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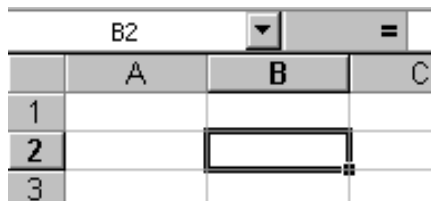
MS Excel: Basic Formulas & Functions

Lesson Notes

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Overview of spreadsheets

A spreadsheet consists of cells. Each cell has a name derived from the cell's Column and Row. i.e. Cell B2 is in column B, second row



	A	B	C
1			
2			
3			

Each workbook (file) consists of sheets.

Each sheet has columns names from A through Z, then AA through AZ, BA through BZ, and so on. The last column is IV.

There are 65,536 rows in one sheet.

Worksheets

Adding Sheets

To add another sheet to the workbook, from the menu choose Insert, Worksheet.

Deleting Sheets

To delete a worksheet, with the right mouse button, click on the sheet name. A menu will appear with the option of deleting the worksheet.

Renaming Sheets

To rename a worksheet either double click on the sheet name and type in the new name
or

with the right mouse button, click on the sheet name. A menu will appear with the option of renaming the worksheet.

Help

Context Sensitive

“Help” is context sensitive. Clicking on the help button in any dialogue box will bring up the help for that topic.



will also bring up help.

In “Help”, any words in green are called HOT SPOTS. If the hot spot has a solid underline, clicking on it will hyperlink to another page. If the hot spot has a dashed underline, clicking on it will bring up a pop-up, usually a definition.

Office Assistant

Showing the Office Assistant

For MS Office versions XP (2002) and back the office Assistant can be brought from the standard toolbar by clicking on the yellow call out button with the question mark.



In MS Office 2003 the Office Assistant can be brought up by clicking on the Help option on the menu then clicking “Show the Office Assistant”.

The Office Assistant will look different between versions of MS Office.

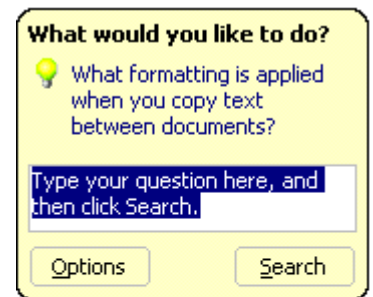
Office Assistant Light Bulb

The Office Assistant watches the user's keystrokes. If it thinks it has a better way of doing the procedure, a light bulb will appear. Click on the light bulb to see the tip.

Using the Office Assistant

Clicking on the Office Assistant will bring up a dialog box.

Key in a question then click on the search button to have the Office Assistant search the help files for the appropriate help article.

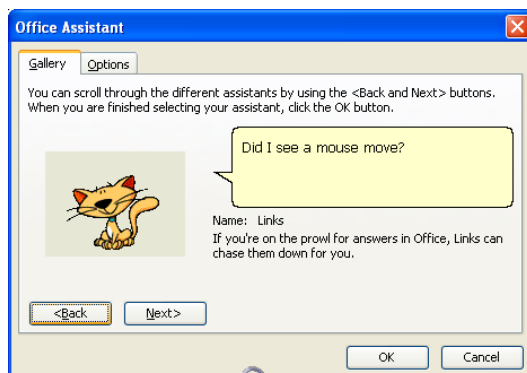


Hide the Office Assistant

To hide the Office Assistant, click on the Office Assistant with the right mouse button. Click on “Hide”.


Changing the Office Assistant

To change the Office Assistant, click on the Office Assistant with the right mouse button. Click on “Choose Assistant”. A dialog box will appear showing the different Office Assistants available.



Enter Data - Keyboard Shortcuts

After entering data into a cell, use the Arrow Keys     instead of the

Enter Key  to confirm the data in the cell and move to the next cell.

-or-

Block off the area needed for data entry, start entering the data hitting enter after each entry.

Note: As soon as an arrow key is pressed, the block is removed.

