

## **COMPUTER BASICS**

### **What is a Computer?**

The word “Computer” comes from the word “compute” which means to calculate. A computer is an electronic device, which stores and processes data to give meaningful information. Processing is done with the help of instructions given by the user, which are also stored within the computer.

Data refers to all the basic elements that can be produced or processed by a computer.

Data is a collection of facts and figures which has to be processed by some processing system, (whether a human being or a machine) to be understandable.

Information: It is the processed form of data, which makes some sense and helps in reaching a conclusion.

### **Characteristics of Computers**

#### **Speed**

The computer was invented as a high-speed calculator. This has led to many scientific projects which were previously impossible. If we want tomorrow's weather forecast today, meteorologist can use the computer to perform the necessary calculations and analysis.

#### **Storage**

A computer can store a vast amount of information in its storage location for future use which can be recalled at any time.

#### **Logical decision**

A computer is capable of comparing data, both numeric and non-numeric; depending on the results, it makes certain decisions. These decisions are logical decisions which help the computer in deciding its way of action.

#### **Super Efficiency and Automation**

Unlike human beings computers can work for hours and produce error free results. Computers process data with the help of instructions fed into them, that is it work automatically. Computers manipulate data according to the instructions and they never get tired.

#### **Accuracy**

The computer's accuracy is consistently high. Errors in the machinery can occur but, due to increased efficiency in error detecting techniques, this seldom leads to incorrect results.

### **Reliability**

Computer output is generally very reliable, subject to the condition the input data entering the computer should be correct and the program of instructions should be reliable and correct.

### **Versatility**

Computers seem capable of performing almost any task, provided that the task can be reduced to a series of logical steps for e.g., a task such as preparing the payroll or controlling the flow of traffic can be broken down into a logical sequence of operations. Yet the computer itself has only limited ability and, in the final analysis, actually performs only four basic operations:

- It exchanges information to the outside world via I/O devices.
- It transfers data internally within the CPU.
- It performs the basic arithmetical operations.
- It performs operations of comparisons



Computer system is made up of the following components

- Input device
- Central Processing Unit
- Output device

### **Input device**

Input means putting the raw data through input device into the processing device. Input Unit allows us to communicate with the computer. An input unit converts the numbers, alphabet or other signals into the internal binary code (will be discussed later). Keyboard, mouse, joystick, light pen are the examples of input unit. We will discuss about the input device in details later.

### **Central Processing Unit**

Another important component of the computer system is known as CPU. It accepts instructions through keyboard, stores them into memory and later on executes them. It can be also thought of as the "brain" of the computer. It performs all the calculations and controls the overall activities of the computer.

CPU consists of three components

- Arithmetic Logic Unit
- Memory Unit
- Control Unit

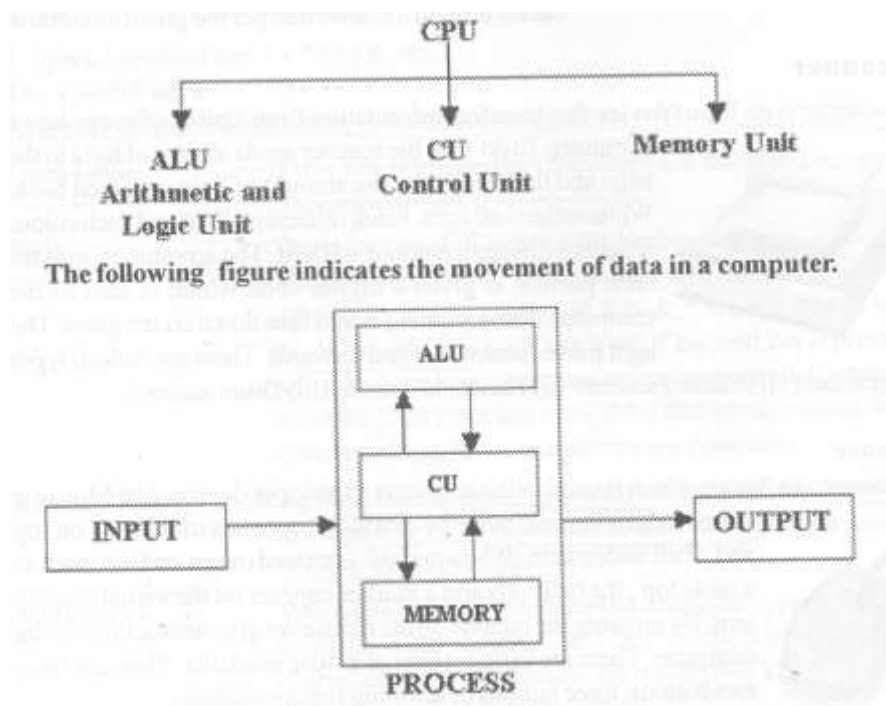
## Output device

The devices, through which we get the processed information or the desired result, are known as the output devices. There are a variety of output devices which return the information given by the user. The most popularly used output devices are Visual Display Unit (VDU) or monitor, printers, plotters etc.

## How does a computer Work

**Central Processing Unit:** Central Processing Unit (CPU) is the processing device of computer. It inhere that the actual work is done. The CPU is like the `brain' of the computer. It takes information from the input unit and memory and uses or processes it according to the instructions given. It may put information into the memory or give results to the output unit.

The following figure indicates the movement of data in a computer.



**ALU (Arithmetic and Logic Unit)** In the ALU, calculations such as addition, multiplication etc. of numbers is carried out. The ALU can also carry out logical operations like comparing two numbers to see which is the larger. A modern computer can perform a single addition in nano seconds (1 nano second =  $10^{-9}$  seconds)

**Control Unit:** It controls the overall activities of a computer system. It gets information from the input unit, sends information to the output unit or transfers information to or from the computer's memory. It is important that everything is done in exactly the right order and at the right time, so there is an accurate clock within the computer which is connected to the control unit.

**Internal Memory / Primary Memory** In a PC, internal memory is usually contained in silicon chips. It holds instructions and data which the computer is currently working on, and which can be accessed by the CPU whenever required. Internal memory needs to work very rapidly because the speed of the CPU is very high and requires information to be readily available.

Internal Semiconductor Memory is of two types

**RAM**

**ROM**

**RAM (Random Access Memory)** is an electronic memory which is used to store data and instructions from the operating system and any program you are using. RAM Stores information temporarily. If the power is interrupted, even for an instant the information is lost for ever. The CPU accepts information from RAM as and when required, processes it and returns to RAM.

**ROM (Read Only Memory)** ROM or Read Only Memory holds sets of instructions which tell the computer what to do. For instance, a ROM will tell the processor how to recognize which key has been pressed and how to light up the screen. Information stored in ROM can be “read” it can not be erased or added to because when chip is manufactured it is made non-writable. The information stored in ROM is not erased even if Power is switched off.

### **Disk Drives**

Disk drives provide a means of storing work, or data. *Floppy disks* are transportable from PC to PC and come in two sizes, 3 1/2” and 5 1/4” diameter. *Hard disks* are fixed inside the system unit and have much higher storage capacities than floppies.

Hard disks (or fixed disks) work on the same principle as floppy disks but are fixed inside the PC in a sealed unit. They can store a great deal more information than floppy disks and range in capacity from 10MB to several hundred MB. Access times (i.e. the time taken to read and write information) for hard disks are much faster than for floppy disks. Manufacturers often quote access times as well as capacities for hard disks.

Information is stored on disk in the form of *files*. A file might be a program or data such as a word processor document. Files can be grouped together on disk in *directories*.

## **The Monitor**

The monitor provides display output from the PC. Monitors vary in screen resolution and colours available. Monitors are available in colour and monochrome versions and in different screen sizes.

## **The Keyboard**

The keyboard allows you to input commands and information into the PC. The keyboard is normally connected to the main unit via a 5 pin DIN type socket.

## **Peripherals**

As well as the essential keyboard and monitor, *peripheral* items such as printers and mice are often found connected to PCs.

## **Printers and Plotters**

A printer may be connected to one of the serial or, more commonly, parallel ports of a PC. The availability of a printer is especially important for applications such as word processing. Printers vary enormously in quality and speed of output.

## **Printer Types**

Printers can be grouped by the method with which they print.

### **Dot-Matrix Printers**

The most common type of printers is dot-matrix. This refers to the way ink is applied to the paper - by a set of pins impacting onto the paper through an inked ribbon to form each character. Printer quality depends on the number of pins on the printer head. This is usually 9 pins, but 24 pin printers are available with a corresponding increase in print quality (and cost). Most dot-matrix printers have NLQ (Near Letter Quality) options where higher quality output is produced at a lower print speed.

### **Laser Printers**

Laser printers have the advantage of being able to produce letter quality text as well as high quality graphics. Their disadvantage is that they are expensive to buy and run; although costs are coming down. Laser printer quality is measured in dots

per inch, the most common being 300 dpi. They are page printers, fan fold paper cannot be used; but one (or sometimes two) automatic paper feed trays are an integral part. Printing speed is usually quoted in pages per minute (ppm).

## **Inkjet Printers**

Inkjet printers work by spraying a fine jet of ink on the paper to form the characters or graphic. Inkjet printers produce high quality output, next to laser printers, and are quiet in operation.

## **Plotters**

A pen plotter is an output device essential for graphical applications like computer Aided Design (CAD). Plotters provide a better quality graphics output than printers and allow the use of different colours (high quality colour printers are available, but very expensive).

## **The Mouse**

A mouse is a device which moves a pointer around the screen, options being selected by pressing (or 'clicking') a mouse button. In present day Software a mouse is essential. Graphical User Interfaces, such as Windows require the use of a mouse.

## **The Keyboard**

This section covers the use of the keyboard.

