

Microsoft® Excel: Introduction

A Workshop for San Diego State University Faculty and Staff



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Where to Find Help When You Need It

Help from your Division/College's Computer Consultant

Some divisions and colleges have computer consultants assigned to them. You can contact these consultants when you need help. To determine if you have a consultant assigned to your division or college, look to: <http://rohan.sdsu.edu/~facstaff>

Help from the BATS Web Page

BATS (Baseline Access, Training and Support) is a California State University initiative to provide all students, faculty, and staff with "baseline" access to information resources via networks, training in the uses of baseline hardware and software systems, and ongoing professional and technical support for utilization of computer resources at San Diego State University. You can access the BATS Web Page by pointing your browser to: <http://rohan.sdsu.edu/~bats/>

Help in the San Diego State University, Faculty Room

The Faculty Room is staffed Monday through Friday with computing consultants who will try to answer your questions.

Location: Adams Humanities, 1109
Phone Number: x45727
Semester Hours: 7:30am – 6:00pm Monday - Thursday
7:30am – 4:30pm Friday
Semester Intersession: 7:30am – 4:30pm Monday – Friday

Help from the Faculty Computing Help Line

Phone Number: x41348 **E-mail:** helpline@mail.sdsu.edu
Semester Hours: 7:30am – 6:00pm Monday – Thursday
7:30am – 4:30pm Friday
Semester Intersession: 7:30am – 4:30pm Monday – Friday

Help from the Staff Computing Help Line

Phone Number: x40824 **E-mail:** staffhelp@sdsu.edu
Semester Hours: 7:30am – 6:00pm Monday – Thursday
7:30am – 4:30pm Friday
Semester Intersession: 7:30am – 4:30pm Monday – Friday

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Introduction to Microsoft Excel for the PC

What Is Microsoft Excel?

Microsoft Excel is a full-featured spreadsheet program that allows you to organize data, complete calculations, make decisions, graph data, and develop professional looking reports.

The three major parts of Excel are:

Worksheets – Worksheets allow you to enter, calculate, manipulate and analyze data such as numbers and text.

Charts – Charts pictorially represent data. Excel can draw two-dimensional and three-dimensional column charts, pie charts and other types of charts.

Databases – Databases manage data. For example, once you enter data onto a worksheet, Excel can sort the data, search for specific data, and select data that meets certain criteria.

How Do I Start Excel?

To initially get Excel started, click on the “Start” button, select “Programs” from the Start Menu then click on Microsoft Excel.

You can create a shortcut that will cause Excel to start automatically when you turn on your computer, or you can put a shortcut on the desktop.

Once you have created Excel spreadsheets, you can start Excel by double clicking the “Spreadsheet” icon. If you regularly work in a certain spreadsheet, you may want to create a shortcut on the Desktop to speed your access to the spreadsheet.

Onscreen Help

To view onscreen help, click on **Help**. The Help menu will pull down. Once the menu is displayed, select one of the following tabs:

Show the Office Assistant

An icon will appear. Click on icon and a menu will appear. Click on subject that you are interested in or type in your question in the blank box at the bottom of the menu. Then press the enter key. Hide the Office Assistant by clicking on the Assistant icon, the click on the right side of the mouse and select hide.

Introduction to Microsoft Excel for the PC

What's This?

Select this option and your cursor will include a Question Mark next to it. Click on anything on the screen and Word will provide an explanation of the item.

Help in the User's Manual

You can also use the User's manual that came with your software to help you answer questions and find solutions to problems.

