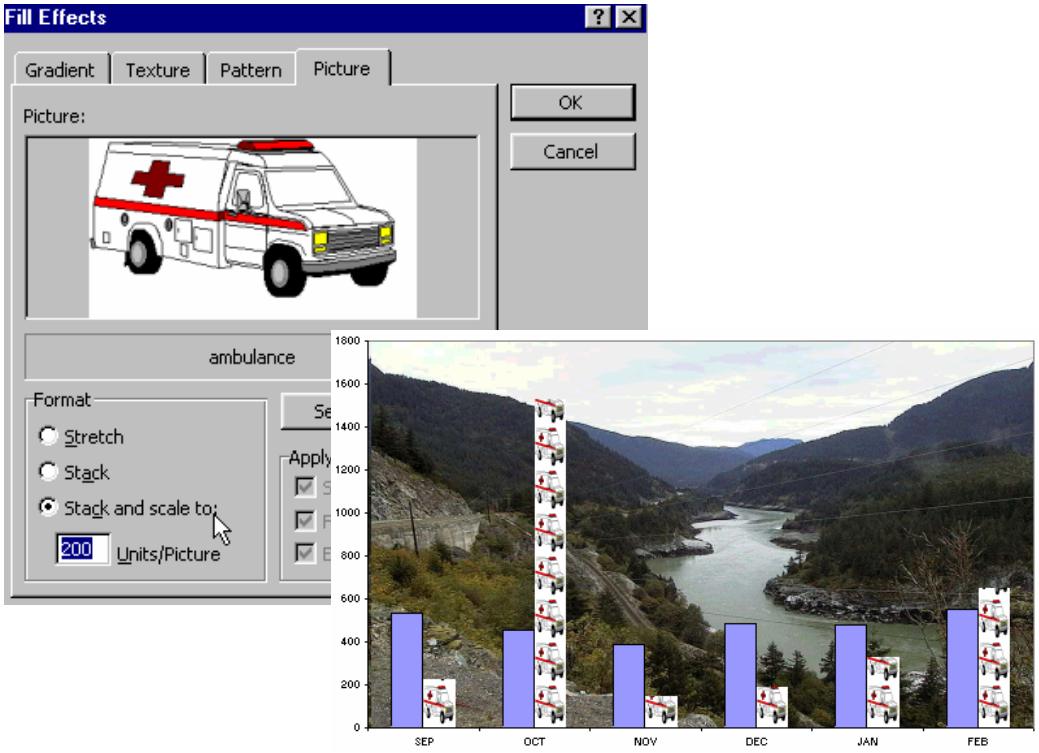




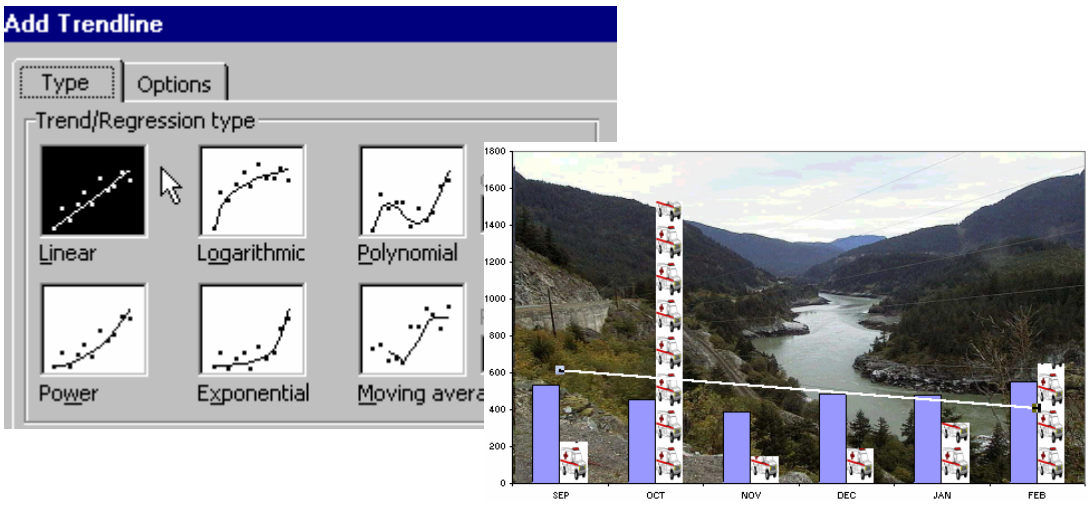
19) Picture – almost any graphic file can be used as background / chart object fill (jpg best for small file size)



20) Chart Object Fill – Scale Picture…

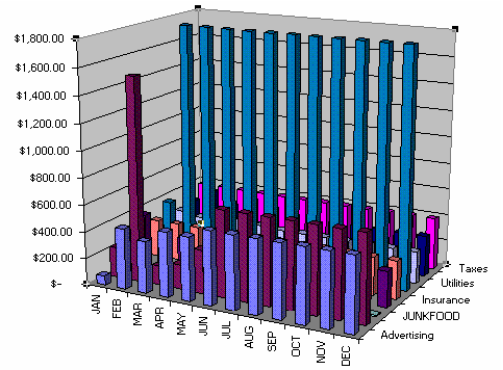


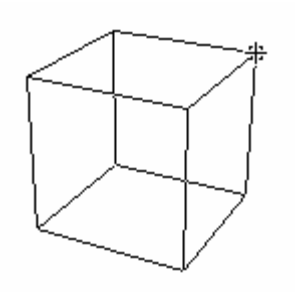
21) **Trend Line** – Right click 2-D chart series – Add Trend Line – change colour



22) 3-D Charts

try rotating your 3D Chart – select a corner – click & drag it…





Note: You can graph non-adjacent data such as Total Income against Total Expenses by [CTRL] selecting the appropriate ranges or simply delete those series you do not want from the chart.

Move Chart Object
Resize
Toolbar = right click on tolbars – activate charting if not already active

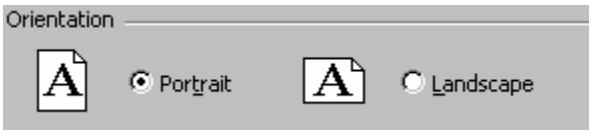
Note: You can change your data and the graph will change and vice versa!

Printing

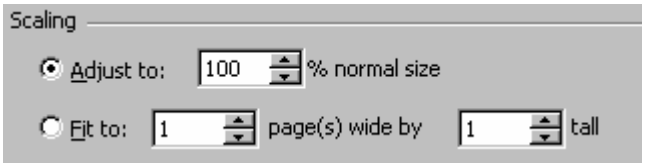
File - Print = Simply prints the current sheet's content. Be careful, always do a print preview first, to make sure you are getting what you want the way you want and not 200 other blank pages!

Select range to print – File Print Area – Set Print Area
Or File – Print – Selection

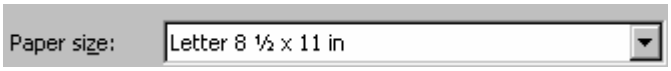
Page Setup



You can print Portrait (think of portrait photography to remember the orientation) and you can print landscape (think of a sunset painting). Landscape is very popular since many spreadsheets are wider than they are tall.

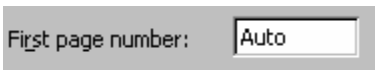


Scaling is useful, especially to force a spreadsheet to fit the page

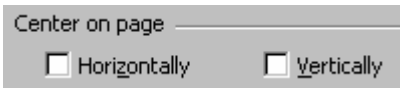


Need more room? Try 8 ½" by 14"

Reduce the print quality if you do not have any graphics or for rough draft work

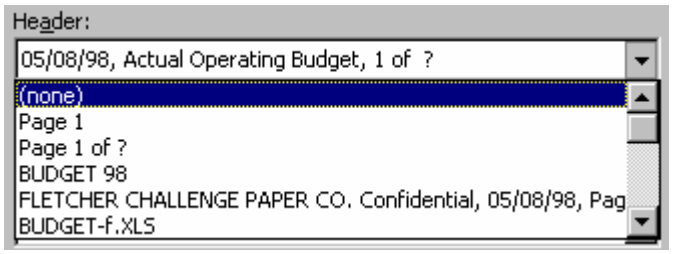


You control the starting page number, in case the spreadsheet is within another document at say page 32.



Margins can be manually controlled (turn off autofit), and your spreadsheet can be centered on the page very easily.

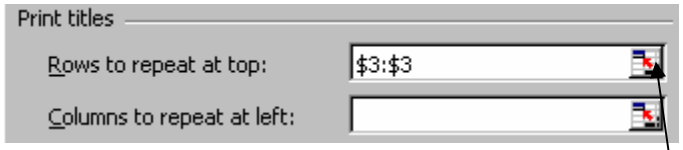
Headers and Footers - What will re-occur at the top or bottom of all pages you print. This is where you can put your company name, date, page numbers, etc. You turn off headers/footers by selecting the first choice (none) in the dropdown



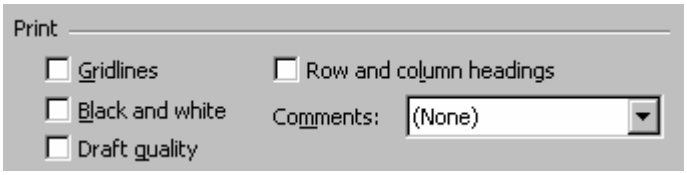
To put your own header in…

Font Page Pages Date Time Filename Sheet Name

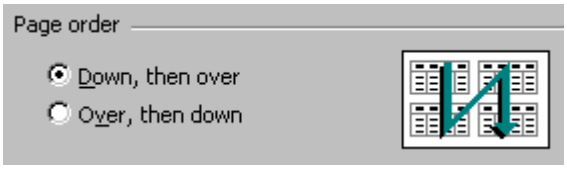
Repeat a row or column for each page (Titles) (File - Page Setup)



You could type one cell's address in the row or column to repeat or use the range name if you gave the labels a name. (or click the button, click the row/column)



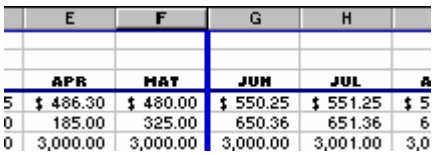
To print gridlines or not? I use them for rough draft work only, it's fast and makes proofing easy. You can also print the column and row headings to trouble shoot.