### **Layout of the Keyboard**

There are two styles of keyboard in common use, the older 84-key and the now more common 102-key expanded keyboard. The 102-key keyboard normally consists of four main parts;

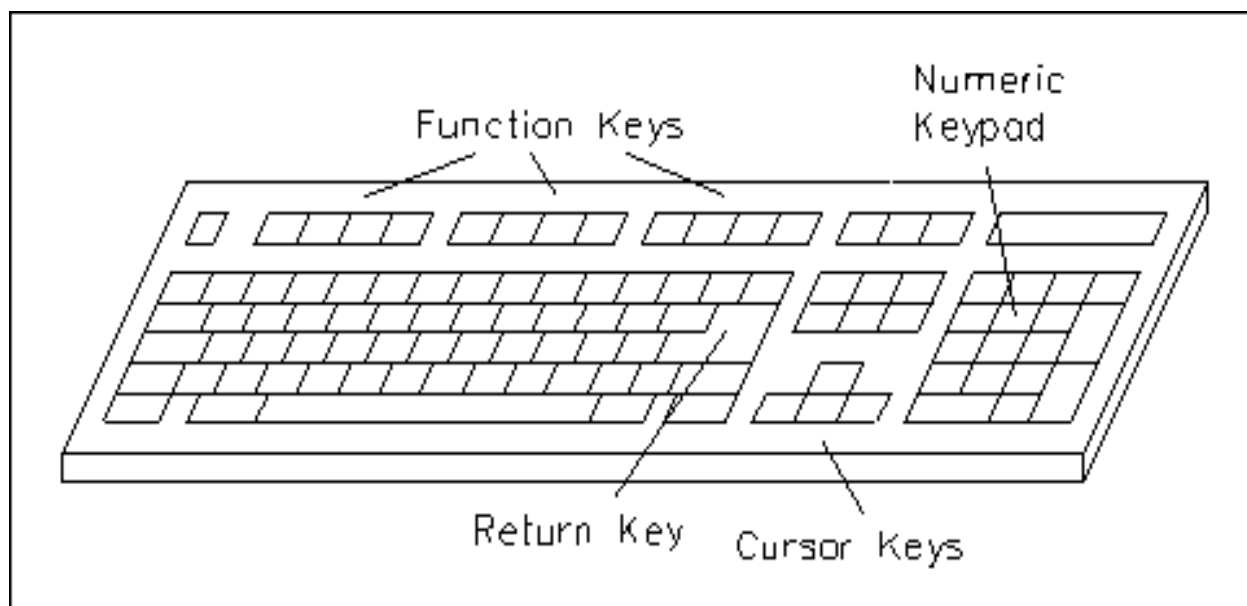
A typewriter-style alphanumeric keyboard with four extra keys labeled Esc (Escape), Ctrl (Control), and Alt (Alternate).

A numeric keypad, situated at the far right of the keyboard, providing the digits 0 to 9, a decimal point and plus and minus signs, together with four special keys labeled **Num Lock** (**Number** Lock), **Scroll Lock**, **Ins** (Insert) and **Del** (Delete). On the 84-key keyboard the numeric keys are also used as cursor control keys. In between the alphabetic keys and the numeric keypad there are two groups of keys. The top group repeats the functions on the numeric keypad. Below there are four cursor keys. These are not present on the 84-key keyboard.

A set of twelve *function* keys situated in a single row above the main typewriter keyboard and labeled F1 to F12. On the 84-key keyboards there are ten function keys situated to the left of the main typewriter keys.

The layout of these keys is shown in figure 6 and their general uses are described in the following sections. The position of some of the keys may be different from that described below.

In order to save space, the keyboards on portable and notebooks PCs have largely different layouts from that described above.



### 102 Key Keyboard Layout

#### Capital Letters and Punctuation Marks

As with a typewriter, to type upper case (capital) letters, or to obtain a punctuation mark or symbol shown on the upper half of a key, hold down one or other of the two <Shift> keys while pressing the key marked with the required character.

The Shift keys are normally situated on each side of the bottom line of letter keys and are often marked with a 'fat' up-arrow). To type text in capital letters, the keyboard can be 'locked' into capitals by pressing the **Caps-Lock** key (the key or a sign on the keyboard may be lit). Since **Caps Lock** only affects the letter keys, it will still be necessary to hold down a **Shift** key to obtain the punctuation marks and symbols shown on the upper half of keys. To return to lowercase letters, press the **Caps-Lock** key again (the light will go out). If you press **Shift** while **Caps-Lock** is engaged you will revert to lowercase i.e. **Shift** always reverses the current state of **Caps-Lock**.

## Numeric Keypad

The numeric keypad at the right of the keyboard can be used for numeric input only if the **Num Lock** key is pressed (the key or a sign on the keyboard may be lit). To release the numeric keypad and hence use the cursor keys (labeled with arrows), press the **Num Lock** key again; the light will go out.

On some keyboards the cursor keys are also a separate group of four keys (see figure 6). Either set of cursor keys may be used.

## Screen Control Keys

As well as the four cursor control keys, keys marked **PgDn** (Page Down), **PgUp** (Page Up), **Home** and **End** are available for cursor movement, depending on the software being used. These keys are also duplicated on the numeric keypad.

## Entering Commands

The key on the right-hand side of the alphanumeric keyboard that is often L-shaped and larger than the other keys, and is labeled with a right-angled, left-pointing arrow ([[?]]) and/or **Return** or **Enter** (see figure 6), is used to send a command line to the computer to be processed. After typing in a command to the PC, this key must be pressed to *enter* or start the command. In general, commands may be entered in upper or lower case letters, or a mixture of the two.

The <Return> key is sometimes known as the <Enter> key. There is also an <Enter> key on the numeric keypad which can be used in exactly the same way as the <Return> key.

## Correcting Typing Mistakes

To correct a mistake that you notice **before** you have pressed the <Return> key, use the <Backspace> key to `erase' the mistake. The <Backspace> key is situated above the <Return> key and is labeled with a left-pointing arrow.

Each time the <Backspace> key is pressed, the character to the left of the current cursor position is deleted. (The cursor is the flashing underline displayed on the screen.) The correct characters can then be retyped before pressing the <Return> key.

## The Insert Key

The **Insert** key sometimes marked **INS** acts as a toggle key when entering data or commands. In insert mode any characters entered push into the current line at the



cursor position. In overstrike mode any characters entered will overwrite any characters currently displayed.

### **Other Useful Keys**

The operation of the **Function Keys** depends on the particular software being used. For example pressing F1 calls up a help screen in a lot of software packages.

The **ESC** key usually allows you to 'escape' from a particular environment.

The **Print Screen** key, sometimes marked **PrtSc**, when pressed in conjunction with the Shift key copies the screen image to the printer.

The **Alt** and **Control** keys are used in combination with other keys to execute particular commands depending on the software being used. For example Control-F2 will initiate a spell check when using Word Perfect.

### **Networking**

PCs were designed as single user stand-alone systems. It is possible, however, to link PCs so they are able to share data and peripherals and use electronic mail. PCs are linked via a *network*. The network is normally controlled from a PC called a *fileserver*. The fileserver has a large, fast hard-disk containing applications software and data which is available to the other PCs on the network. The advantages of networks are numerous. For example if a new version of a software package were to be used, rather than installing it on every PC in the office, it need only be installed on the fileserver. Also, peripherals such as plotters and printers can be added to the network, allowing sharing of resources.

Creating a network involves additional hardware and software. As well as the cabling involved, each PC in the network needs an expansion card called a *network controller*. There are several different networking protocols available, the most common being *Ethernet*. Software is also needed to control the network, the standard for PC networks being Novell Netware.

### **Hardware**

Hardware is the physical part of a computer, something which we can touch, feels with our hand. Technically, we can define the Hardware as all the equipment and electronic circuits that make up the computer i.e. keyboard, screen, disk drives, printers etc. However the hardware can do nothing without the software

## What is Software?

Software is the set of operational instructions to the hardware, which tells the computer what to do, how to act, how to generate picture, how to print a bio-data and other documents and so on. Technically we can define the software as the information that the computer needs to work on. The information can be instructions, which tell the computer what to do or the data that is used by the instruction. For example to perform addition, the actual numbers that are entered into the computer for addition are the data.

A set of instructions that performs a task is known as a **program**. You cannot touch the software; it can only be stored on floppy disk, hard disk drive, Compact Disks (CDs), just the way music is stored in cassettes and CDs.

## Types of Software

**Operating System Software:** this is the most important software which is used as an interpreter between the user and the computer. It also manages the input and output devices of a computer.

**Application Software:** this is customized software created for user's specific need and is done with the help of a programming language.

## OPERATING SYSTEM

An operating system is a collection of programs which manage system resources and aid in the development and execution of application programs. It is difficult for a majority of us to communicate with computers in Binary Language. Therefore, programs are written in high level language. The programs written in high level language are translated to machine, language by another program called compiler.

The operating system used in different computer system is

**Microcomputer:** DOS (MS-DOS, PC-DOS), CP/M-80, WINDOWS, XENIX, AOS, OS/1, OS/2, Macintosh etc.

**Minicomputer:** RSX-11, RTOS, VMS (VAX system) etc.

**Mainframe computer:** MULTICS, OS/MFT, OS/VMT, VM 370, MCP, XDS, UNIX, LINUX etc.

A computer not only has hardware and high level language translators but also many routines which enable user to use the computer efficiently.

The operating system acts as an interface between the user and the computer. Various functions performed by the operating system are

**1. Bootstrap loader:** This program resides in ROM. This is used to read the main portion of the operating system from the disk when the computer is first turned on.

**2. Diagnostics tests:** The operating system performs various diagnostic tests. These tests are for checking the operation of the disk drives, checking the RAM etc.

**3. Operating System Supervisor:** This is the supervisory program which controls all the activities of the system.

Various tasks performed by this program are as follows

- It assigns processors to task properly.
- It allocates memory and other storage areas.
- It interprets commands/instructions.
- It handles job to job transitions.
- It acts as an internal time clock.
- It establishes and enforces a job priority system.
- It schedules the processing of jobs/tasks.
- It co-ordinates and assigns I/O devices.
- It manages the correct execution of a program.
- It establishes data security and integrity.
- It maintains an account for processor time, I/O time etc. for billing purposes.