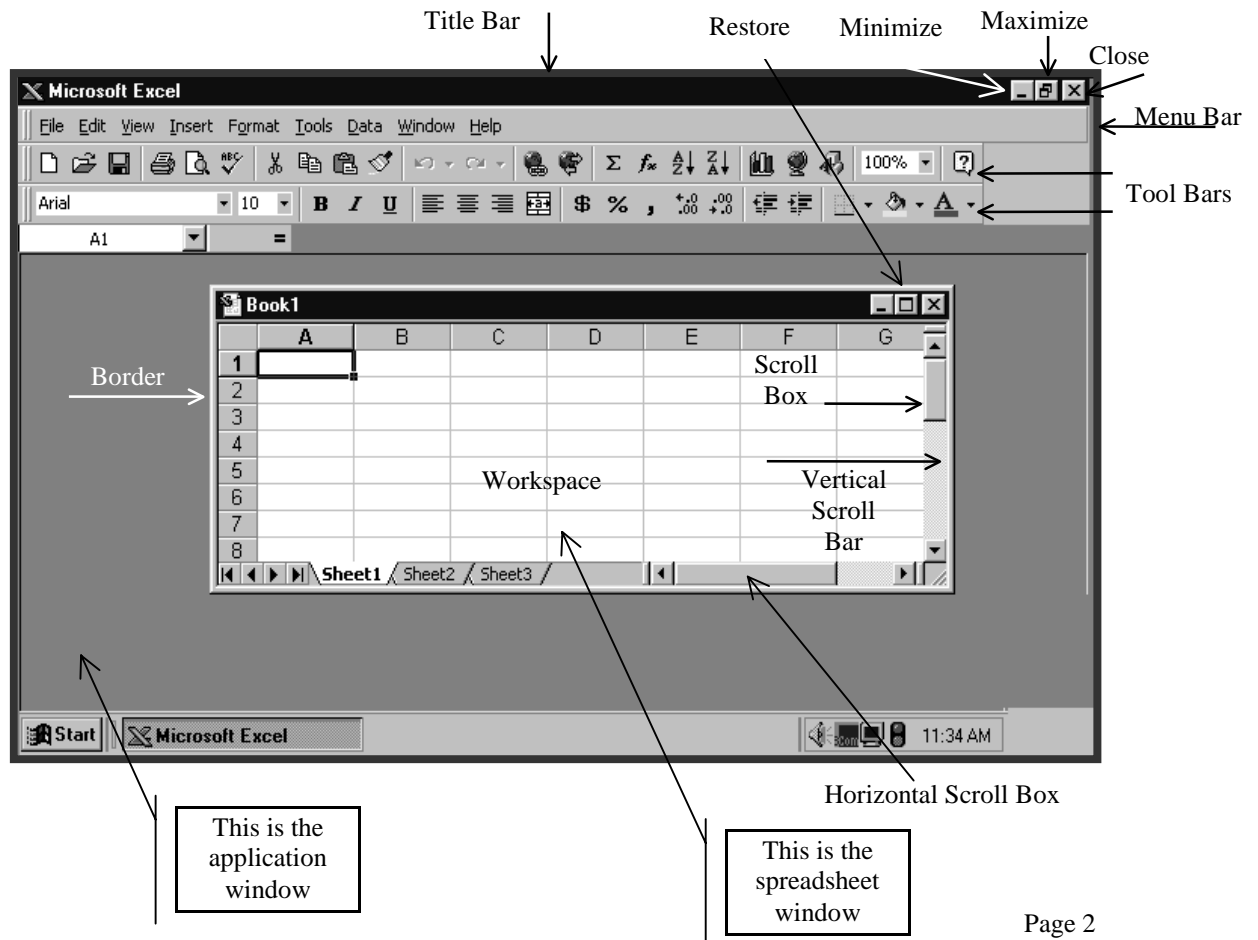
Help on the Web

Additionally, Microsoft offers Help for "frequently asked questions" at their support website located at: <http://www.microsoft.com/support/>

EXPLORING THE WINDOWS

There are two types of windows that appear on your Desktop: the application window and the document window.

Application windows contains the running program and they have menu bars. The document window appears inside the application window and it does not have menu bars.



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Title Bar

The Title Bar shows the name of the application, document, group, directory, or file. If more than one window is open, the title bar for the *active* window (the one in which you are working) has a color or intensity different from other title bars.

Menu Bar

The Menu Bar contains the available menus from which you can choose command

Tool Bar

The Tool Bar(s) provide you with a quick method of working with various parts of the worksheet. Tool bars can be customized and multiple tool bars can be displayed at the same time.

Scroll Bar

The Scroll Bars enable you to move through a spreadsheet when the entire spreadsheet does not fit in the window or the allotted space. Click the scroll arrows with the mouse to move through the spreadsheet or to see one line at a time.

Buttons

Maximize Button



Clicking the Maximize Button with the mouse enlarges the active window so that it fills the entire Desktop.

Minimize Button



Clicking the Minimize Button reduces the window to the Task Bar.

Close Button



The Close Button causes the file to close. If you have not saved your file recently, you will see a dialog box that asks if you want to save the file.

Restore Button



The Restore Button returns the window to its size before the maximize or minimize button was used.

Window Border

The Window Border is the outside edge of a window. You can change the window size by lengthening or shortening the border on each side of a window.