When you have multiple pages – you control the order of the page numbering scheme. This depends on the layout of your project and what look you want.

Page Breaks - Insert - Break; allow you to control where a page should end. Page breaks are used for pre-mature end of page. The break(s) are put above and to the left of your current cell position. You could select the row/column where you want the break first.

View - Page Break View makes it easier to manage them.



	E	F	G	H	
	APR	MAY	JUN	JUL	A
5	$ 486.30	$ 480.00	$ 550.25	$ 551.25	$ 5
0	185.00	325.00	650.36	651.36	6
0	3,000.00	3,000.00	3,000.00	3,001.00	3,0

The blue thick lines represent the page breaks, you can alter them by dragging them where you want them to be. The outside border defines the print area.

Names

Sheet Tabs – 

The active or current sheet's tab is white. Click on a sheet tab brings that sheet to the front. Name the sheet tabs if you use more than one, so people know there is data on those as well. Use a name that describes the content... Double click TAB to name it, or Right click - rename.

Files - File names are limited to eight letters (unless you are using the Windows '95 version). The extension (XLS) is given to you automatically. SAVE soon and SAVE often. Future SAVEs simply update the file on the disk, SAVE AS is used to make a COPY as another name (versions of the same file) or to save onto a different disk, making a duplicate on the disk or as a TEMPLATE. The older DOS naming rules are good to comply with, 8.3 rule and no strange symbols or spaces; 'bud_97' is great - dashes or underscores are OK as well.

Cell - such as the GST value, the cell containing 7% could be named GST so in a formula you can refer to it as GST, or GOTO it to update the rate quickly!

Range of Cells - You could name the students' marks "MARKS", so again it is easier to create formulae ex. =SUM(MARKS) or get to the MARKS to update or remove them.

Range Names

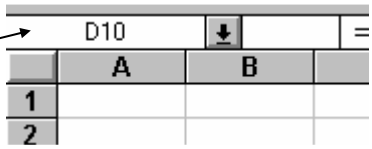
The name box allows you to name a cell or range as well as provides a drop down list of named cells, so you can GOTO them fast. (F5 works as well).

Cells that should be named – cells that contain a rate (GST) or constant. Regions that you want to print separately, cells that you want to get to frequently and quickly.

In general, try to keep your names of things short and descriptive and void of symbols except dashes or underscores...(underscores ie.TAX_1)

Simple Technique;

a) Select cell or range of cells containing numbers to be named
b) Click in the range name box
c) Type the desired name (short, no spaces)
d) Press the ENTER key to finish!



Reasons to use Range Names?

1) To be able to get to the cell or range of cells quickly
   a) F5 (goto) - type or choose range name
   b) Use the range name box drop-down and select
2) To be able to get to a range as above, to data entry or print.
3) To be able to write formulae using English rather than cell references
   for example; = sum (marks) instead of = sum (A1:A22)

4) To automatically 'lock' a cell or range reference in a formula (absolute)

= SUM(select from dropdown list of range names)
= D11 * (select GST from dropdown list of range names)
(in EXCEL '97, simply select the cell and the range name is used)

Range Names – Dynamic

For charting – when you know you will be adding / removing data and want the changes charted as well

=OFFSET(MySheet!A1,0,0,COUNTA(MySheet!$A:$A),1)

or – Data - Query – Chart entire collumn – update query upon open – charts updated range as well

Database Techniques

"Related list of information" – no blank rows - do not select, just be within…

Outlines are useful to collapse large lists of data

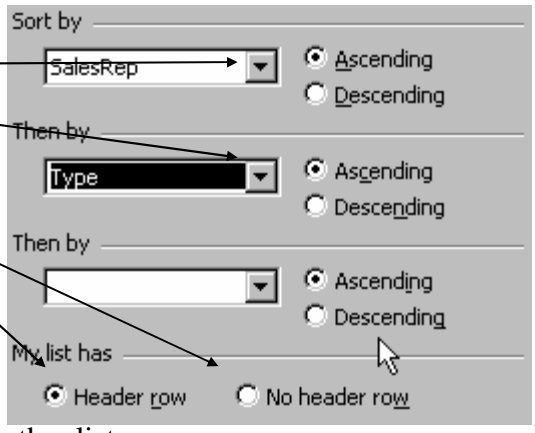
a) Freeze Titles prior to Outlining for ease of use…
b) Be in your data range (try with your budget file)
c) Data - Group & Outline - Auto-outline

b) Select the outline numbers to collapse to primary level 
c) Expand to secondary level
d) Use the  to expand a specific group or  to collapse or 'hide' details
e) Data - Group & Outline - Clear Outline to reset to normal

Sorting

a) Be within the data range (data.xls)
b) Sort sales in ascending or descending order 
c) To sort by two or three fields - Data -Sort
d) Sort by Sales Rep first (Ascending)
e) Then by Type (Ascending)
f) Your list has a header row

If your database has no header row, select

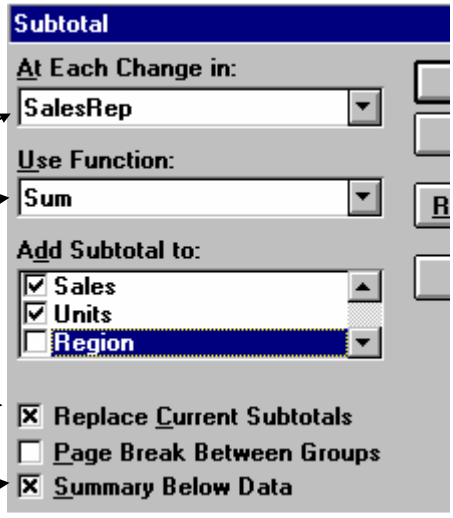


OPTIONS - gives potential to sort months, or other lists

to sort name then month – do separately or use 

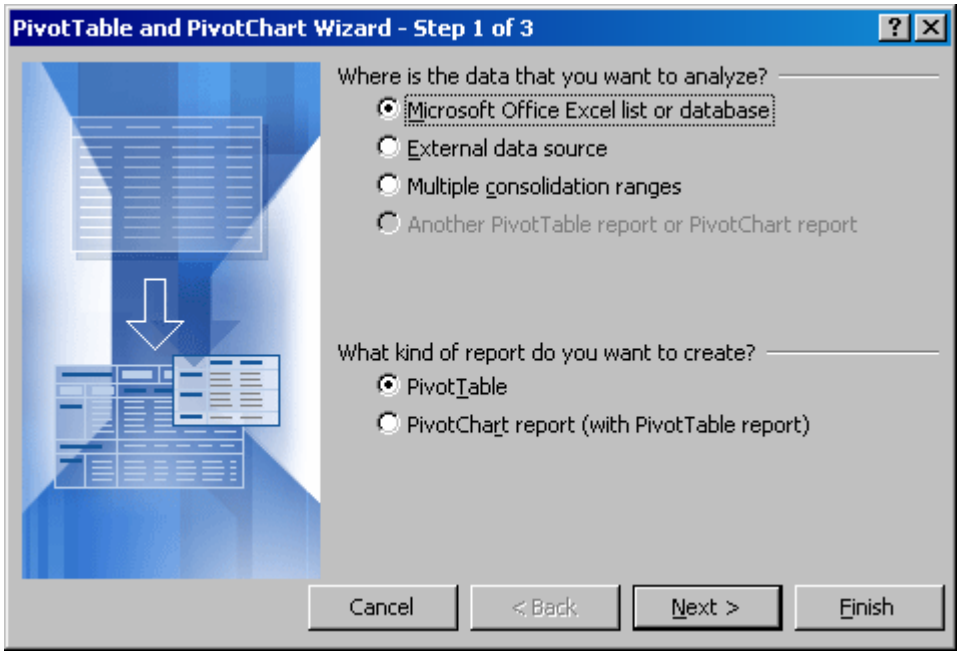
Subtotals

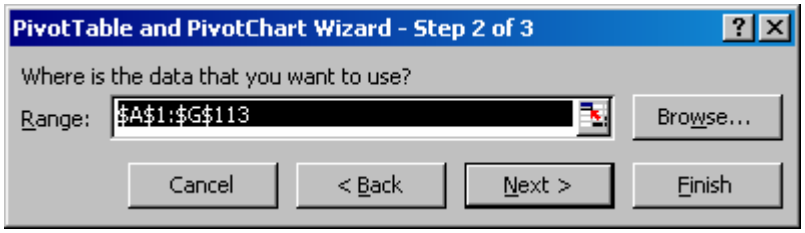
a) Freeze Titles
b) Sort the data by what you wish to subtotal by
c) Data | subtotals
d) At each change in SalesRep
e) We want a SUM
f) of their sales and number of units sold
g) If there were previous sub-totals, we want them removed
h) We don't have tons of data, so no breaks
i) We also want grand totals
j) [Ctrl] select to **bold** sub-totals