## Microsoft Windows

### Introduction:

Microsoft's Windows is the program that governs all operations on your computer. Windows uses a graphical user interface (GUI) consisting of windows, menus, icons, and dialog boxes to help you tell your computer what to do. Windows presents options and commands to you, accepts your responses, and translates them into commands for the computer. Windows eliminates the need for you to remember and type complex commands that require exact syntax.

### Using Windows to Interact With Your Computer:

You interact with your computer in a number of ways. You enter data and the commands into the computer using an input device. The mouse and the keyboard are the most common input devices. Floppy disk drives, CD-ROM drives, and microphones are also input devices. The computer uses an output device to send information to you. Monitors, printers, and speakers are common output devices. Windows allows you to communicate with the computer and control these devices by using menus and dialog boxes to request and accept information from you.

### Windows Features:

The following are some Windows features.

- **Multi-tasking:** Perhaps the greatest advantage of windows is the ability to have several programs and documents open at the same time. Having this capability to work quickly and efficiently, namely by not having to exit a program when you want to access information from another program. You can quickly switch among programs to activate the one you need to use. For example, you can have a word processing program, a database program, and an Internet browser open at the same time. With a few simple keystrokes, you can copy information from one program to another, without having to close any windows.
- **Standard Menu System:** Microsoft imposes strict formatting guidelines for Windows programs. All Windows programs must use a standard menu system. As a result, you will find the same menu system and similar choices in all Windows programs.
- **Menu Commands:** Commands are directions for the computer. When you invoke a command you are telling the computer to perform a specific task. In Windows, you enter commands by choosing them from menus listed on your screen.
- **Clipboard:** The Clipboard is a temporary storage area. The Clipboard "holds" cut or copied information until you paste it or cut or copy new

information. You use the clipboard whenever you move or copy information in one program to another program.

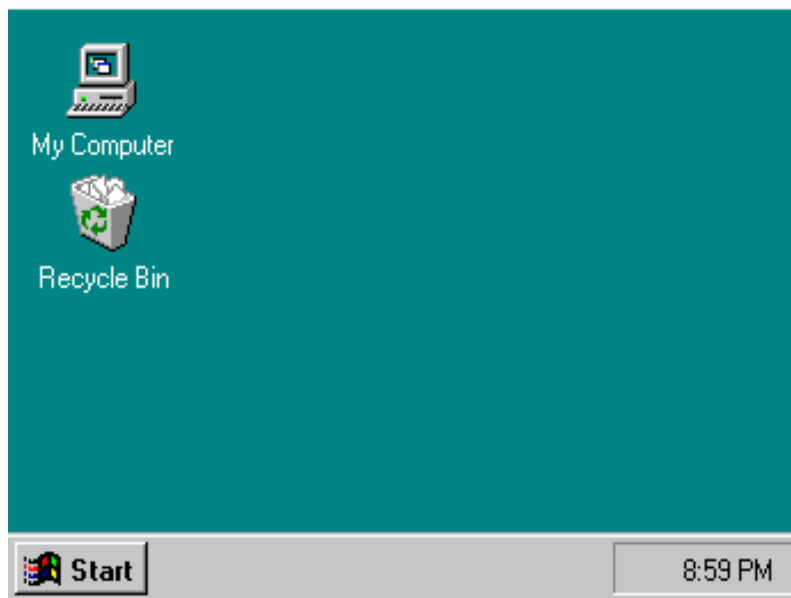
- **Recycle Bin:** Whenever you delete a folder or file from your computer, Windows places the item in the Recycle Bin. The Recycle Bin allows you to retrieve items that you accidentally deleted or items you decided were important after all.

## The Desktop and Taskbar

### **Introduction:**

The Desktop and Taskbar always appear on the screen when you start Windows. The Desktop and the Taskbar serve as the main graphical interface to your computer. Together, the Desktop and the Taskbar cover the entire computer screen. You can access all your programs and files from either the Desktop or the Taskbar.

With the default installation of Windows 2000 the desktop looks similar to this:



### **The Windows Desktop:**

The Desktop takes up the majority of the space on the screen. The Desktop lists program icons which you can use to start a program. (Not every program on your computer is represented by an icon on the Desktop, however.) Each time you start a program, it appears on the Desktop. As a result, the program icons may not always appear on the screen.

Think of the desktop as being similar to the top of your desk. As you work, you may place several folders and documents from different projects on your desk at

the same time. After a while, your folders and documents start to overlap and "pile up." Similarly, as you work in Windows, you may open several programs and documents. These programs and documents appear on your electronic Desktop. Just as programs and documents you place on your office desktop, eventually, your electronic folders and documents may overlap on the computer Desktop. Also like the folders and documents on your desk, you can reshuffle, close, and throw-away the folders and documents on your electronic Desktop.



### **The Taskbar:**

The Taskbar is a thin, horizontal bar below the Desktop. By default, the Taskbar always appears on the screen, even when you have a program running. The Taskbar contains the Start button, buttons for open programs, and a clock. The Taskbar allows you to quickly start programs, manage tasks on the Desktop and on your computer, and exit Windows. From the taskbar, you can start any program on your computer and access any document.

### **What is a Window?**

#### **Introduction:**

A window is simply a framed region on the Desktop. Each window contains a different program or document. The number of windows which can appear on the Desktop depends on your computer's memory, the Windows program, the amount of memory your programs require, and the manner in which you choose to display them.

#### **Types of Windows:**

Windows uses two types of windows, program windows and document windows.

- **Program Window:** A computer program is a set of instructions that perform a specific task, such as word processing or data management. Each time you open a program, Windows 2000 opens a program window through which you enter commands for the program. The more programs you start, the more windows you open. As a result, you may have several program windows open on your Desktop at the same time. A program window might contain several document windows. You can only enter commands through a program window.
- **Document Window:** A document is any information you create with a program, such as a letter, spreadsheet, or database file. When you open or create a document in a program, you open a document window. Each document window contains a single document and always appears in the

program window's work area. This type of window is sometimes referred to as a child window.

**Window Elements:**

Most windows contain a combination of the following elements:

**Window Borders:** Window borders are the four edges that define a window.

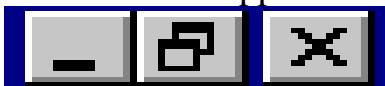
**Control Menu:** The control menu lets you move, close, or change the size of a window.



**Control-Menu Box:** The Control-menu box is a button appearing in the top, left corner of the window. When you activate the Control-menu box the Control menu appears. In Internet Explorer, the Control-menu box appears as the following:

**Title Bar:** The title bar is a horizontal bar directly below the window's top border between the Control-menu box and the resize buttons. The title bar lists the window's name. The following is an example of a title bar:

**Resize and Close Buttons:** The resize and close buttons appear in the top, right corner of the window. You must use the mouse pointer to activate these buttons. The resize buttons perform the same tasks as the sizing commands on the Control menu. The Close button performs the same task as the Close command on the File menu. Therefore, you may find it easier to use the menu commands rather than these buttons. From left to right they are minimize, maximize and close buttons. These buttons appear as the following on every window:



**Menu Bar:** The menu bar is a horizontal bar the length of the window. It appears at the top of a program window, directly beneath the title bar. The menu bar lists all menus for the program. In Internet Explorer, the Menu Bar appears as the following:



**Work Area:** Every window has a work area. What you do in the work area depends on the window. Generally, a window's work area holds information. For example, a program window's work area holds the document window.

**Icons:** Icons are small, graphic representations of programs, drives, folders, and documents. When you activate an icon you start the program, open the document, or access the contents of the drive or folder. By default, the Recycle Bin icon is located on your desktop.



**Scroll Bar:** A scroll bar is a bar along the right edge and/or bottom edge of a window that lets you scroll the contents of a window or list box to show information not currently visible on the screen. An example of a horizontal scroll bar is shown below:



**Status Bar:** The status bar is a horizontal bar beneath a document window. It lists status information such as page number, date, time, or status of task. In Internet Explorer Communicator, your status bar should look similar to the following:



## The Mouse?



### **Introduction:**

The mouse is an input device used to navigate through Windows 2000 and enter commands. You can use a keyboard shortcut to perform most tasks which are performed with a mouse. A keyboard shortcut is a single keystroke or a combination of keystrokes that executes a command.

You may encounter tasks that cannot be performed using a keyboard shortcut. To complete these tasks you must use the left and right mouse button keys.

### **Mouse Terminology:**

Because you may need to use the mouse button keys, you should become familiar with terms associated with the mouse functions. The following terms are associated with the mouse:



- Point: Point means to place the mouse pointer on a specific item.



Point to the File menu located in the upper left corner of your window.

Your mouse should look like. 

- Click: Click is the act of pressing and releasing the left-mouse button one time. When you click on an item, you are selecting it.



Click on the Recycle Bin icon located on your desktop.  
Your icon should now be highlighted.

- Right-Click: Right-Click is the act of pressing and releasing the right-mouse button one time. When you right-click in Windows 2000, a shortcut menu appears.



Right-Click on your desktop.  
The following shortcut menu will appear:



- Double-Click: Double-Click is the act of pressing and releasing the left (or right) mouse button twice in a rapid succession. When you double-click on an item, Windows selects and executes the command associated with the item. For example, you may double-click on a program icon to start the program.
- Drag: Dragging is the act of moving a selected item to a different location on the screen.




Drag the Recycle Bin around your desktop.

## **Topic: Selection Cursor, Insertion Point, and Mouse Pointer**

### Introduction:

Windows uses the insertion point, the selection cursor, and the mouse pointer to indicate where on the screen the computer's attention, or focus, is directed. You can use keystrokes to control these items and direct the computer's focus to another area or object on the screen.