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COMMANDS

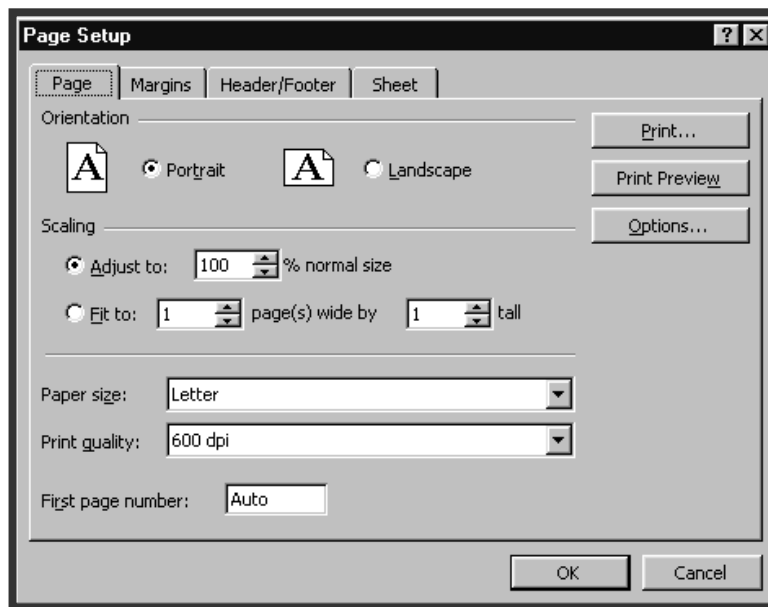
Commands are accessed through the Menu Bar. Select a menu item and the commands associated with that item are displayed. Clicking on a command causes Excel to apply that command to the highlighted text.

CREATING A SPREADSHEET

Once you have Excel customized to your satisfaction, you are ready to set up the format of the new spreadsheet. You will want to establish the page size and orientation and you may want to setup headers and footers for your document.

Page Setup

Select **File** from the Menu Bar and then choose the **Page Setup** option.



Use this screen to set the page orientation and margins. You can also set up your header and footer here.

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Working in the Spreadsheet

Workbooks

Workbooks are like notebooks. When Excel first opens, a workbook is opened. Within that workbook are worksheets. You create your spreadsheets on the worksheets.

Worksheets are organized into a rectangular grid containing columns (vertical) and rows (horizontal). A letter above each column identifies each column and a number on the left side of the grid identifies each row. Each worksheet in a workbook has 256 columns and 65,536 rows.

Moving Around the Worksheet

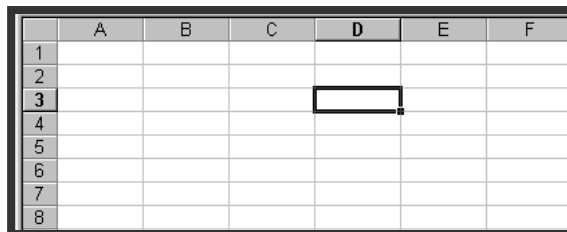
To select a single cell, place your cursor on the cell and click once with the left mouse button. That cell is now the active cell. Note that the column and row headings are highlighted.

To select multiple continuous cells first make one cell the active cell. Hold the left mouse button down and move the mouse until all the desired cells are highlighted. An alternative way to do this is to make one cell the active cell. Hold the Shift key down and click on a cell at the end of the continuous range. All cells within that range will be highlighted.

To select an entire column or multiple columns, select the column heading(s). To select an entire row or multiple rows, select the row heading(s).

Cells

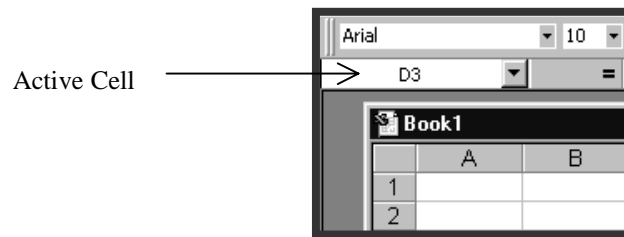
The intersection of a column and a row is a cell. The cell is the basic unit of the worksheet and data is entered in cells. A cell is referred to by its unique address, or “cell reference”, which is composed of the coordinates of the intersection of a column and a row. To identify a cell, specify the column letter first, followed by the row number. For example, cell reference D3 refers to the cell located at the intersection of column D and row 3.



	A	B	C	D	E	F
1						
2						
3						
4						
5						
6						
7						
8						

Data can be entered in the active cell. The active cell has a heavy border surrounding the cell. In addition, the active cell is listed in the “reference area” immediately above column A.

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Entering Data

Data is entered in cells, and the most common types of data entered are text, numbers and formulas.

Text

Excel left justifies text and if the text is longer than the width of the column, Excel displays the overflow characters in adjacent cells to the right as long as these adjacent columns contain no data.

Numbers

Numbers consist of the digits zero through nine and any one of the following special characters:

+ - () , / . \$ % E e

If a cell entry contains any other character (including spaces), Excel interprets the entry as text and treats it accordingly.