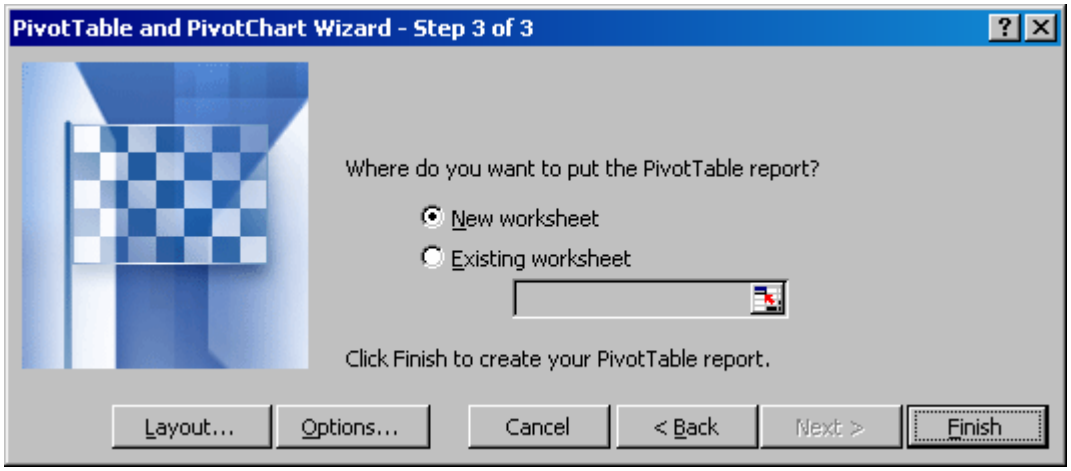
Pivot Tables

Be inside your data range
Data > Pivot Tables..

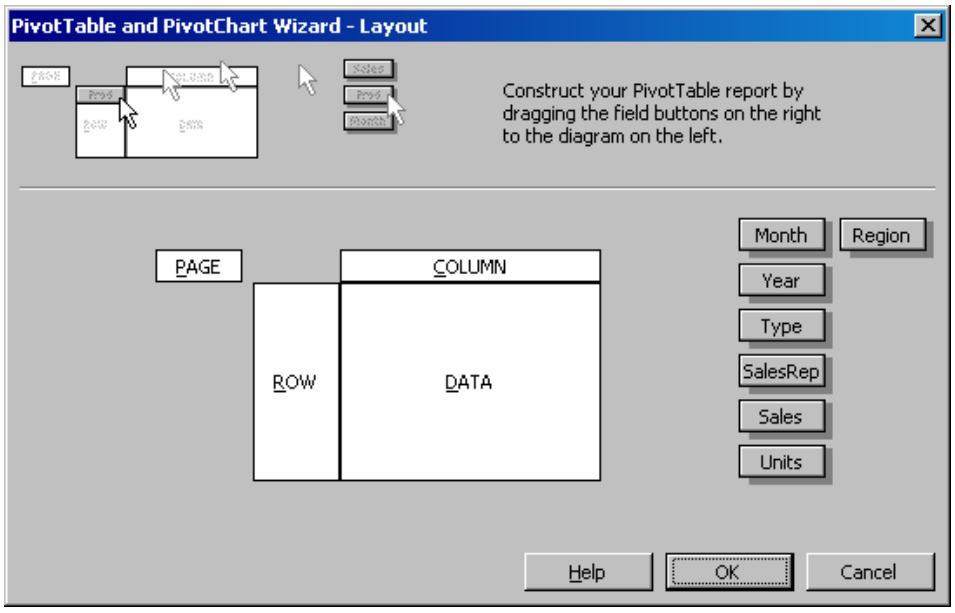




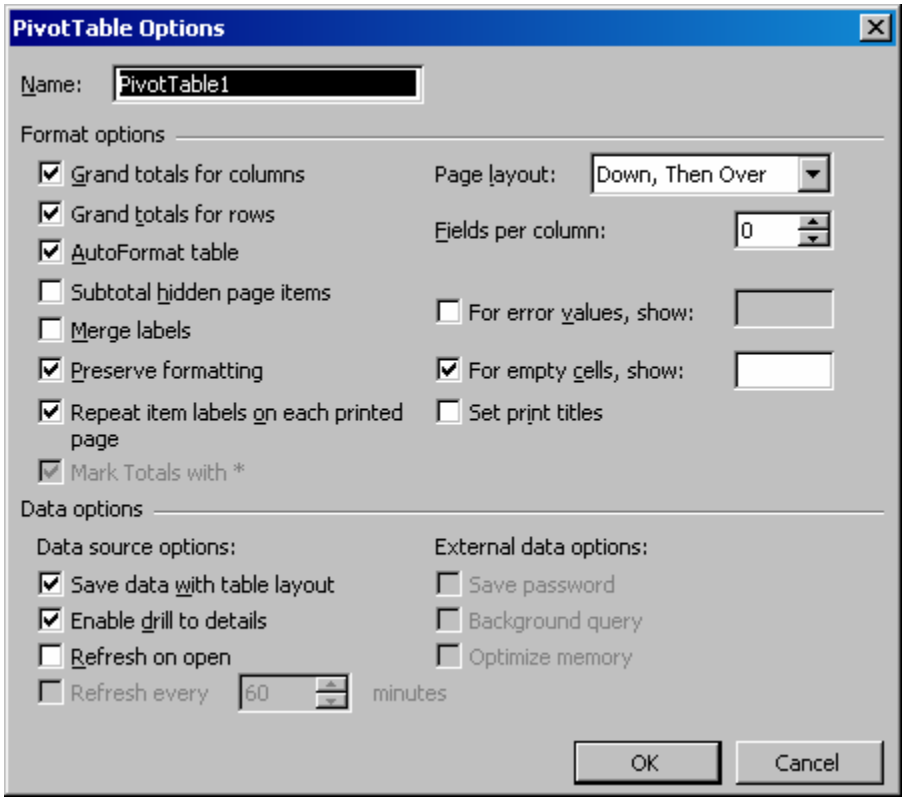
Defaults to grab the data range you are in



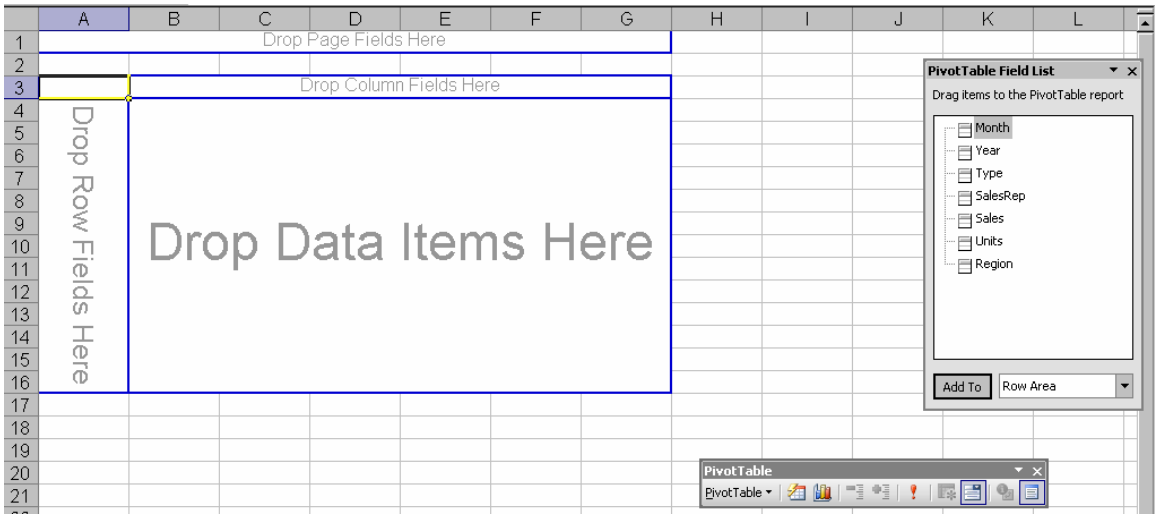
Layout - works like older Excel;



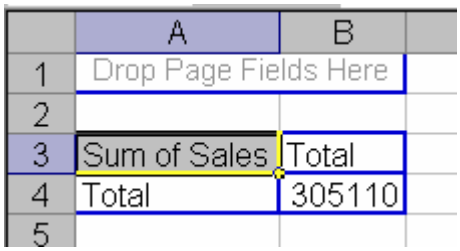
Options



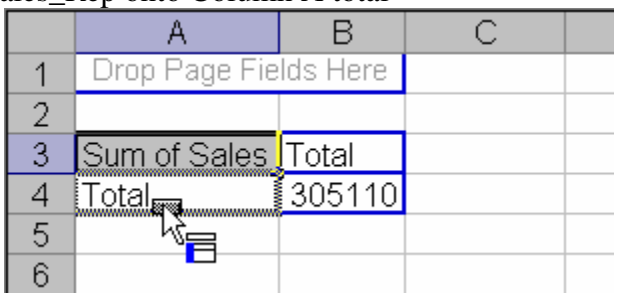
Finish

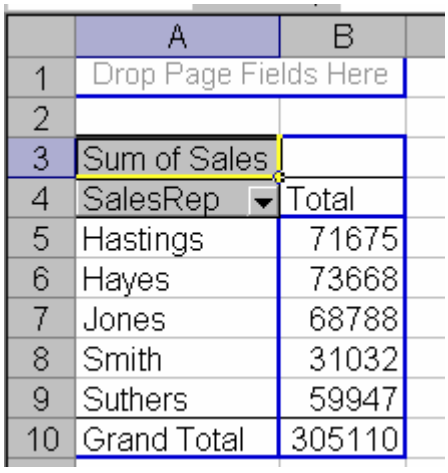


1. Drag & Drop field to analyze (sales) into grid where it says "Drop Data Items Here"



2. Drop Sales_Rep onto Column A total





3. Drop Type field onto other Total cell;

	A	B	C
1	Drop Page Fields Here		
2			
3	Sum of Sales		
4	SalesRep	Total	
5	Hastings	71675	
6	Hayes	73668	
7	Jones	68788	
8	Smith	31032	
9	Suthers	59947	
10	Grand Total	305110	