- **Selection Cursor:** The selection cursor appears as a frame around a selected item or as a highlight, changing the color of the selected item. The selection cursor appears on menus to indicate which menu or command is selected. A selection cursor appears on menus to indicate which menu or command is selected and on dialog boxes to indicate which field is selected. A selection cursor also appears around text selected for editing functions, such as bolding and underlining. The computer does not do anything to the item in the selection cursor until you give it a command. For example, you must press Enter to tell the computer to execute a selected menu command; you must execute the Copy command in order to copy selected text. The selection cursor is sometimes referred to as simply the "highlight."
- **Insertion Point:** An insertion point is a flashing vertical bar that indicates where the information you type will appear. The insertion point appears in documents and text boxes. The insertion point always appears to the right of the last character you typed. The insertion point is usually referred to as the "cursor."
- **Mouse Pointer:** The mouse pointer indicates the position of the mouse on the Desktop. The mouse pointer always follows the movement of the mouse. As a result, the mouse pointer is not always in the same position on the screen as the insertion point or selection cursor. However, the computer ignores the mouse pointer until you activate it by clicking the left or right mouse button, either on the mouse itself or using the equivalent keystroke. When you activate the mouse pointer, you are telling the computer to direct its attention to the item or area on the screen where the mouse pointer appears.
- **Mouse Pointer Shapes:** The shape of the mouse pointer depends on which program you are using, where the mouse pointer appears on the screen, and which task you are performing. The following list describes the different mouse pointer shapes and their functions.
  1. **I-Beam:** The I-Beam indicates the mouse pointer is positioned on an area where you can type text such as on a document, text box, or combo box.
  2.  **Arrow:** The Arrow indicates the mouse pointer is positioned on an item that can be selected or activated, such as a button, menu,

menu command, an item selected for dragging or resizing, or an inactive window.

3. Hand: The Hand indicates the text on which the mouse pointer is positioned is a hypertext link. When you activate a link, you change the computer's focus to another place in the document or to another document or program entirely. The Hand is commonly found in the Help program where text formatted as a hypertext link opens new Help topics or provides you with a definition.

## Topic: Menus and Menu Commands

### Introduction:

A menu contains a list of available commands in a program. Rather than having you memorize all the commands a program can accept, Windows organizes the commands into menus. While all Windows programs use a menu system to group related commands, the number and names of menus and the number and types of commands listed on a menu depend on the Windows program you are using. However, most Windows programs will have at least a File menu and a Help menu.

Some menu commands require you to enter additional information. When you select these commands, a dialog box appears prompting you for information. For example, when you choose the Shut Down command on the Start menu, a dialog box appears prompting you to tell the computer which shut down option you want.

Other menu commands require you to select additional commands from a sub-menu which opens to the side of the main menu. For example, when you choose the Programs command on the Start menu, a sub-menu appears with a list of programs you can start or program folders you can open.

An example of a menu is the Start Menu:



Menu and Menu Command Hot Keys:

A hot key is a single key that represents the menu or menu command. The hot key is the underlined letter in the name of the menu or menu command. For example, the letter P in the Programs command is underlined indicating the P key is the hot key for this command. Often, a keyboard shortcut includes the command hot key.



Click on the Start button. Type the letter **H**.

The following should appear:



Close the **Help Topics** window.

Start Menu Commands:

The Start menu appears when you activate the Start button on the Taskbar. You use this menu to start programs, open documents, change your computer settings, find Help information, and shut down your computer. The number of commands that appear on your Start menu depends on your installation. However, the following commands appear on the Start menu by default.

- **Programs:** The programs command brings up the Programs sub-menu. From the Programs sub-menu, you can choose to open a program folder or start a program. The P key is the hot key for this command.
- **Documents:** The Documents command activates the Document sub-menu. The Documents sub-menu lists the last fifteen documents you worked with in Windows. The D key is the hot key for this command.
- **Settings:** The settings command activates the Settings sub-menu. From the Settings sub-menu, you can change your computer settings using the

Control Panel, change your printer set-up, and change the Taskbar settings. The S key is the hot key for this command.

- Find: The Find command activates the Find sub-menu. You can choose commands to find files or folders on your computer or find computers in your Network Neighborhood. The F key is the hot key for this command.
- Help: The Help command opens the Windows Help program. You can use the Help program to find answers to your questions about Windows. The H key is the hot key for this command.
- Run: The Run command opens the Run dialog box. If you know the name and path of a program, you can use the Run dialog box to start the program. The R key is the hot key for this command.
- Shut Down: The Shut Down command opens the Shut Down dialog box. From the Shut Down dialog box, you can choose to shut down, restart or logoff the computer. The U key is the hot key for this command.

## Topic: Dialog Boxes

### Introduction:

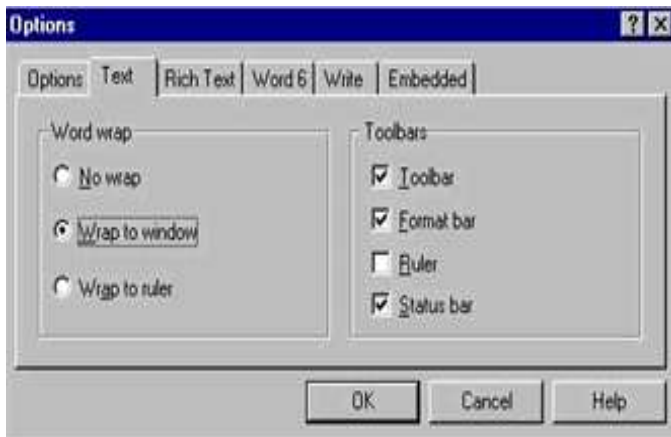
Windows uses dialog boxes to either display or request information. A dialog box is a rectangular window which varies in size and usually appears in the center of the screen. A dialog box can be very simple, displaying a brief message or listing just a few fields of information. Other dialog boxes have numerous fields and can contain menu and button bars.

You can either accept the information listed in the fields on the dialog box or change it. A field in a dialog box can be formatted as a Check Box, Command Button, Drop-down List Box, List Box, Option Button, Spin Box, or Text Box. A dialog box may also contain Tabbed Pages. Refer to the definitions below for more information about dialog box fields.

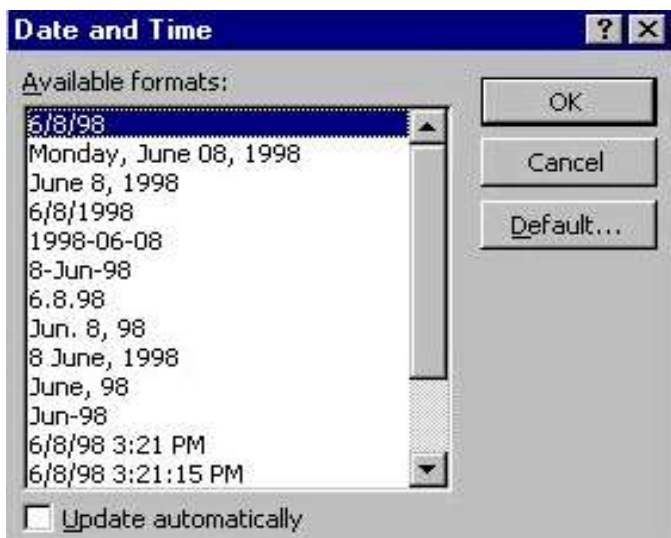
An example of a dialog box occurs when the **Print** option is selected from the **File** menu.



Another example occurs when **Options...** is chosen in a number of applications.



The following image is also a dialog box which occurs when inserting the date and/or time into a document.



### Dialog Box Fields:

The following definitions describe the dialog box fields. Refer to the above image for the following fields.

- **Check Box:** Check boxes appear next to options you can turn on or off. If the option is on, an X appears in the check box. If the box is empty, the option is off. You may check more than one option when they are formatted as check boxes. A check box field appears in the update automatically option in the dialog box above.
- **Command Button:** A command button tells the computer to carry out an action. For example, the OK button tells the Windows to close the dialog box and accept the information listed in the dialog box. The Cancel button tells Windows to close the dialog box. The Cancel button tells the Windows to close the dialog box and ignore any changes made in the dialog box. The **Print** dialog box seen above consists of two command buttons; **OK** and **Cancel**.
- **Drop-Down List Box:** Initially, a drop-down list box contains one option. However, when you press the Intermediate down Arrow key a list of additional options descends from the box. You can only select one option from the list. The **Print** dialog box provides a drop-down list box in the **Name:** option. The arrow to the right is used to select a printer from the options available.
- **List Box:** A list box contains a list of options. Usually, you can only select one option in a list box. The **Date and Time** dialog box consists of a list box.
- **Option Box:** When you are allowed to only choose one in a list of options, the options are grouped together as option buttons. The currently selected option has a darkened circle. In the **Print** dialog box, the Print range consists of an option box. In this case, you can either print the entire document or you can specify the pages.
- **Spin Box:** A spin box contains incremental values. You may type in a valid value, or use the Intermediate Up or Down Arrow key to select a higher or lower value from a defined list. Increments can be in terms of percents or whole numbers. Spin boxes are normally used when you are to set the size of the specific item, such as a margin. In the **Print** dialog box, a spin box is used to specify the number of pages.

- **Tabbed Pages:** When a dialog box contains numerous fields, it is divided into tabbed pages. Tabbed pages look like hanging file folders in a file cabinet drawer. Each tabbed page contains a different set of fields. The **Options** dialog box consists of six tabbed pages.
- **Text Box:** A text box allows you to enter text. When the text box is empty, an insertion point appears in the field. If the text box contains text, a selection cursor appears around the text. The **Print** dialog box contains two text boxes. They are found in the Print range box where you can select which pages you want to print.

## **Exiting Windows**

Introduction: You should always exit Windows before you turn off your computer. Windows must save information to the hard drive as it closes. You may lose important information if you turn the power off before Windows closes completely.

In addition, you should always make sure all your documents and programs are closed before exiting Windows. If you attempt to exit Windows with a program open, Windows will prompt you to save any changes before Windows shuts down.

The message "It is now safe to turn off your computer" appears when Windows has closed completely. You can then turn off your computer.

## **What Files Are**

Files are a collection of data onto a permanent storage structure. They are stored on a permanent storage media such as a computer hard drive, CD ROM drive, floppy disk drive or sometimes even a tape drive. Files take a certain amount of room to store. For example if you have two text files and one file has one sentence in it while the other file has 200 sentences in it, the file with 200 sentences will use more room on the storage media.

## **File Functions**

Different files have different purposes. Files are used to do one or more of the following functions:

- Provide machine executable code which is used to run application programs and the operating system.
- Store application program or operating system configuration information.