Formulas

One of the reasons Excel is such a valuable tool is because you can assign a formula to a cell and Excel will calculate and display the result in the cell. Formulas can be entered in uppercase or lowercase, and spaces can be added between the arithmetic operators to make the formulas easier to read.

A formula is a sequence of values and cell references in a cell that produces a new value from existing values. For instance, Example 1 shows data entered in cells and Example 2 shows the results. Notice that cell B4 in Example 1 contains a formula that uses the existing values in cells B1 and B2.

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Example 1

	A	B
1	RATE	0.06
2	AMOUNT	1000
3		
4	EARNINGS	=B1*B2

Example 2

	A	B
1	RATE	6%
2	AMOUNT	\$1,000.00
3		
4	EARNINGS	\$ 60.00

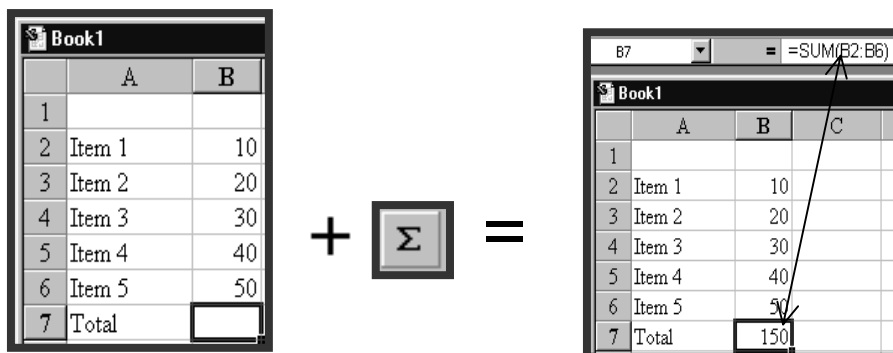
The equal sign (=) must precede all formulas in a cell. It alerts Excel to the fact that a formula is being entered. Valid arithmetic operators are + (addition), - (subtraction), * (multiplication), / (division), % (percentage), and ^ (exponentiation).

When more than one arithmetic operation is involved in a formula, Excel uses the same order of operations that algebra follows. Excel will evaluate the operators from left to right, and perform the operations in the order shown in the following table. To change the order of evaluation, enclose the part of the formula to be calculated first in parentheses.

Operator	Description
: (colon) , (comma) (single space)	Reference operators
%	Percent
^	Exponentiation
* and /	Multiplication and division
+ and -	Addition and subtraction
&	Connects two strings of text (concatenation)
= < > <= >= <>	Comparison

AutoSum Feature

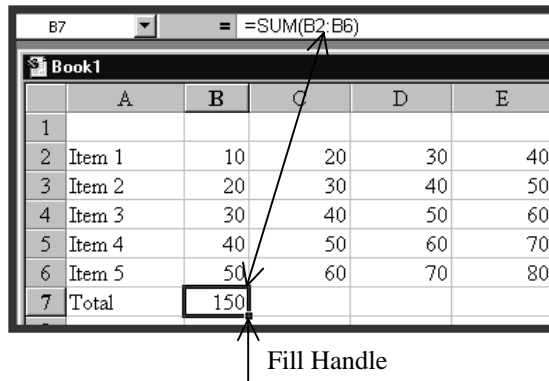
Excel makes it easy to quickly add a column or row of numbers. The following example shows a column of numbers and a "total" needs to be calculated in cell B7. To use the AutoSum feature, make B7 the active cell, click on the AutoSum button on the toolbar and click on <Enter>. The total will be calculated and the formula bar will show the resulting formula.



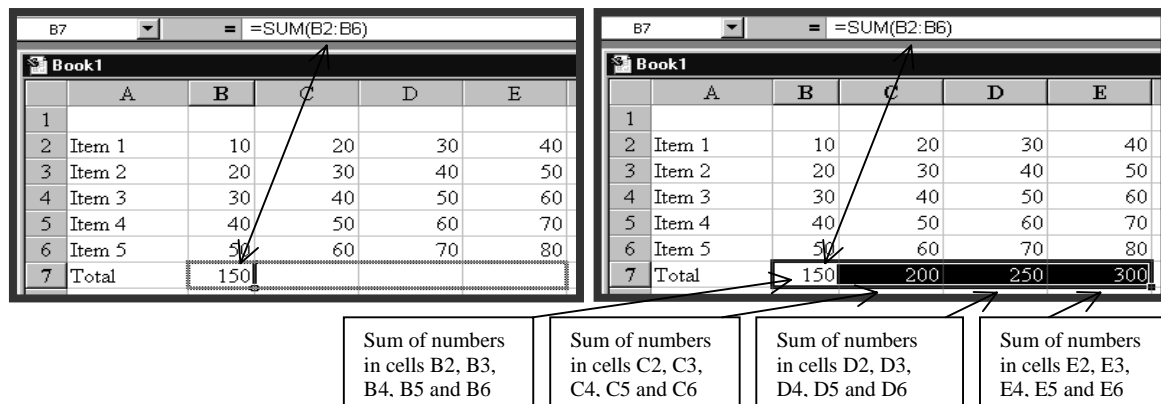
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Fill Handle Feature