	A	B	C	D	E	F	G
1	Drop Page Fields Here						
2							
3	Sum of Sales	Type					
4	SalesRep	Beverages	Dairy	Feed	Meat	Poultry	Grand Total
5	Hastings	13641	25922	13690	11670	6752	71675
6	Hayes	14531	8658	7982	21629	20868	73668
7	Jones	7890	6743	7946	25030	21179	68788
8	Smith	73	11700	875	9674	8710	31032
9	Suthers	745	12274	9249	17774	19905	59947
10	Grand Total	36880	65297	39742	85777	77414	305110

4. Pivot the Type field into the Column A field;

	A	B	C	D	E	F	G
3	Sum of Sales	Type					
4	Sales...	Beverages	Dairy	Feed	Meat	Poultry	Grand Total
5	Hasting	13641	25922	13690	11670	6752	71675
6	Hayes	14531	8658	7982	21629	20868	73668
7	Jones	7890	6743	7946	25030	21179	68788
8	...ith	73	11700	875	9674	8710	31032
9	Suthers	745	12274	9249	17774	19905	59947
10	Grand Total	36880	65297	39742	85777	77414	305110

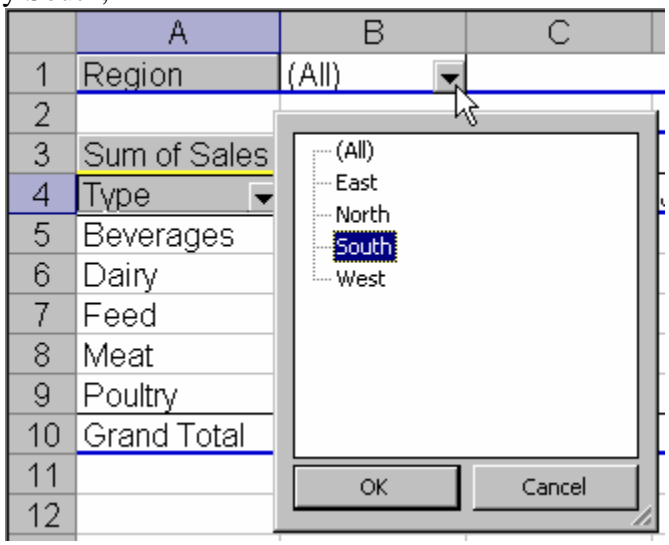
5. Pivot SalesRep to where Type was;

	A	B	C
3	Sum of Sales		
4	SalesRep	Type	Total
5	Hastings	Beverages	13641
6		Dairy	25922
7		Feed	13690
8		Meat	11670
9		Poultry	6752
10	Ha... Total		71675
11	Hayes	Beverages	14531
12		Dairy	8658
13		Feed	7982

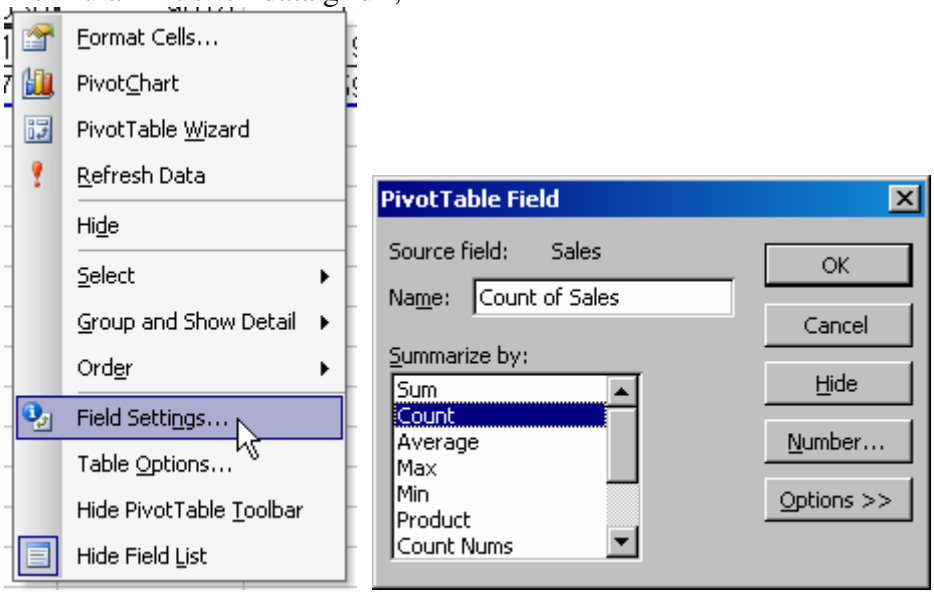
6. Hence the name “Pivot Table”

	A	B	C	D	E	F	G
1	Drop Page Fields Here						
2							
3	Sum of Sales	SalesRep					
4	Type	Hastings	Hayes	Jones	Smith	Suthers	Grand Total
5	Beverages	13641	14531	7890	73	745	36880
6	Dairy	25922	8658	6743	11700	12274	65297
7	Feed	13690	7982	7946	875	9249	39742
8	Meat	11670	21629	25030	9674	17774	85777
9	Poultry	6752	20868	21179	8710	19905	77414
10	Grand Total	71675	73668	68788	31032	59947	305110
11							

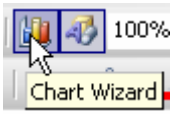
7. Add Region Field to Page Field area on top
8. Filter by South;



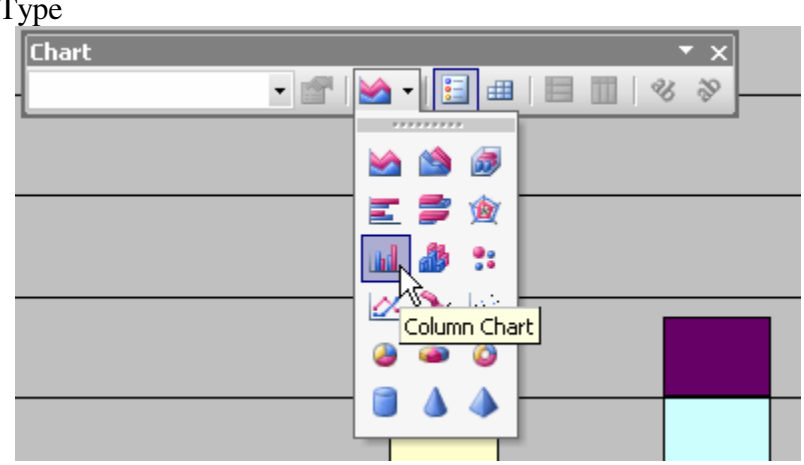
9. Change Formula – Rt click data grid -;



10. Chart Pivot Table

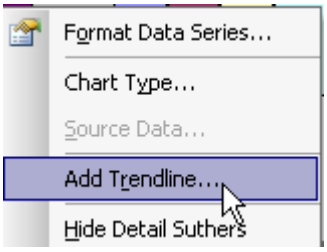


11. Chart Type



12. Hide Type “Meat”

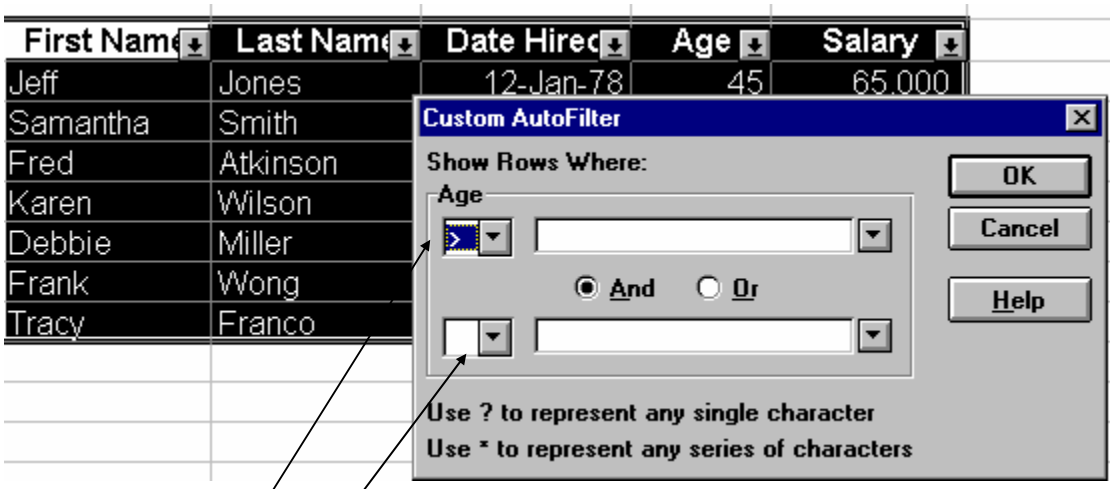
13. Add Trendline – Rt click Series to trend..