Edit Data - Keyboard Shortcuts


To make changes to a cell without having to retype the whole cell, click on the formula bar with the mouse to make changes using the formula bar, press enter when done





allows editing of a cell in the sheet area, press enter when done

Keyboard Shortcuts

In the ready mode, the keyboard strokes will do the following:


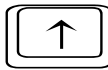
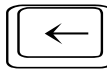
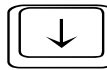
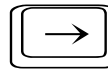
Page UP  up one screen at a time

Page Down  down one screen at a time

CTRL-HOME   goes to cell A1
F5 = Go To

CTRL G   = Go To

Arrows     move one cell in the direction of the arrow

CTRL arrows      move to the ends of the spreadsheet

Scrolling w/mouse

Moves the sheet tabs to the right one at a time

Moves the sheet tabs to the last tab

Moves the sheet tabs to the first tab

Moves the sheet tabs to the left one at a time

Moves the screen up one row at a time.

Moves the screen up one screen at a time.

May be dragged to move from one screen to another. The distance between the up arrow and the down arrow is the length of the document.

Moves the screen down one screen at a time.

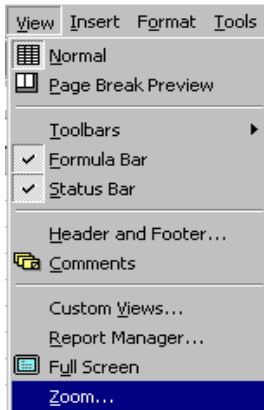
Moves the screen down one row at a time.

Change View

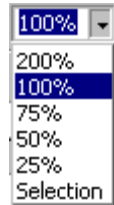
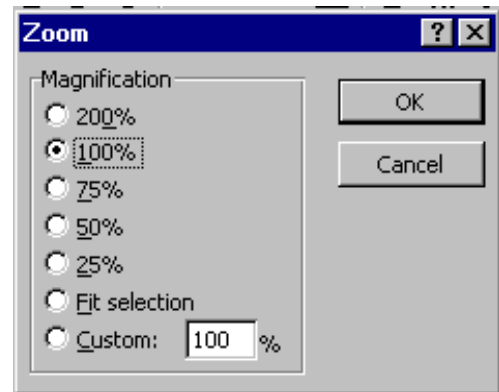
Zoom – to change the view use the zoom control on the toolbar

or

from the menu choose View Zoom



then make the desired choices in the zoom dialogue box.



Note: Changing the view does not change how the document will print. It only changes how the data is displayed on the screen.

Select Cells/Ranges

A Range is a group of cells in a rectangle with all cells touching.

Mouse:

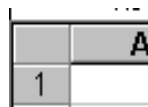
click and drag across cells

Click on the first cell, hold the shift key, and click on the last cell of the desired range

Click on the row name to select the whole row from column A to IV

Click on the column name to select the whole column from row 1 to 65536

Clicking on the button above the row names and to the left of the column names will select the whole spread sheet.



Keyboard:

Use the combination of shift and arrows to select cells

Click in the first cell, then with the shift key held down, click in the last cell.

Select Non Contiguous Cells/non-Ranges

Hold down the control key while using the mouse to click on desired cells

Basic Formulas

Formulas in a spread sheet to the math in the following order:

- () Anything in the parentheses first
- ^ Powers
- * / Multiplication and Division
- + - Addition and Subtraction

i.e. $5+3*2 = 11$

$(5+3)*2 = 16$

Basic Functions

A function has three parts:

An equal sign, the function name, and the function's arguments enclosed in parentheses (necessary even if the function has no arguments).

i.e. $=SUM(\text{range or elements})$
 $=NOW()$

Auto Sum

The sum function has a button on the toolbar for quick entry



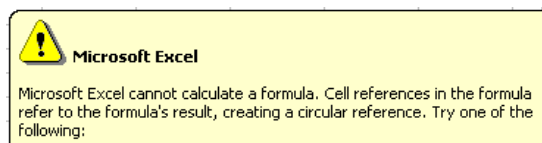
Creates the $=SUM()$ function guessing at the range need for the arguments. These ranges may be changed.