- Store data used by the user such as Microsoft Word document files.

Therefore there are three types of information that files contain:

- Executable code.
- System or program configuration information.
- User data.

These files are read by an application program or the operating system

### **File Characteristics**

Files have the below characteristics:

- Name
- Optional extension name - Part of the name, it is used by Windows operating systems to identify an associated program that can be used to read it
- **Size** - Shows the space the file requires for storage normally showed in kilobytes (Kb) which is 1000 bytes
- **Type** - Indicates the program used to access the file. The next section will talk more about file types.
- Date Modified - Shows the last date the file was created or changed.
- File structure - This characteristic is not viewable by the computer user but some programs can examine file structure to determine the type of file it is even when the file extension is changed.

The main items to remember include the facts that all files take a certain amount of room on their storage media and all files have a type which indicates whether they can be run by your computer. The file extension is one indication of the file type but not the only way to determine type.

If you are browsing your files using "My Computer" and click on "View" and "Details" you will see a window showing the file characteristics like the one below. Folders only take a little room on the hard drive and do not normally take as much room as files.

### **File Organization**

Files can be placed in folders similar to the way single sheets of paper can be placed into folders in a file cabinet. Folders can be created on the hard drive or nested inside each other any way the computer user desires.

## **What is a folder?**

A folder is a container that stores computer files in an organised way.

A folder is not made up of actual data in the same way a file is, it simply organises files in convenient groups which make it easy for you to find the files again.

You can have folders within folders (called sub-folders) which help to further classify your files.

Think of your computer as a cupboard: the different disk drives are like the sections of the cupboard. Inside the drives are folders, just as the sections of the cupboard contain different drawers (e.g. your sock drawer). You use folders to organise your files or documents, just as you use different drawers to organise your items of clothing (e.g. socks go into the sock drawer).

## **Windows Explorer: Managing Your Files**

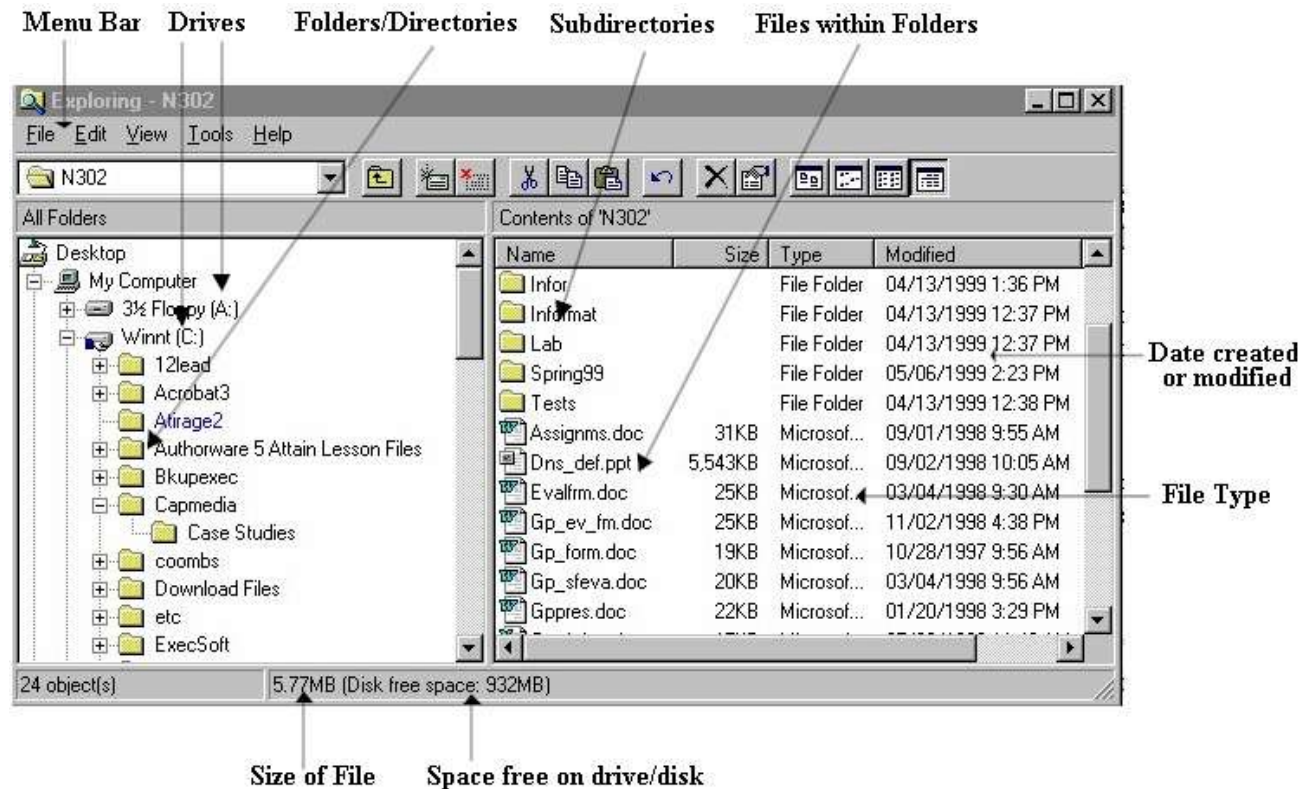
Before learning how to Find, Save, Copy, Move, Delete files, etc. let's take a look at one of the most useful tools to help you manage your files. The program is called **Windows Explorer**. As you learn about file management in the steps to follow, refer to the image below of Windows Explorer. Notice the identification of the parts of Explorer below.

### **Accessing Windows Explorer**

To access your Windows Explorer:

1. Click on Start, Programs, Windows Explorer
2. Size the window for your desired viewing. You can also size each of the vertical windows within the larger one to see all the information

## PC BASIC



### Parts of Windows Explorer

*Try to think of the structure of this file management tool as a filing cabinet with folders inside of filing drawers, etc. This concept is represented in Explorer with a "tree" type of appearance -- directories come off main drives; files come off directories, etc.*

On the left side of your Explorer window are the folders in your chosen drive. The Explorer view begins with Desktop, followed by My Computer, and lists all your drives, followed by other folders or programs contained within the Desktop and My Computer.

Your directory structure is indicated by the indentation levels in Explorer's left pane. On the right side are the files and folders that are contained within the folder you select at left. Your selected folder appears to be open, with its contents spilling out into the right panel.

A minus sign on a folder means that it is fully expanded. A plus sign on a folder means that more files are contained inside it than are visible.

When you want to see details of your files (i.e. size, date created/modified), click on 'View', 'Details'. When you just want to see a list of files, click on 'View', 'List'.

## Finding Files

If you save a file and then can't remember what you named it or where it was saved, you can search for the file using the Windows **Find** feature. Windows 95 or 98 allows you to locate files based on file name, a portion of a name, date, and/or the text included in a file. To conduct a search, you can

- use your **START** menu and choose **FIND**, **Files and Folders**, or
- click on **Tools** on the menu bar and choose **Find**, **Files or Folders**, or
- right click **My Computer**, and choose **FIND**.

The Find dialogue box comes up which looks like the image below.



Using a basic search, you indicate the file name or a portion of the file name (if you don't know it all) and search either your entire computer, or any drives or directories that you choose.

Here are some examples of ways of searching:

- You saved a Word document to your hard drive [C:] but you can't remember the name or where it was saved (but would recognize it). The syntax for entering into the 'Named:' box would be
  - \*.**doc** (this says show all files with a .doc extension)
  - \*.**ppt** (this says show all files with a .ppt extension)
- You want to find the file called 'budg-req. but you only remember part of the name -- 'budg'. The syntax would be
  - budg\* (this says show all files beginning with budg).

- In the 'Look in:' box, click the Browse button and click on [C:] so that the search will start from the main level or root of the c: drive.
- Then click on 'Find Now' to start the search

Your search results screen will list the file or files which match your criteria. The screen functions like a window in Explorer or My Computer. Here you may open, delete, move, and copy files.

### **Saving Files**

*Although Windows Explorer is not used for saving files, this operation will be covered here, as it involves the need to be familiar with the directory structure of Windows in order to know where to save or retrieve files when using applications.*

When saving any document, using any application, you will follow these steps:

1. When you are ready to save a file, click on 'File', 'Save As'
2. When the 'Save As' dialogue box comes up, click on the little triangle button at the end of the 'Save in:' box to display your drives.
3. Scroll to the drive letter (C: or A:), then double click on the folder (directory) to which you wish to save the file. You will then see that folder pop into the 'Save in:' box.
4. In the 'File name:' box below, enter your choice of a filename.
5. In the 'Save as type:' box, you notice that the application being used is already in the box. If you wish to save the file as another file type (i.e. *text only, etc.*), click the little triangle button at the end of the box to select.
6. Lastly, click on the 'Save' button.

*NOTE: When retrieving files with extensions other than the application's extension, you will need to click on 'All Files' in the 'Files of type:' box to see and select your files. For example, WORD automatically puts the file extension .doc after the filename. If, for example, you are using WORD and you saved a file with the name 'smith.let'. When you click on File, Open you will need to select 'All Files' in the 'Files of type:' box to see that file because just the files with the .doc extension will be showing in the file list.*

### **Copying Files**

You can use several methods for copying (and moving) files:

- right clicking,
- clicking a toolbar icon,
- clicking edit, copy on the menu bar,
- pressing 'control c' on your keyboard, or

- Dragging your files to another location. As you gain more experience and confidence, you will probably use the dragging option more frequently. Initially, you may prefer the other options.

*Basically when copying files from one directory or drive to another, you are going to select the file, then use one of these methods to copy it to another location.*

## **MENU BAR**

- Click once on a file on your disk (A :), on the menu bar choose edit, copy.
- Navigate to the directory folder where you wish to place your file (Temp). Select it by clicking on it once.
- On the menu bar choose edit, paste.
- Check it by double clicking on Temp to see it displayed on the right side.