14. Double click line to edit it – colour / thickness / etc.

Filters

a) Freeze Titles
b) Data - Filter - Auto Filter
b) Select the drop-down of the field you wish to filter by



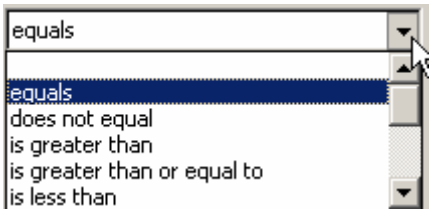
c) Select an option (City) or Custom to make a query...
The operators are available through a drop-down
You Type the value or text here (co* for Comox or Courtenay)

The second operator is used if you wish to make the query more specific, such as greater than 30 and less than 200; or (less than 5 or grater than 65)

You can have more than one filter on the table active, so you can see all the customers who owe > 0 and are over 18 years old...

Filters simply 'hide' the data by hiding the rows, Data - Filter - Show All to stop multiple filters

The dropdown list is now in English words rather that operators like ">"



Other Useful Functions

The current DATE can be obtained in any cell with the function = TODAY( )
The Date and time can be obtained with the function = NOW( )
There are no arguments (nothing within the brackets) since the computer's clock is all that is used. The brackets are required none the less, since ALL functions must have the syntax ;

= FUNCTION (Arguments)

Where FUNCTION is the function name (SUM, AVERAGE, TODAY) and Arguments is(are) what the function being used requires. The SUM function requires one argument, the range of cells to be added. Some functions require two, three or more arguments, multiple arguments are separated by commas.

= TODAY ( ) -> returns the current DATE

= COUNT (Marks) -> tells you how many marks you have in the range
= AVERAGE (Marks) -> calculates the average of the marks
= MAX (Marks) -> returns the highest value from the range
= MIN (Marks) -> returns the lowest value
=stdev(Marks) -> returns the standard deviation

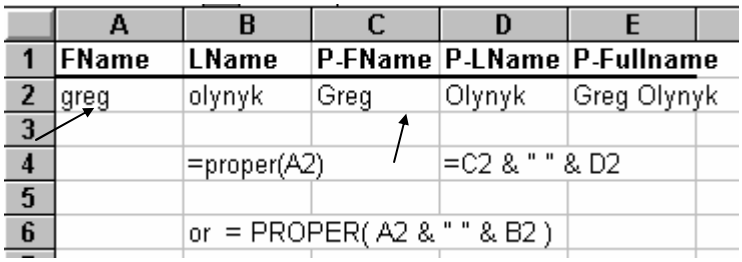
All these functions only required one argument, the RANGE you wish to calculate.

TIP: Recycle that SUM!
Use the AutoSUM button then Edit - replace SUM with AVERAGE
or double click the word SUM in the formula bar to select it then type or select from the Function dropdown the function you desire

Proper Case

Function to convert text to Title or Proper case, such as for people's names.

= PROPER ('text or cell reference or text formula')



	A	B	C	D	E
1	FName	LName	P-FName	P-LName	P-Fullname
2	greg	olynyk	Greg	Olynyk	Greg Olynyk
3					
4		=proper(A2)		=C2 & " " & D2	
5					
6		or = PROPER(A2 & " " & B2)			

Complex Functions

=ROUND(Number, #decimal places)

This function rounds the number to the desired decimal place (actually removes versus $ format which simply hides decimals).

Other functions are more complex and require even more arguments, like the PMT function;

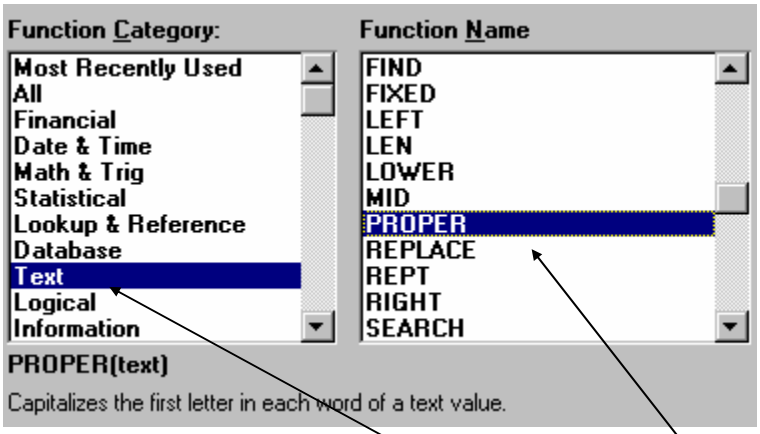
=PMT(Interest Rate, Term of Loan, Amount of Loan)

file – money.xls

Returns the amount of your payments. The Interest Rate must be monthly as well as your term. (Rate / 12) To use this function, we use the Function Wizard, it steps us through the arguments.

Function Wizard

The function wizard lists all of the functions, nicely categorized by type.



They are broken down by categories; select the Category you want

Within each category you have the functions, select the function you want, you get more details as to what it does.

The next steps of the wizard will take you through the steps of using the function.

Limiting Data Entry

Protection

1. To protect your formulae from data entry errors (when people accidentally type numbers on top of your valuable formulae!)
2. To Prevent people from changing things, so your costs stay hidden, your rates remain unchangeable, etc.
3. To facilitate fast and easy data entry... Where TAB and SHIFT TAB bring you from one unprotected cell to the next, skipping cells in between...

Reverse Logic;

a) Select the cells you wish to be unprotected
b) Format these cells to be not protected

- Format - Cells - 

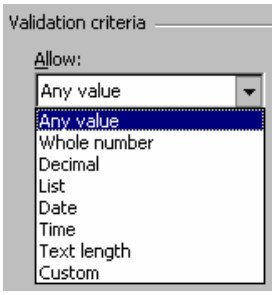
-
- or Right click - Format cells - -
Then remove the X in locked

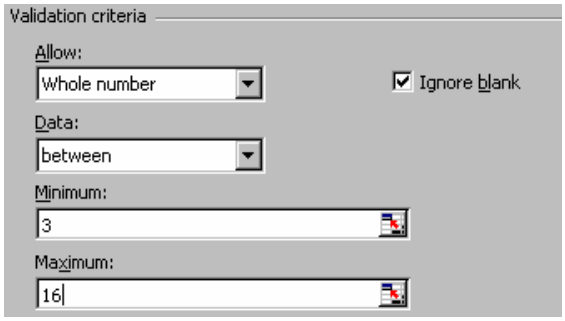
c) Now when you activate global protection
(Tools - Protection - Protect Sheet/Book)
These cells will be the only ones available to be edited or TABed into.

Validation

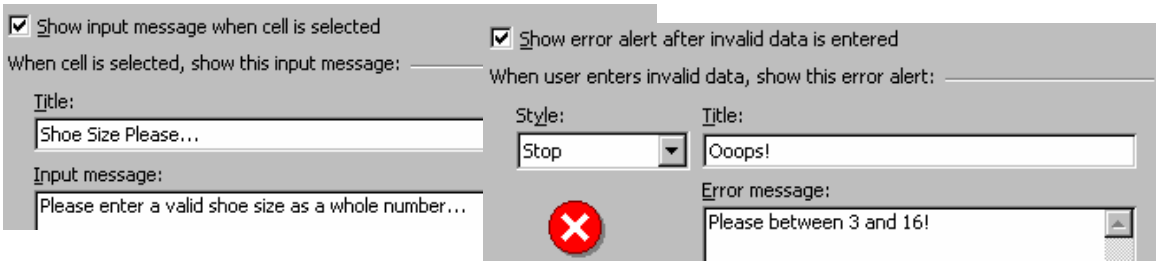
To allow only the data entries you want. You control the acceptable text or numbers within parameters.

Data – Validation –





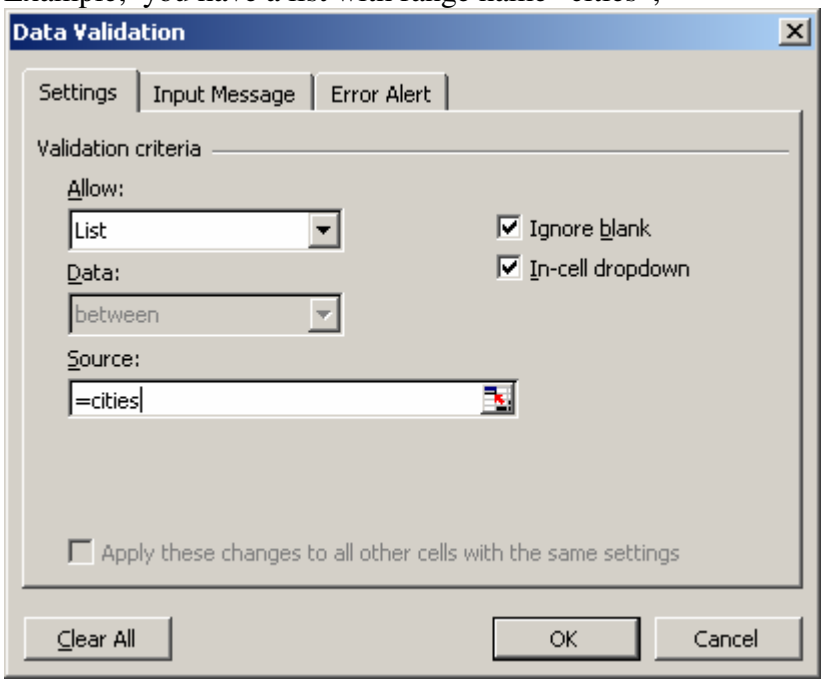
You can have the minimum and maximums as cell references as well.