The fill handle feature of Excel makes copying a formula in one cell to adjacent cells easy. The fill handle is the small rectangular box located in the lower right corner of the heavy border around the active cell.



Make the active cell the cell with the formula to be copied, grab the fill handle with the mouse pointer and drag it across the cells where the formula is to be copied.



Editing in a Worksheet

Data in a cell can be edited several different ways. If you notice the error while typing the data into the cell, use the backspace key to erase the portion of the data that is in error, then retype the correct information.

If you notice the error after the data has been entered into the cell, double click the cell to enter the “Edit Mode”. Place the cursor at the point of the error and use the backspace key to erase the portion of the data that is in error, then retype the correct information.

You can also edit the content of the cell right on the formula bar. Place the cursor anywhere on the text to edit the data.

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Working with Rows and Columns

Inserting Rows and Columns

To insert a single row, select a cell in the row immediately below where you want to insert the new row. Select the **Insert** menu and click **Rows**.

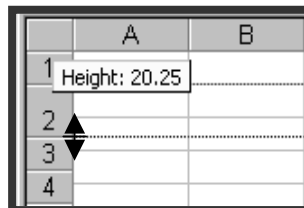
To insert multiple rows, select the same number of rows that you want to insert immediately below where you want them inserted. Select the **Insert** menu and click **Rows**.

To insert a single column, select a cell in the column immediately to the right of where you want to insert the new column. Select the **Insert** menu and click **Columns**.

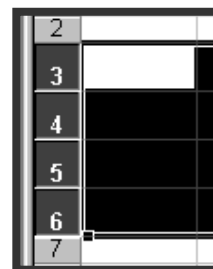
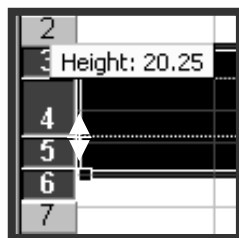
To insert multiple columns, select the same number of columns that you want to insert immediately to the right of where you want the columns inserted. Select the **Insert** menu and click **Columns**.

Adjusting Row Height and Column Width

To change the height of a single row, drag the boundary below the row heading until the row is the height you want.

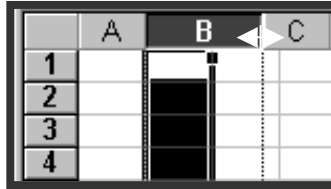


To change the height for multiple rows, select the rows to be changed. Drag a boundary below one of the selected rows until the rows are the height you want. When you release the mouse button, all the selected rows will be the new height.

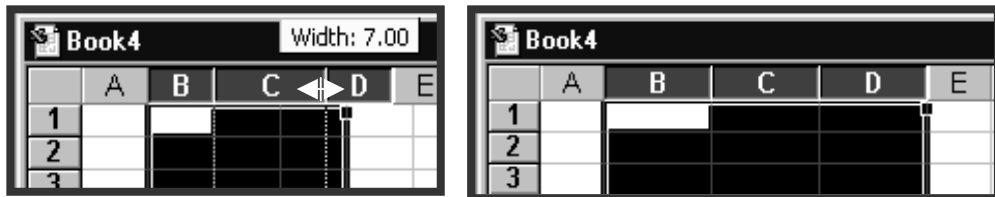


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To change the width of a single column, drag the boundary on the right side of the column heading until the column is the width you want.



To change the width for multiple columns, select the columns to be changed. Drag a boundary on the right side of one of the selected columns until the columns are the width you want. When you release the mouse button, all the selected columns will be the new width.



Formatting Data

Formatting Fonts

You can format characters, words and paragraphs easily by using the formatting toolbar. To format a cell, highlight the cell and click on the following buttons as desired:

Font Type and Size

You can select the style of font to be used along with the desired font size. Click on the down arrowhead to see the various font types and sizes that are available.



You can also use the following buttons to create a special effect with the font.