## **KEYBOARD**

- Select a file on you A: drive (disk) by clicking on it once, press Ctrl C (hold down control while you press the letter c). Then release it--you have just copied it.
- Navigate to the directory where you wish to place your file (Temp). Select it by left clicking on Temp once.
- Press Ctrl V (hold down control while your press v).
- Check it by double clicking on Temp and see it displayed on the right.

## **DRAGGING**

***NOTE: You need both directories visible to use this option. Or you can open up Explorer again and move the windows around for good viewing.***

- Then in one window locate the file to be copied.
- In the 2nd window scroll to the desired target drive and folder so that it is visible.
- Then click and hold the left mouse button on the file in the first window and drag it to the 2nd window to the desired folder:
  - a) if copying it to the same drive, hold down the letter C on your keyboard while you drag it. (Remember: C for copy!)
  - b) if copying to a different drive, just drag it.(Windows 95 or 98 automatically copies rather than moves to different drives.)

Drop it precisely on the folder to which it will go. A small box will be visible around the selected folder, so that you can drop it within that folder.

If you miss, check the folders above and below your selected folder to see if the file landed there. Otherwise, you may have to search to locate it.

**TIP: You can copy several files at a time by**

- **Left clicking on 1 file, hold down the 'Ctrl' key while you select the other files**
- **Release the Ctrl key and on any one of the selected files drag to desired location.**

### Moving Files

The process of moving files from one place to another is essentially the same. When right clicking, or choosing Edit from the menu,

- Select your file.
- Choose **cut** instead of copy
- Then go to the drive or directory where you want to move the file and select **paste**.

*Note: Dragging files **only copies** files -- they remain in 2 places. Also, remember you can move multiple files in the same manner as described under 'Copying Files'.*

### Deleting Files

Deleting files and folders is easy - almost too easy. Here again, you have several options:

- select the file or folder and click the *delete* icon on your toolbar
- select the file or folder and press the *delete* key (del)
- right click the file or folder and choose *delete*.
- drag the file and drop it in the *recycling bin* on your desktop

Unless you have indicated in the *recycle bin* that you wish all files that you delete to be permanently deleted, and unless you are on a floppy drive, deleting will merely send your files to the *recycle bin*, from where you can permanently delete them later.

*WARNING: When you delete a folder, you delete all files in that folder. Before deleting a folder, be sure that it does not contain files you wish to keep!*

*Remember, only files deleted from your hard drive can be retrieved from the Recycle Bin.*

### **Renaming Files**

Renaming files and folders is easy - almost too easy. Here again, you have several options:

- select the file or folder and click the file menu click rename
- enter the new name and press enter
- right click the file or folder and choose rename
- enter the new name and press enter

### **How to Create Folder Directories**

Create folders by performing these steps:

1. Open Windows Explorer -- Start, Programs, Windows Explorer
2. If your window is small you may need to enlarge it (maximize it or drag the right lower corner).
3. To create a folder (directory) on C: click one time on C: (on left) to highlight/select it.
4. Go up to the menu bar at the top and click on 'File', 'New', 'Folder'.
5. A folder box appears on the right. Type your desired folder name and click Enter.
6. On the menu bar at the top, click 'View', 'Refresh' and now you will see your new folder on the left.

*NOTE: Sub folders can be created under already established folders in the same manner. On the menu bar, click one time on the folder and click 'File', 'New', 'Folder'.*

### **Copying Multiple Files**

There are several tricks that can be used to make copying or moving multiple files easier. They involve the selection of the files to be copied or moved. You can hold down the **Shift** key and select one file by clicking on it with the left mouse button (called left clicking). While still holding the **Shift** key down left click on another file several files down on the list. This will cause all files from the first one through the last one selected to be highlighted and selected. Release the **Shift** key. After this, you can hold down the **Ctrl** key and by left clicking on any other files, they can be either selected or de-selected. Release the **Ctrl** key. Once you have selected the files you can move them by dragging and dropping them (after



releasing both the shift and control keys) into another folder. This is done as follows:

1. Put the mouse cursor over one of the selected files.
2. Left clicking the mouse and hold it down
3. Drag the file to the desired location such as a folder icon.
4. Release the left mouse button.

## Microsoft Word

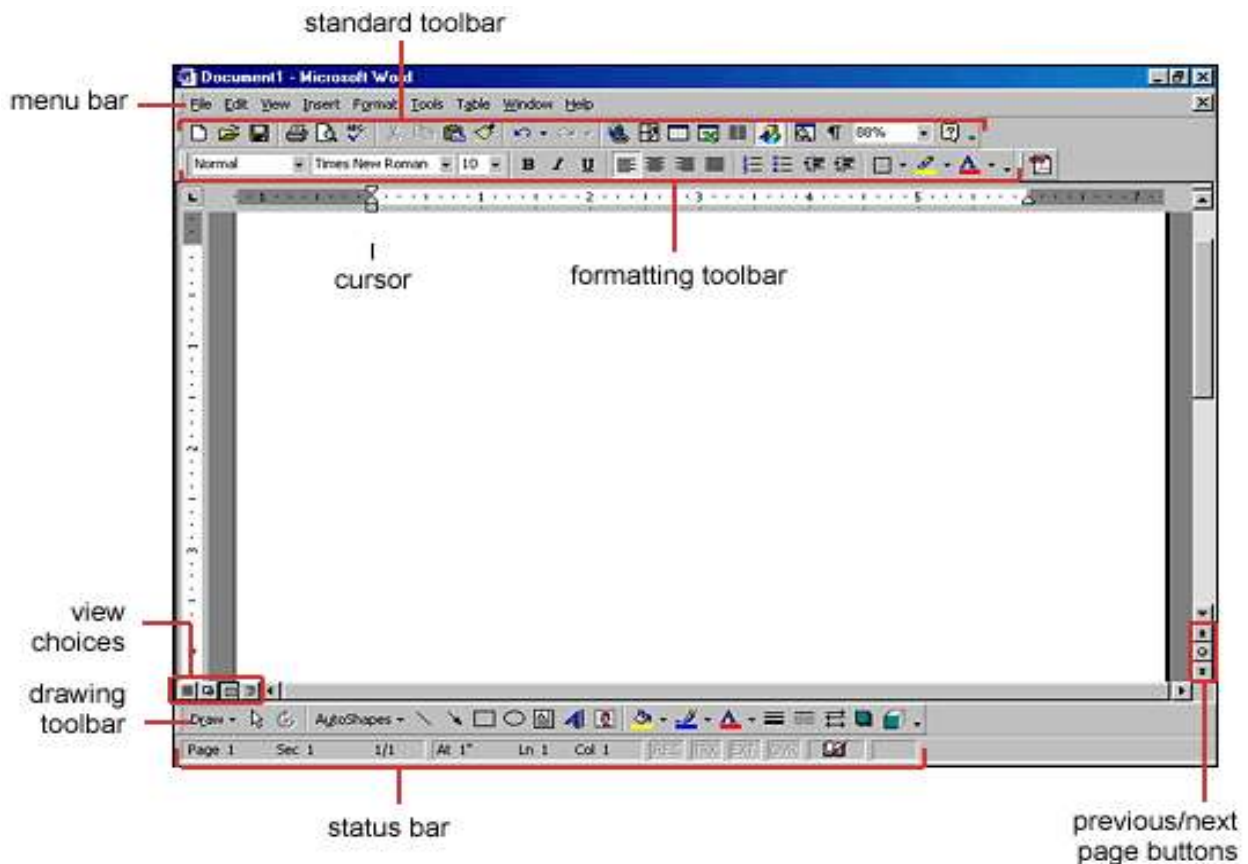
### Starting Word

Before you start Word, you must have Word installed on your computer, and you should have basic understanding of Windows operating system.

To start Word, follow the following steps.

1. Click the Start Button
2. Move your mouse pointer to program. A menu of programs appear
3. Move your mouse pointer over Microsoft Word and click on it. Word starts and displays the screen as shown below.

### Screen Layout



### Parts of the Word Screen

SCREEN ELEMENT	FUNCTION
Work Area	Your document displays here for text entry and editing.
Title Bar	The program name, user name and the name of the current document display here. At the right end of

	the title bar are buttons to minimize, restore and close program.
Menu Bar	Men headings on this bar let you access Word's menu command.
Toolbars	The small pictures or buttons on the toolbars let you select commonly needed commands by clicking the mouse.
Status Bar	Word displays information about the document on the status bar
Scroll Bar	You click and hold on the scroll bar to move around the document

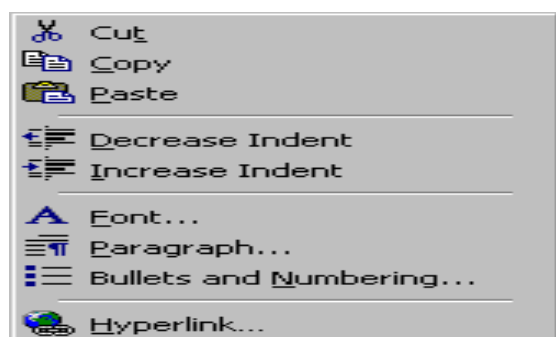
As you use Word, you will issue commands to tell Word what action you want. You can carry out most Word commands using either the menu or the Toolbars

## Menus

The menus in Word 2000 display only the commands you have recently used. To view all options in each menu, you must click the double arrows at the bottom of the menu.