Note: You can refernce an external sheet via range names (=rangename)

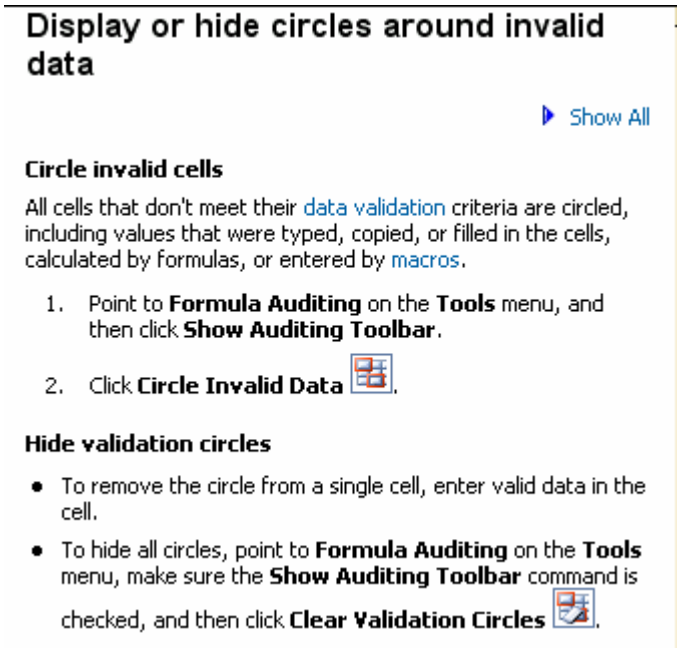
Note: You can use list to reference a data list, which would provide you with a simple dropdown listing

Example; you have a list with range name “cities”;



Circle In Valid Data

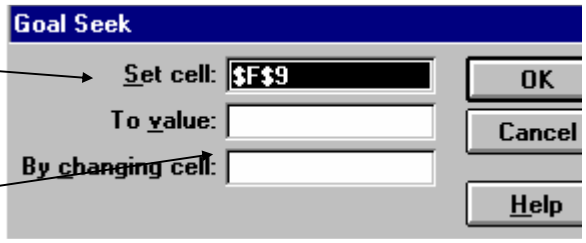
Exsisting data that violates your validation rule can easily be identified…



Goal Seek

To 'backwards' calculate, where you let the computer change a value to achieve your desired end.

a) Be on the cell holding the formula that you wish to reach a goal
b) **Tools | Goal Seek**
c) Select the To Value Box and type your desired goal (or click a cell holding the value of your goal)



d) Click in the third box and select the cell holding the variable you wish to let the goal seeker play with. (must not be a formula)
e) OK
f) Accept or reject the solution it finds for you

*For multiple variable goal seeking, use Tools - Solver (constraints must be put on the variables to reach a reasonable goal)

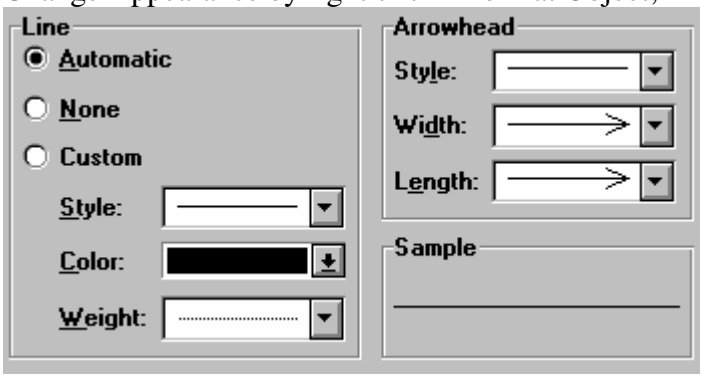
Graphics

 = The Graphics Toolbar -

 = Line draw; Click & drag to draw, from starting point, to end.
You can move the line or re-size it later, grab the end markers (your selection cross becomes a small cross) and click & drag, or the line itself (your selection cross becomes an arrow) and move it.

You can also go into graphic selection mode with the white arrow icon. 
(click again to de-activate or double click a cell)

Change Appearance by right click - Format Object;



 = Square and circle drawing tools (no fill inside)
(hint; hold SHIFT down = retain aspect ration, perfect circles & squares)

 = As above, with filled (Right click to change fill)
(hint; even an unfilled object can be filled later)

 = Arc drawing tool

 = Polygon drawing tool (Double click to finish and connect the objects edges)
(hint; Click & drag to free draw and/or click points to line connect draw...)

 = Text box; Formats available are numerous, text can be any alignment you wish

 = Arrow drawing tool; also can be reformatted as desired

 = Free form drawing tool; signatures, etc.

 = Bring selected object(s) to front

 = Move selected objects to back

 = Group selected objects; makes them act as one object for moving, resizing, etc.

 = Explode a grouped object into its separate components (ungroup)

 = Re-shape complex objects (polygons, free forms, etc.)

 = Add a shadow effect to an object (except lines)

 = To add a pattern to a fill as well as change the color of the pattern

 = To change the fill color of objects and text color in text boxes

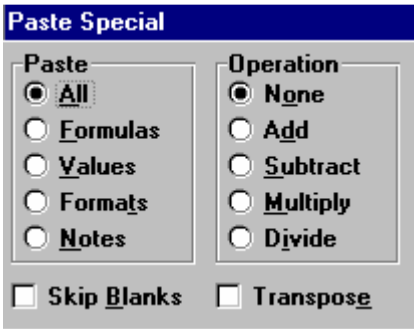
[Shift] draw = perfect squares/circles/lines of strict angles
[Ctrl] draw = draws from center point outward
[Ctrl] drag = copy

double click tool to ‘lock’ yourself into that tool to draw multiples

COPY & PASTE (Special)

Copy & Paste is required when;

a) you wish to copy the logic of a formula to a distant location
(where copy-drag doesn't do)
b) you wish to copy text or graphics to another location, sheet or file.
c) When you wish to copy and paste the cell or formula in a special way



value = you get the number only, 'frozen in time', the number won't change)
format = to copy the appearance of the cell
add/sub/mult./div. = to paste values on other values; changing them
transpose = changing columns to rows and vice versa

Copy the validation rules of a cell onto another cell(s)
If you select a whole spreadsheet project and copy it to another sheet, you lose column formats... Better to COPY the entire sheet, or better yet, create the sheet in group mode...

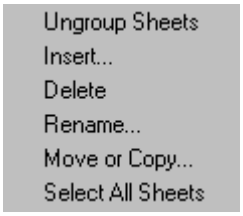
Working With Sheets

Insert Worksheet;

There are times you wish additional worksheets (max 256), you can do this;

a) Select the worksheet (tab) 

next to which you want the new one
b) Insert - Worksheet or Right Click the sheet tab and select Insert - Worksheet



Moving Sheets;

a) Click the sheet tab you wish to relocate
b) Click & drag to move it (even to another file!)

Copy Sheet;

Copying the entire sheet retains all formatting, unlike COPY & PASTE
a) Right Click - Select COPY or [CTRL] + Click & Drag = COPY
b) Rename the copy to something more descriptive than JAN(2)

Rename Sheets;

a) Keep the names short and simple
b) Right Click - select Rename or Double click sheet tab

Deleting Sheets;

Caution - all data on the sheet will be lost...
a) Select the sheet tab you wish to delete
b) Right Click and select delete

GROUP MODE

You will see that you are in GROUP mode in the title bar

caution - do not forget to turn off group mode when you are done...

To select QTR1 to TOTAL sheets;

a) Click QTR1 sheet tab 

b) Hold down the [SHIFT] key (used for increasing/decreasing selections)
c) Click the last sheet (TOTAL)

All sheets between and including the sheet you clicked and [SHIFT] clicked are selected, anything you do to any one of them effects them all, ANYTHING, even deletions...

To ADD an additional sheet to this group (or remove one from the group) [CTRL] click it (as discussed for adding an additional range to a selection)

Note: Right click sheet toggles – jump to desired sheet…

3-D SUM

a) After designing the sheets in group mode, ungroup them!

Ungrouping;
- select a sheet that is not part of the group or
- CTRL Click a sheet in the group - Select 'ungroup sheets'

b) In the TOTAL sheet, remove the raw data, leaving the totals for the columns and rows.
c) Position yourself in the first spot where a 3-D SUM is required
d) Use the AutoSum button (you will get =SUM( ) with the cursor within the brackets)
e) Click the first sheet tab desired 

f) [SHIFT] click the last sheet TAB desired to be summed
g) Click the desired and corresponding first cell to be summed
h) Hit [return] or [enter]
i) Copy this 3-D SUM down
j) Copy them across

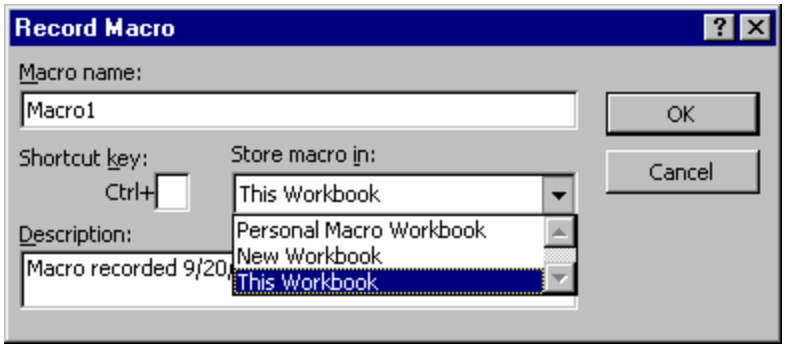
The formula can be typed in manually =SUM(Jan:Dec!C5)
Jan = the name of the first sheet tab
Dec = The name of the last sheet tab
! = external reference
C5 = the cell being Summed

EXCEL MACROS

Automating repeated procedures. A macro is basically a recording of your keystrokes, which you can play back when required. Keyboard shortcuts record better than mouse techniques on the document. You can freely use the mouse to select icons and menu options. The language of the macro is Visual Basic, so you could also get into advanced macro writing.