Errors

Circular Reference Error

A Circular Reference Error occurs when the total is included in the range of a formula

	A
1	2
2	5
3	$=SUM(A1:A3)$
4	



#Value Error

A #Value Error occurs when the formula is created that tries to calculate something other than a number.

#Ref Error

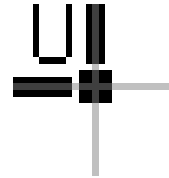
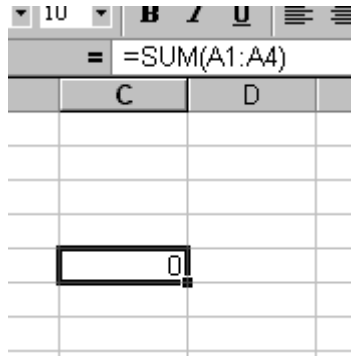
A #Ref Error occurs when a cell is trying to reference a cell that does not exist.

display in cell

When a cell fills with pound signs instead of the number it means the cell width is too small. The number is still there for calculating purposes.

Fill Down

Click on the cell to be copied. Place the mouse over the little black square in the bottom right corner of the cell. A cross hair will appear. Drag the cross hair in the direction to be copied.



Relative/Absolute Addressing

An Absolute Address does not change in the relation to where it is copied. A Relative address will adjust the address by adding one to every row copied down, and adding one to every column copied to the right. Moving up, or to the left will subtract a row or column.

Place a \$ before either row, column., or both to make it absolute.

\$A1 The \$ before the column keeps the column from changing. The column is absolute, the row is relative.

A\$1 The \$ before the row keeps the row from changing. The column is relative, the row is absolute

\$A\$1 The\$ before both the column and row makes the whole address an absolute address.

Move/Copy/Delete

Edit Cut to move



The scissors button to cut/move

CTRL X to cut/move

Edit Copy to copy



The button with two pieces of paper to copy

CTRL C to copy

Edit Paste to paste the item



The button with the clipboard to paste

CTRL V to paste



Delete key on keyboard to delete (deletes contents only - not formatting)

Use Edit clear to delete contents, format, or both..



Undo

Use the undo button on the toolbar.

or

From the menu choose Edit – Undo



Bold/Italics/Underline

Block the text to be formatted.

Click on the desired button.



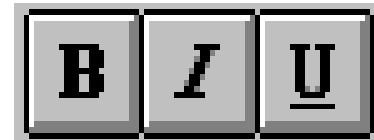
= Bold



= Italics



= Underline



Justification

Click on the desired cell and click on the desired alignment.



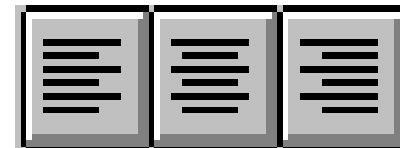
= Left Justified



= Centered



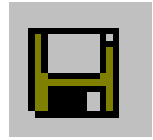
= Right Justified



Save a Document/File

Use the file save button on the toolbar. (Brings up the save as dialog box the first time a document is saved. After that, it does a quick save.)

File - Save (Brings up the save as dialog box the first time a document is saved. After that, it does a quick save.)



File - Save As

Open a Document/File

Use the file open button on the toolbar.



File Open on the menu.

Print Preview

Use the Print Preview button on the toolbar

From the menu choose File - Print Preview

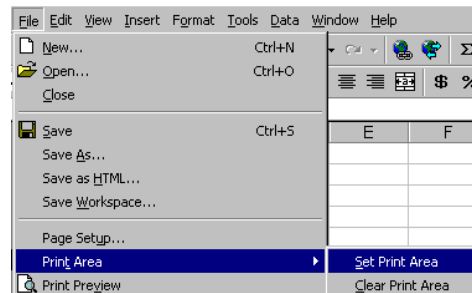


Set Print Area

Select area to be printed

From the menu choose File-Print Area

To remove the Print Area, from the menu choose File-Print Area – Clear All Print Areas.



Printing a Document

On the toolbar select the print button



From the menu choose File-Print

Note: Choosing File-Print from the menu will give you more control over the printing process