Bold Character
or Text



Italicized Character
or Text



Underlined Character
or Text



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Aligning Characters or Text

You can specify how you want the cell alignment by selecting the cell/cells and then clicking one of the following buttons:



Drag and Drop

To move text to a different location, highlight the text to be moved. Point to the highlighted text, and hold down the mouse button. The drag and drop pointer appears. Drag the pointer and the dotted insertion point that appears to the new location, and then release the button.

Relative and Absolute Referencing

By default, all cell references in Excel are relative references. A relative reference is a cell reference in a formula that is adjusted when the formula is copied.

For instance, if cell A1 contains the formula “=B3”, then Excel knows that it must look one column to the right of column A and two rows down from row 1 to find cell B3’s value. If cell A1 is copied to cell A3, Excel will look one column to the right of column A and two rows down from row 2 to find the new value, which is now B5.

	Before copy command					After copy command				
	A	B	C	D	E	A	B	C	D	E
Formula View	1	=B3				1	=B3			
	2					2	↓			
	3	22				3	=B5	22		
	4	23				4		23		
	5	24				5		24		
Data View	1	22				1	22			
	2					2				
	3	22				3	24	22		
	4	23				4		23		
	5	24				5		24		

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An absolute reference is a cell reference in a formula that does not change when copied to a new location. To change a relative reference to an absolute reference, insert a "\$" before the column letter and/or the row number.

	Before copy command					After copy command				
	A	B	C	D	E	A	B	C	D	E
1	=B\$3					=B\$3				
2										
3		22					22			
4		23					23			
5		24					24			

Formula View →

	A	B	C	D	E	A	B	C	D	E
1	22					22				
2										
3		22				22	22			
4		23					23			
5		24					24			

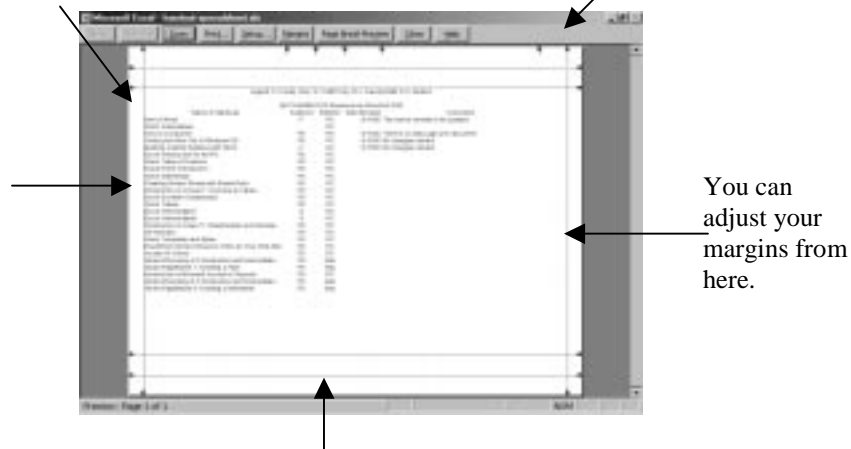
Data View →

PRINTING

Print Preview

Before you print your document, you may want to look at the document on the screen to ensure that your page breaks are where you want them. Excel allows you to see each page of the document as it will appear when printed.

To preview your document, click on **File** on the Menu Bar and select the **Print Preview** option.



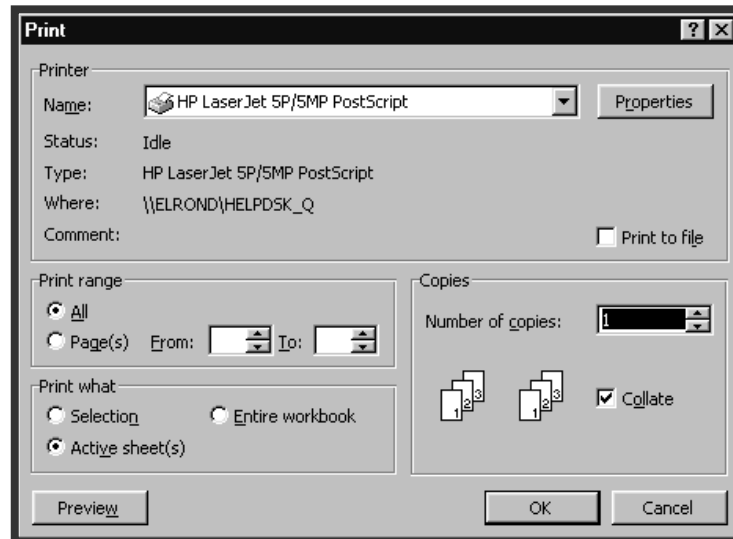
This view enables you to see what the final document will look like, and it may save you from printing pages that are not formatted properly.

To exit the print preview screen click on the **Close** button.