Start Camera

Tools | Macro - Record New Macro



Give it a descriptive name (short – no spaces or symbols, under scores_OK)
You must give a descriptive name to the macro, such as sortme, but you can have access to it through a toolbar icon, a new menu item or a keyboard shortcut.

Decide whether it will be a global macro (available to all new - stored in the Personal Macro Workbook) or a specific local macro for the current document only (this Workbook).

Local = Only pertain to the current document. Launch a local macro with a MACRO button on a the sheet or a user-interface sheet.
ex.: PRINTME – a button on a sheet to print a range of cells
ex.: SORTME - a button to sort a range of data

Global = A MACRO that can be activated from any location. Available to all sheets – stored on a hidden workbook (Personal.xls)

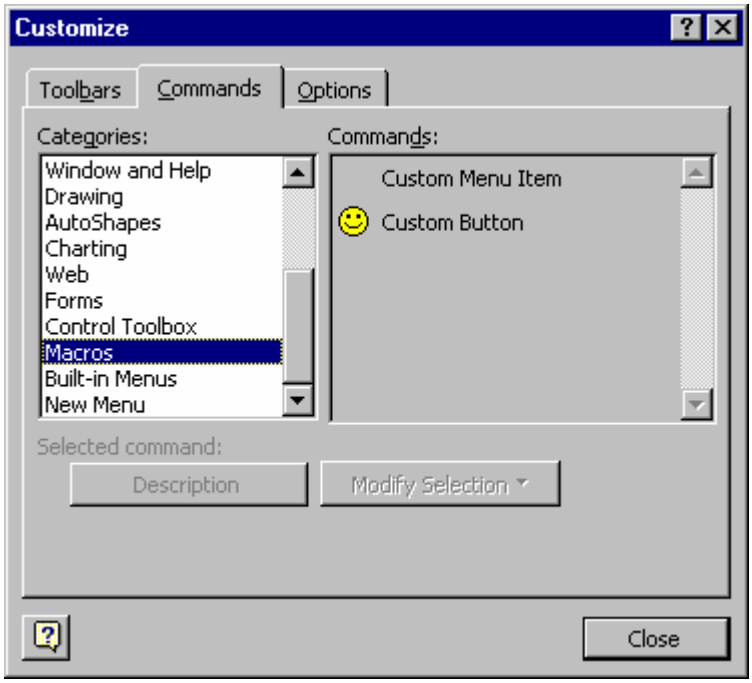
a) Keyboard shortcut to activate
b) Toolbar icon to activate
ex.: data repair macro
ex.: Create a new file based on a template and get to a specific location and lock the form for data entry…

Keyboard shortcuts such as [CTRL] [A] to [CTRL] [Z] are already assigned, so do not use them unless you never use the assigned shortcut.

Do your thing… Navigate and select with Range names…

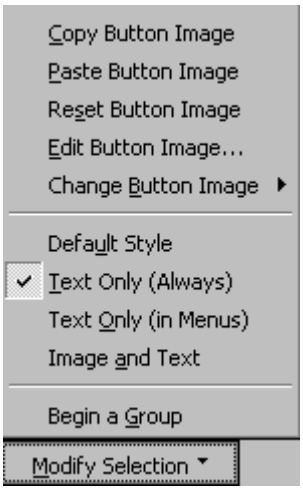
Stop button - not X

View - Toolbars - Customize - Commands - Category MACROS - drag icon to Toolbar



a) select Modify Selection;

b) Default style is Icon only
c) select Change button Image
d) Edit Buttom Image
e) select desired icon



Delete Macro

To remove an icon, ***View - Toolbars - Customize*** - drag it off the toolbar.
To remove the Macro = ***Tools - Macro - Macros*** **- select - delete**
Global macros - must unhide Personal.xls first - afterwards - Window - Hide !

To create a local macro;

a) View - Toolbars - Forms

b) Select the button maker icon 

c) Draw the button at the desired position, size and shape 

d) Select the macro name (if already recorded) or 

new

e) Give your macro a descriptive name (printme) (macro1 as a name is too vague) (no spaces or symbols)
(underscores are_OK) (description is optional)

f) Select OK

You are now in RECORDING mode; select ranges by the range name method...

g) After recording your steps - STOP the 'camera' 

h) To MOVE, DELETE, RENAME, RESIZE the button, use your graphics selector arrow in the graphics toolbar 

i) You can resize by grabbing the buttons corners 

j) Test your MACRO button!

k) Edit the macro - To make slight alterations vs. re-doing it all over again.
apostrophes are remark lines - ignored lines in code
text shows in quotes - "range name" or "text you type"

l) Delete the MACRO (Tools - Macro - Select the macro name - Delete)

m) Delete the Macro Button – Select with graphics arrow – [Delete]

Global Macros;

a) Tools - Record Macro - Record New Macro
b) Give it a good name and description if desired
c) Select options 

d) Shortcut key? or Toolbar icon? or both?
e) Select it to be stored in your 'Personal Macro Workbook'

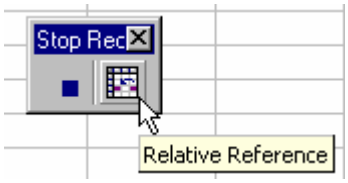
(This workbook will contain all your global macros and always be opened, but will be hidden from you; Window - Unhide will show it to you to edit)

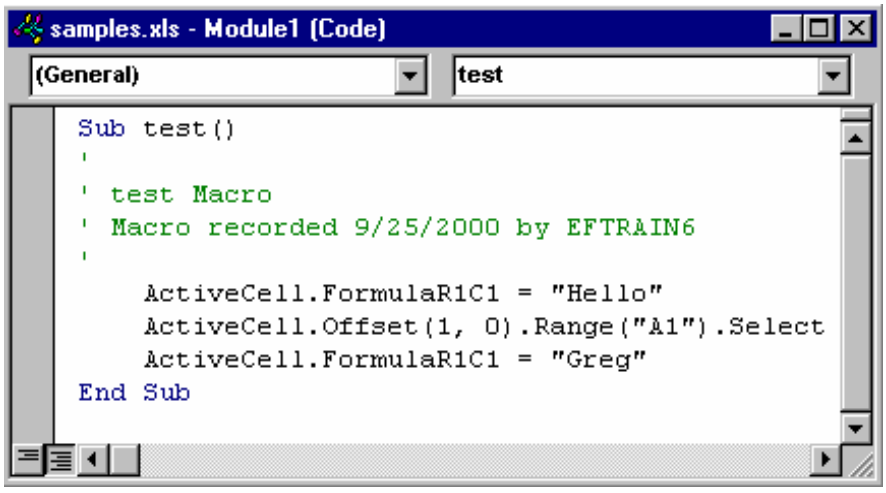
f) View - Toolbars - Customize - To drag off the icon
g) View - Toolbars - Customize - Custom to pick an unassigned button

Absolute Vs Relative Cell References

Try to record a macro that simply prints your 'Hello", comes down one cell - types 'yourname' (must be relative not absolute - or would refer to the specific cell, not one below current cell…

Select the button to set to relative





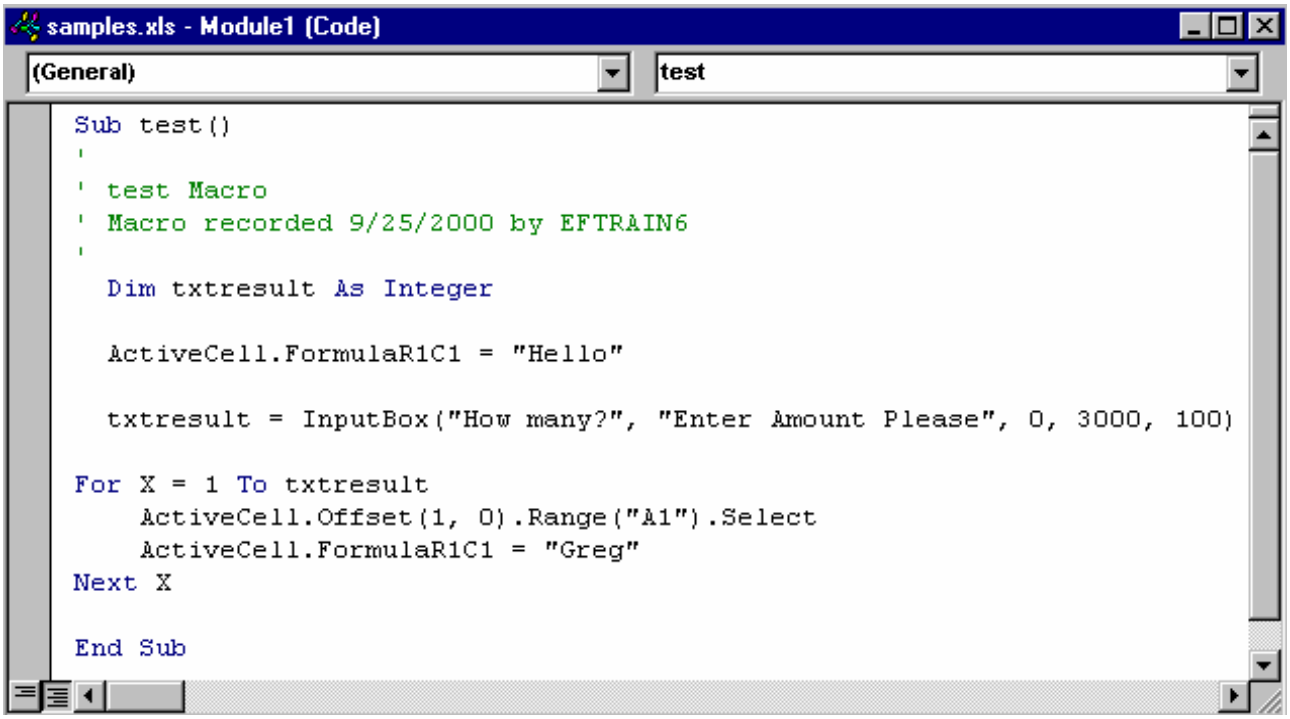
Unhide Hidden Workbook to edit Global Macro – Window – Unhide – Personal.xls
Tools – Macros – Edit