## Shortcut Menus

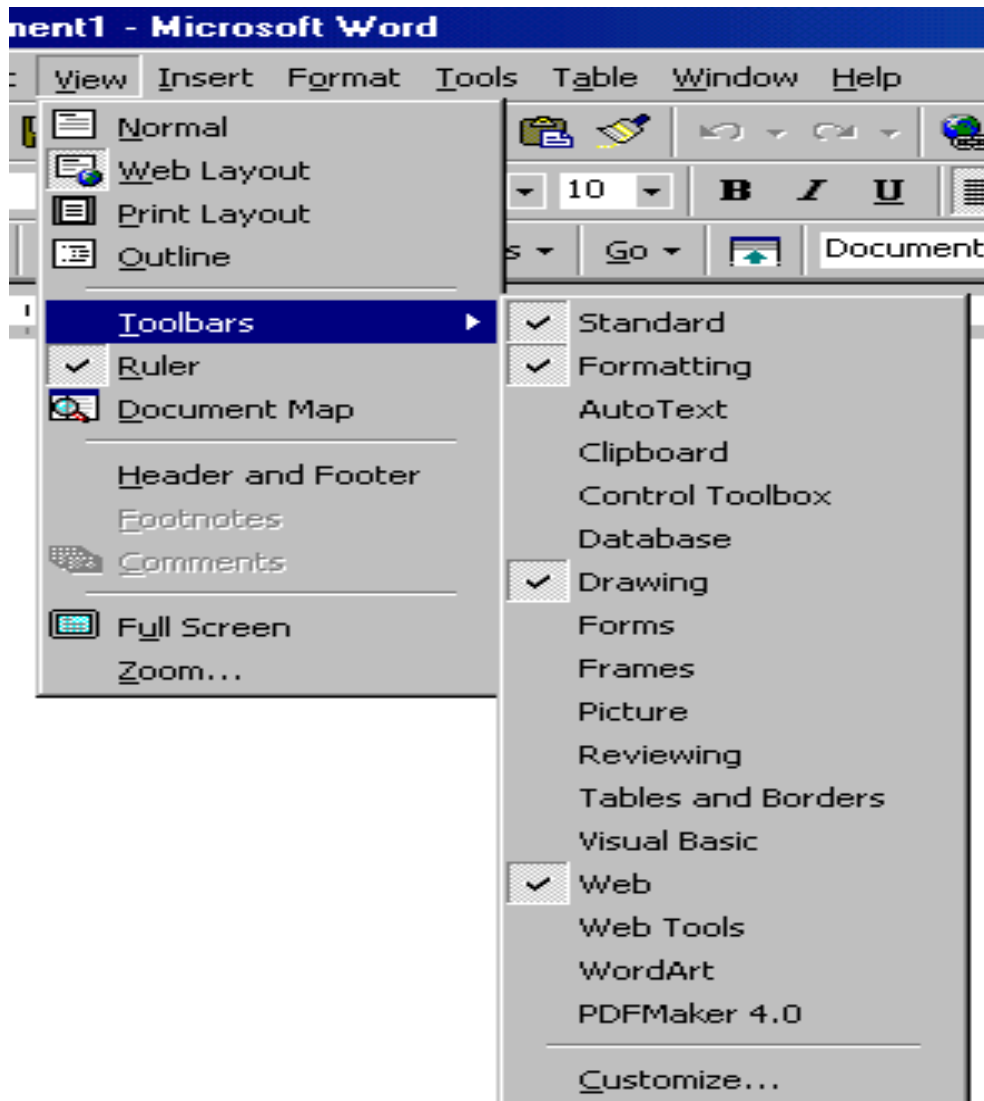
These features allow you to access various Word commands faster than using the options on the menu bar. View shortcut menus by right-clicking with the mouse. The options on this menu will vary depending on the element that was right-clicked. For example, the shortcut menu below is produced by right-clicking on a bulleted list.



Actions such as "Decrease Indent" and "Increase Indent" are only applicable to lists and therefore only appear on the list shortcut menu. The shortcut menus are helpful because they only display the options that can be applied to the item that was right-clicked and, therefore, prevent searching through the many menu options.

## Toolbars

Many toolbars displaying shortcut buttons are also available to make editing and formatting quicker and easier. Select **View|Toolbars** from the menu bar to select the toolbars. The toolbars that are already displayed on the screen are checked. Add a toolbar simply by clicking on the name.



## Quitting the Program

When you have finished working with word you have several option to exiting the program. All of these methods have the same result.

- Click File | Exit
- Press Alt + F4
- Click the close button on the title bar.


## Understanding Document Templates

Every Word document is based on a template. As the name suggest a template is a model for a document. Word comes with a variety of predefined templates that are ready for you to use. These templates cover a range of common documents needed such as fax, memos, business letters and web pages. You can also create your own templates.


## Creating and Opening Documents

There are several ways to create new documents, open existing documents, and save documents in Word:

### Create a New Document


- Click the New Document button on the menu bar. 
- Choose **File|New** from the menu bar.
- Press **CTRL+N** (depress the **CTRL** key while pressing "N") on the keyboard.

### Open an Existing Document

- Click the Open File button on the menu bar. 
- Choose **File|Open** from the menu bar.
- Press **CTRL+O** on the keyboard.

Each method will show the Open dialog box. Choose the file and click the **Open** button.

### Save a Document

- Click the Save button on the menu bar. 
- Select **File|Save** from the menu bar.
- Press **CTRL+S** on the keyboard.

### Saving the Document as you work

After naming and saving a document you still need to save it periodically as you work to minimize data loss in the event of power failure or other system problem. After you name a document you can easily save the current version

- Click File | Save
- Click the save button on the Standard Toolbar
- Press Ctrl+S

## Changing the Document Name

After you have named a document you may need to change its name. For example you may keep an old version of a document under its original name and save the revised version under a new name. To change a document name follow the steps.

- Click File| Save as - the Save as dialog Box Appears
- In the file name text box change the file name
- Click Save

## Renaming Documents

To rename a Word document while using the program, select **File|Open** and find the file you want to rename. Right-click on the document name with the mouse and select **Rename** from the shortcut menu. Type the new name for the file and press the **ENTER** key.

## Close a Document

Close the current document by selecting **File|Close** or click the Close icon if it's visible on the Standard Toolbar. 

## Document Property

Every Word document has a set of property that provides information about the document. To enter or view the document property

- Click File | Property
- Click the Summary Tab
- Enter or edit the summary information
- Click OK

## Typing and Inserting Text

To enter text, just start typing! The text will appear where the blinking cursor is located. Move the cursor by using the arrow buttons on the keyboard or positioning the mouse and clicking the left button. The keyboard shortcuts listed below are also helpful when moving through the text of a document:

<b>Move Action</b>	<b>Keystroke</b>
Beginning of the line	<b>HOME</b>
End of the line	<b>END</b>
Top of the document	<b>CTRL+HOME</b>
End of the document	<b>CTRL+END</b>
Left , right up & down	<b>Arrow Keys</b>

## Paragraph

The idea of paragraph is important in word because certain types of information apply to individual paragraphs. In word you end one paragraph and start a new paragraph by pressing **Enter**. Word inserts a new blank line and positions the cursor at the beginning of it.

## Selecting Text

To change any attributes of text it must be highlighted first. Select the text by dragging the mouse over the desired text while keeping the left mouse button depressed, or hold down the **SHIFT** key on the keyboard while using the arrow buttons to highlight the text. The following table contains shortcuts for selecting a portion of the text:

<b>Selection</b>	<b>Technique</b>
Whole word	double-click within the word
Whole paragraph	triple-click within the paragraph
Several words or lines	drag the mouse over the words, or hold down <b>SHIFT</b> while using the arrow keys
Entire document	choose <b>Edit Select All</b> from the menu bar, or press <b>CTRL+A</b>

Deselect the text by clicking anywhere outside of the selection on the page or press an arrow key on the keyboard.

## Deleting Text

Use the **BACKSPACE** and **DELETE** keys on the keyboard to delete text. Backspace will delete text to the left of the cursor and Delete will erase text to the right. To delete a large selection of text, highlight it using any of the methods outlined above and press the **DELETE** key.

## Moving (Cutting) Text

Highlight the text that will be moved and select **Edit|Cut** from the menu bar, click the **Cut** button on the standard tool bar, or press **CTRL+X** at once. This will move the text to a clipboard.

To move a small amount of text a short distance, the drag-and-drop method may be quicker. Highlight the text you want to move, click the selection with the mouse, drag the selection to the new location, and release the mouse button.

## Copying Text

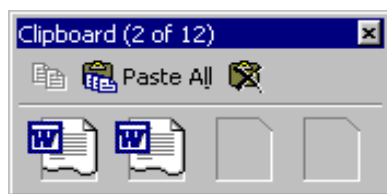
To copy text, choose **Edit|Copy**, click the **Copy** button on the standard toolbar, or press **CTRL+C** to copy the text to the clipboard.

## Paste Text

To paste cut or copied text, move the cursor to the location you want to move the text to and select **Edit|Paste** from the menu bar, click the **Paste** button on the standard toolbar, or press **CTRL+V**.

## The Clipboard

The last 12 elements that were cut or copied are placed onto Word's clipboard. You can view the elements on the clipboard by selecting **View|Toolbars|Clipboard** from the menu bar.

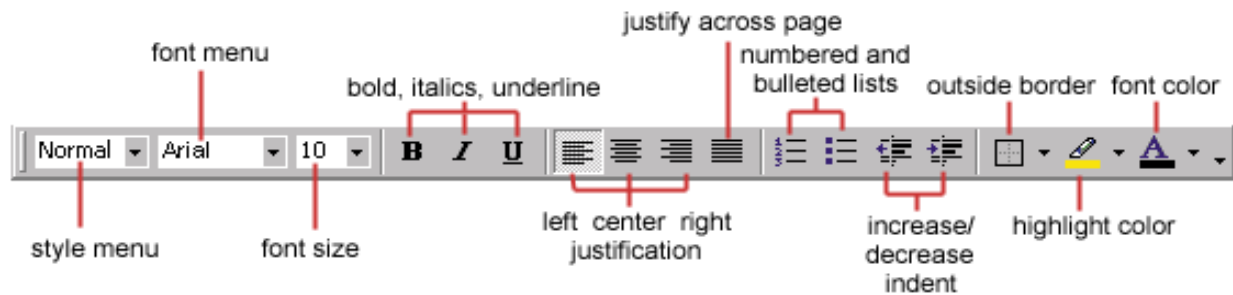


Place the mouse arrow over each element in the clipboard to view the contents of each item and click on an element to add its contents to the document. Click **Paste All** to add all of the items to the document at once. Click the **Clear Clipboard** button (the icon with an "X" over the clipboard image) to clear the contents of the clipboard.

## Formatting Text

The formatting toolbar is the easiest way to change many attributes of text. If the toolbar as shown below isn't displayed on the screen, select **View|Toolbars** and choose **Formatting**.