Introduction to Microsoft Excel for the PC

Printing the Document

When you are ready to print your document, or a part of your document, click on **File** on the Menu Bar and select the **Print** option. The following screen will appear:



You will need to tell Excel which pages of your document to print and how many copies of each page to print. The system default is “All” which means that if you do nothing more than click on the **OK** button, Excel will print one copy of your entire document.

Print Range

If you want a specific page or pages printed, click on **Pages** and tell Excel which pages to print. Use the up/down arrows to indicate the desired pages to print.

Copies

Once you have told Excel which pages to print, you can choose to have multiple copies of the document or pages print. The default is set up to print one copy, so if you only want one copy, you do not need to tell Excel about the number of copies.

However, if you want multiple copies, enter the number of copies in the “Number of copies:” box or click on the up/down arrowheads to select the desired number of copies.

Once the number of copies is set, click on **OK** and Excel will print the desired number of copies of the pages selected.

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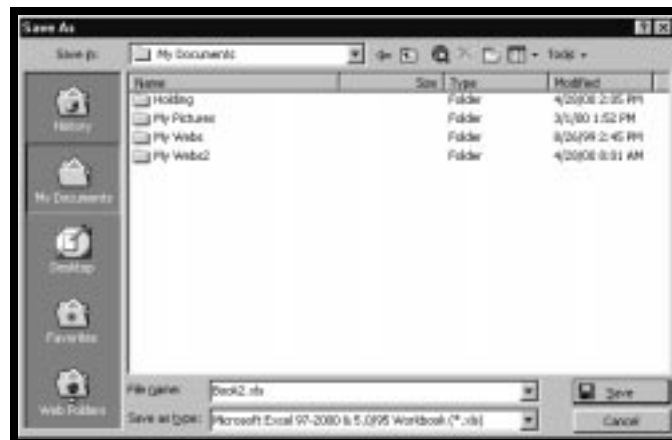
SAVING THE DOCUMENT

When you save a document the first time, you need to tell Excel where you want the document saved. You will have folders and sub-folders set up, and you will want the document saved to a specific location. To get the document where you want it, you will need to be specific in your instructions to the computer.

New File Name

Naming the File

The first time you save a spreadsheet you will need to name the file and specify where it is to be saved. When you are ready to save a spreadsheet click on **File** on the Menu Bar and select the **Save** option. You will see the following screen:



Once you determine what you want to call the file, enter that name in the “File name” dialog box.

Excel allows you to use descriptive file names, which makes it easier for you to find documents. File names can contain up to 255 characters. You cannot include any of the following characters in a file name: forward slash (/), backslash (\), greater than sign (>), less than sign (<), asterisk (*), period (.), question mark (?), quotation mark (“), pipe symbol (|), colon (:), or semicolon (;).

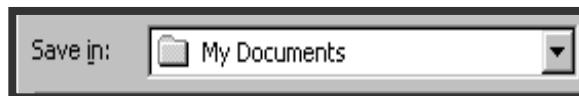
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Specifying the Location

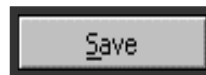
You will tell the computer where to save the file by browsing through your folders until you find the folder that is to house the file. To browse, click on the **Up One Level** button.



As you move through your folders, the contents of each folder will be displayed in the window. You can double click on a folder in the window to see the contents of that specific folder. When you do so, that folder becomes the active folder and that folder's name is displayed in the "Save in" box.



Once you find the folder that is to house the file, (and the folder's name is displayed in the "Save in" box), click on the **Save** button and your file will be saved in the selected folder.



Same File Name and Location

As you are working on your spreadsheet, you should get into the habit of saving the spreadsheet periodically. Once your spreadsheet has initially been saved, you can replace the current saved copy with a copy that includes all your changes since the last time you saved it.

To save your changed spreadsheet, click on **File** on the Menu Bar and select the **Save** option. Excel will automatically save your spreadsheet without presenting you with a screen asking for a name and location. Excel will use the current name and location as the name and location for the current save.

Different File Name and/or Location

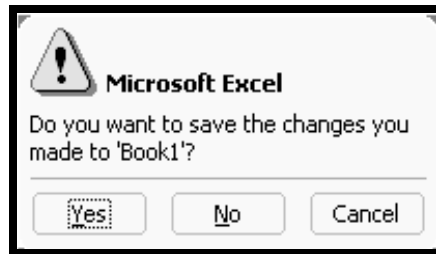
To save your spreadsheet with a different file name (in effect you will be making a copy of your file and giving it a new name), click on **File** on the Menu Bar and select the **Save As** option. You will be presented with the same screen you see when you first save a spreadsheet. You will be asked to give a new name to the spreadsheet and to specify the folder in which the spreadsheet is to be saved.