Macros With Visual Basic

Remarks start with ' apostrophe - document your macros well
Declare Variables
Variable types - text are called String / vs. Integers / Dates / Long / Byte
Do While Loops / For Next loops
Message boxes for user input

Variable = Inputbox ("Question?", "Message Title", default value, Horizontal X, Vertical Y)
Max Horz = 6000 approx
Max Vert = 6000 approx

3000,3000 approx. center…



Only able to select unlockedcells;
Worksheets ("Sheet1").EnableSelection = xlunlockedcells

Auto Open Macro!

Make sure your personal.xls file is in the office XLSTART directory; any file in that directory is started automatically when launch EXCEL

Create your macro – store in Personal.xls

Name it Auto_Open

Exit Excel – start Excel fresh – runs?

To edit the macro – Window – Unhide – personal.xls

Do not forget to Window – Hide it later…

Macro Launch when open file?

Put macro called "Workbook_Open" into module called – "ThisWorkbook"


```
Private Sub Workbook_Open()
        Code…
End Sub
```

Header / Footer Macro

```
Sub HeadFoot()
    Dim Mypath
    Mypath = ActiveWorkbook.Path
   Dim myDate
   myDate = Date

   Application.ScreenUpdating = False

    With ActiveSheet.PageSetup
       .LeftHeader = Format(myDate, "dd-mmm-yy") & Chr(10) & "Accounts
Dept "
       .RightHeader = "Page &P of &N"
       .LeftFooter = "&6&F" & Mypath
       .PrintGridlines = False
       .CenterHorizontally = True
    End With

      Application.ScreenUpdating = True

 End Sub
```

TIPS:

Prompts Application.DisplayAlerts True or False

Speed Application.ScreenUpdating True or False

EXIT Application.Quit

COPY Range("A1").Copy Range ("B1")

Select Selection.End(XLDown).Select

IF Function

=sumif(range,condition) ie. Sum if the values are greater than 0
=sumif(range of values, >0)

=countif(range, condition) ie. Count the number of people who failed a quiz
= countif(range of marks, <55)

AverageIF = sumif(range,condition) / countif(range, condition)

= IF (Condition, True, False)

Condition;
A > B, A < B, etc. <=, >=, =
A = "text"
A = value
A = cell reference

Where A can also be a cell reference.

ex. A1="Greg"
ex. A1 > 30
ex. A1 > B1

True;
What do you want to have the formula 'do' or put in the cell if the condition is true.
ex. "Hello"
ex. 7%
ex. A1
ex. A1 * 7%
ex. (B1 - A1) * 25%
ex. "" which means 'put nothing' or NULL

False;
What do you want it to do if the condition is found to be false

ex. = IF (A1 = "Greg", "Hello Greg", "")

ex. = IF (A1 > 30, A1 * 7%, 0)

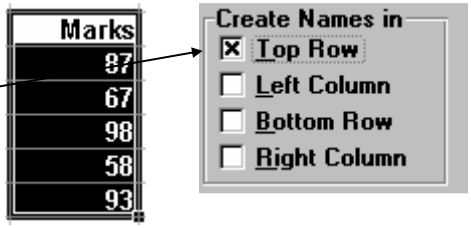
ex. = IF (A1 >30, B1*7%+B1, B1) Applies an interest rate to over due charges...

What is the capital of CANADA?
ex. = IF (A2 = "Ottawa", "Yes!", "Try again...")
('ottawa' or 'OTTAWA' would not work)

Range Names Revisited

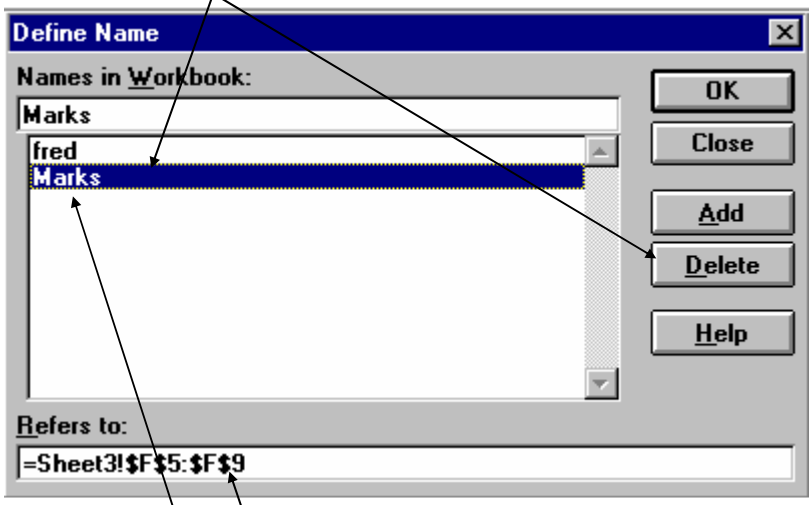
Method #2 (Range name from labels)

a) Select cell or range of cells to be named as well as the corresponding label(s)
b) **Insert | Name | Create** (make sure the labels are 'found')



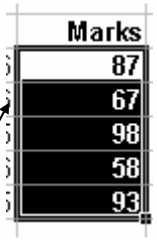
Deleting Range Names

a) **Insert | Name | Define**
b) Select the name
c) DELETE



Changing the Reference

a) Insert - Name - Define
b) Select the name
c) Highlight the reference
d) Reselect the new reference on your spreadsheet.



Range name QTY column and then range name COST column. You can now create an array formula; =QTY * COST which would copy down OK for all cells. Easier to lock cell references than D4 (Can use F4 to cycle through locking choices)

TIPS

1. BOLD your formula right after creation, so as not to forget it is a formula...
2. Do not format (except BOLD your formulae) until the end - so as not to mask problems like three decimal places...
3. Test your work, as you go, SAVE the file, then SAVE AS test - do the tests on test, if it passes, great!
4. Keep RATES or CONSTANTS out of your formulae, so they are more easily updated.
5. Name your RATES or CONSTANTS so you can easily refer to them in formulae, as well as being ‘locked’.
6. Use the ROUND function on calculations involving division, such as multiplying by a RATE (GST/PST) (unless you activated the global Calc. As displayed in Tools - Options - Calc.)
7. SAVE often and SAVE AS various versions of your work, so you can always go back in ‘history’
8. Use a data range entry selection to prevent typing over formulae by accident
9. If you use another sheet, name the sheet tab right away!
10. If you have stacked spreadsheets - keep titles in column A, spreadsheet in B, C...IV
11. Always! PRINT PREVIEW - before printing...
12. SAVE before printing, sorting, etc. - before anything complex that may crash the system.
13. Use range names for sorting data - so you do not forget a column if selecting.
14. Use keyboard methods when possible during MACRO recording.
15. Create protected templates whenever possible.
16. Learn more and enjoy the power of spreadsheets!

Cheat Sheet

Navigation Skills

Bottom ..... [CTRL] [END]
Top..... [Ctrl] [Home]
End of Range .... [CTRL] [arrows]
GOTO ..... [F5] or [CTRL] [G]
Next Cell right .. [TAB]
Next Cell left .... [SHIFT] [TAB]
Page Right/Left. [ALT]+ [PgUp] / [PgDn]
Sheet Flip..... [CTRL] [PgUp] / [PgDn]
Window Flip..... [CTRL] [F6]

Selection Skills

Row ..... shift space
Column ..... Ctrl – space
Unselect ..... shift backspace
Values ..... Edit – Goto – Special – Constants
Current Range .. Icon or Edit – Goto – Special – Current Region (Ctrl-Shift-8)
Visible Cells ..... Icon or Edit – Goto – Special – Visible
Select All ..... [CTRL] [A]

Special

Clone Sheet / Cell / Object [CTRL] & Drag object
Add or Delete Row/Column [CTRL] [-] / [+]
Insert Current Date .....[CTRL] [;]
Insert Row/Column .....[CTRL] [+] (select first)
EDIT .....[F2]
Find .....[CTRL] [F]
Number as Text .....' (apostrophe in front)
Repeat Last Action .....[F4] or [CTRL] [Y]
Replace .....[CTRL] [H]
Toggle Value/Formula display [CTRL] [~]
Undo .....[CTRL] [Z]
Word Wrap .....[Alt] [Enter]

Next Pane .....[F6]
Insert Current Time .....[CTRL][:]
Insert Current Date .....[CTRL] [;]
Previous Pane .....[Shift] [F6]
Toggle Value/Formula display [CTRL] [`]
Hide rows .....[CTRL] [9]
Hide columns.....[CTRL] [0]