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QUITTING EXCEL

When you are ready to quit Excel, select **File** from the Menu Bar. Select the **Exit** option, and if you have not made any changes to your spreadsheet since you last saved it, Excel will close your spreadsheet and the Excel application will close.

If you have made changes to your spreadsheet since it was last saved, Excel will ask you if you really want to exit the program (without saving your changes) or if you want a chance to save your changes. You will see the following screen:



If you do not want to save the changes, select **No** and your document will be closed (all changes will be discarded) and Excel will close.

If you want to save your changes, select **Yes** and if your document had been saved previously, Excel will save the document with the changes and then it will close the document and the Excel program.

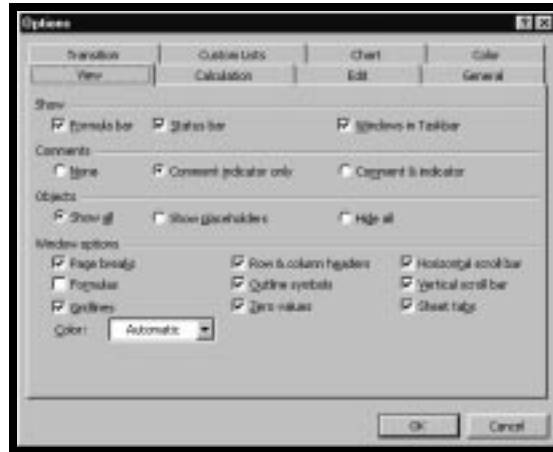
If you have not previously saved your document, and you want to save the work you have done on the document, Excel will display the "Save As" window. You will be asked to provide a name for the document and a location for the document to be saved.

CUSTOMIZING EXCEL OPTIONS

Once you have installed Excel on your computer, you will probably want to set up the application in a manner customized to your needs. You can set a variety of options to make your work easier.

To customize the application, click on **Tools** in the Menu Bar and select **Options**. Then select one of the tabs and set Excel up in a customized manner.

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CUSTOMIZING TOOLBARS

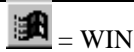
Once you have Excel's options customized, you can further simplify the use of Excel by customizing your toolbars. Toolbars permit you to organize commands in Excel the way you want them so you can find and use them quickly.

To customize a toolbar, select **View** from the Menu Bar, select the **Toolbars** option and then select **Customize**.

You can remove icons from your toolbars by clicking on the icon with the left mouse key and dragging it downward and off the toolbar. Once you clear the toolbar, you can release the mouse button and the icon will be gone. Select the category of command you want to add to a toolbar. Once the category is selected, scroll through the list of commands until the desired command is found. Use the left mouse button and drag the command to the desired toolbar. Once you close the "Customize" box, the customized toolbars will be available for use.

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Keyboard Shortcuts [Sorted in alpha order by action]



Shortcuts Using The Windows Key

WIN+Tab	Cycles Through Taskbar Buttons
WIN+F	Finds Files or Folders
Ctrl+WIN+F	Finds the Computer
WIN+M	Minimizes All
WIN+R	Run Dialog Box
WIN+F1	Starts Help
WIN+E	Starts Windows 95/NT Explorer
WIN+Break	System Properties Dialog Box
Shift+WIN+M	Undoes Minimize All (WIN+M)

Other Helpful Keyboard Shortcuts

Alt+Backspace	Undo the Last Action
Alt+Esc	Switch to the Next Application
Alt+Tab	Switch to the List of Open Applications
Ctrl+A	Selects All
Ctrl+B	Bold Selected Text
Ctrl+C	Copy Selection to the Clipboard
Ctrl+E	Center Justifies Selected Text
Ctrl+END	End of Document
Ctrl+Esc	Opens Start Menu
Ctrl+G	Go To
Ctrl+H	Replaces Selected Text
Ctrl+HOME	Top of Document
Ctrl+I	Italicizes Selected Text
Ctrl+Insert	Copy Selection to the Clipboard
Ctrl+J	Full Justifies Selected Text
Ctrl+L	Left Justifies Text
Ctrl+N	Opens New Document
Ctrl+O	Opens The Selected Document
Ctrl+P	Prints The Document
Ctrl+R	Right Justifies Selected Text
Ctrl+S	Saves The Document
Ctrl+U	Underlines Selected Text
Ctrl+V	Paste from the Clipboard
Ctrl+W	Closes Document
Ctrl+X	Cut selection to the Clipboard
Ctrl+Y	Redo Last Undo
F1	Help
Shift+Delete	Cut selection to the Clipboard
Shift+Insert	Paste from the Clipboard