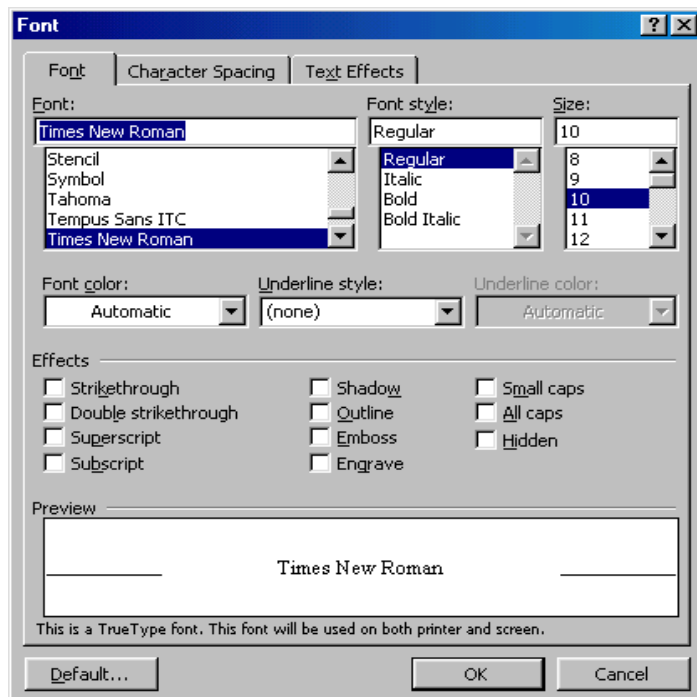


- **Font Face** - Click the arrowhead to the right of the font name box to view the list of fonts available. Scroll down to the font you want and select it by clicking on the name once with the mouse. A serif font (one with "feet" circled in the illustration below) is recommended for paragraphs of text that will be printed on paper as they are most readable. The following graphic demonstrates the difference between *serif* (Times New Roman on the left) and *sans-serif* ("no feet", Arial on the right) fonts.

T T

- **Font Size** - Click on the white part of the font size box to enter a value for the font size or click the arrowhead to the right of the box to view a list of font sizes available. Select a size by clicking on it once. A font size of 10 or 12 is best for paragraphs of text.
- **Font Style** - Use these buttons to bold, italicize, and underline text.
- **Alignment** - Text can be aligned to the left, center, or right side of the page or it can be justified across the page.
- **Numbered and Bulleted Lists** - Lists are explained in detail later in this tutorial.
- **Increase/Decrease Indent** - Change the indentation of a paragraph in relation to the side of the page.
- **Outside Border** - Add a border around a text selection.
- **Highlight Color** - Use this option to change the color behind a text selection. The color shown on the button is the last color used. To select a different color, click the arrowhead next to the image on the button.
- **Text Color** - This option changes the color of the text. The color shown on the button is the last color chosen. Click the arrowhead next to the button image to select another color.

The **Font** dialog box allows you to choose from a larger selection of formatting options. Select **Format|Font** from the menu bar to access the box.



## Special Font Effect

Word has a number of special font effects that you can use. These include superscripting, subscripting, strikethrough, and several graphic effects.

### Click **format**

In the **effect area** select the effect you want or to remove an effect by selecting or deselecting the check box.

### Click **OK**

## Displaying Border or Shading

Word border command lets you improve the appearance of the document by displaying border around the selected text or shading the text. You can apply border or shading by:

- selecting the text
- click **Format|Border and shading**
- click the appropriate tab for border or shading
- click the button to view the palette of available border and shadings
- click the desired border or shading

## Format Painter

A handy feature for formatting text is the **Format Painter** located on the standard toolbar. For example, if you have formatted a paragraph heading with a certain font face, size, and style and you want to format another heading the same way, you do not need to manually add each attribute to the new headline. Instead, use the Format Painter by following these steps:

- Place the cursor within the text that contains the formatting you want to copy.
- Click the **Format Painter** button in the standard toolbar. Notice that your pointer now has a paintbrush beside it.
- Highlight the text you want to add the same format to with the mouse and release the mouse button.



To add the formatting to multiple selections of text, double-click the **Format Painter** button instead of clicking once. The format painter then stays active until you press the **ESC** key to turn it off.



## Undo

Feel free to experiment with various text styles. You can always undo your last action by clicking the **Undo** button on the standard toolbar or selecting **Edit|Undo...** from the menu bar. Click the **Redo** button on the standard toolbar or select **Edit|Redo...** to erase the undo action.

To create a bulleted or numbered list, use the list features provided by Word.

## Bulleted and Numbered Lists

- Click the **Bulleted List** button  or **Numbered List** button  on the formatting toolbar.
- Type the first entry and press **ENTER**. This will create a new bullet or number on the next line. If you want to start a new line without adding another bullet or number, hold down the **SHIFT** key while pressing **ENTER**.
- Continue to typing entries and press **ENTER** twice when you are finished typing to end the list.

Use the **Increase Indent**  and **Decrease Indent**  buttons on the formatting toolbar to create lists of multiple levels.

**NOTE:** You can also type the text first, highlight the section, and press the **Bulleted List** or **Numbered List** buttons to add the bullets or numbers.

## Nested Lists

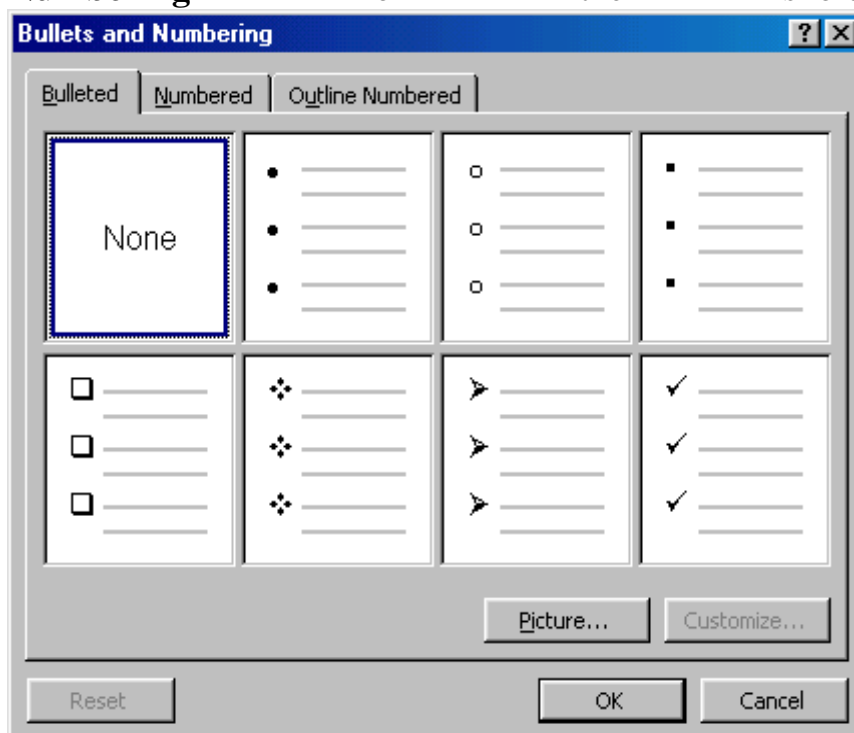
To create a nested list, such as a numbered list inside of a bulleted list, follow these steps:

- Type the list and increase the indentation of the items that will make up the nested list by clicking the **Increase Indent** button for each item.
  - Lists
    - Bulleted and Numbered Lists
    - Nested Lists
    - Formatting Lists
  - Tables
    - Create a Table
- Highlight the items and click the **Numbered List** button on the formatting toolbar.
  - Lists
    1. Bulleted and Numbered Lists
    2. Nested Lists
    3. Formatting Lists
  - Tables
    - Create a Table

## Formatting Lists

The bullet image and numbering format can be changed by using the **Bullets and Numbering** dialog box.

- Highlight the entire list to change all the bullets or numbers, or Place the cursor on one line within the list to change a single bullet.
- Access the dialog box by selecting **Format|Bullets and Numbering** from the menu bar or by right-clicking within the list and selecting **Bullets and Numbering** from the shortcut menu.



- Select the list style from one of the seven choices given, or click the **Picture...** button to choose a different icon. Click the **Numbered** tab to choose a numbered list style.
- Click **OK** when finished.

### Controlling Line Brakes

The word wrap feature automatically breaks each line in a paragraph when it reaches the right margin. Word offers a couple of methods to control the way line break

Word default is to break lines as needed at spaces or hyphens.

- To insert a non breakable hyphen Press **Ctrl +shift+ - (hyphen)**
- To insert a non breakable space Press **Ctrl +shift+ spacebar**
- To insert a breakable word Press **ctrl + - (hyphen)**

### Tabs

Tabs provide a way to control the indentation and vertical alignment of a text in your document. When you press tab key word inserts a tab in the document which moves the text and cursor to the right of it

### Using the Help System

Word has several methods by which you can get help. They are divided into three categories.

- The Office Assistant
- The Help Topic
- What's This Help

#### Asking the Office Assistant

You have probably already met the Office Assistant It's the paper clip character that pops up to give you advice. The Office Assistant is a very powerful help system that keeps track of what you are doing and can make some very intelligent guidance about what information you want.

By default Office Assistant is turned on and sits on top of whatever you're working on. You can turn The Office Assistant off by clicking the close button in the upper right corner of its window.

To turn the Office Assistant on click the Help button on the standard toolbar or click Help, Microsoft Word Help.

### **Asking the Office Assistant a question**

- If you need help on a particular topic, simply type a question in the text box.
- Click the search button the Office Assistant provides some topic that might match what you're looking for.
- Click on the option that best describes what you're trying to do. The help window appears with instructions for the specific topic.

### **Find and Replace**

#### **Find - Using the Menu**

- Type the following:  
**Monica is from Easton. She lives on the east side of town. Her daughter attends Eastern High School.**
- Highlight: "Monica is from Easton. She lives on the east side of town. Her daughter attends Eastern High School."
- Click on Edit.
- Highlight Find. Press Enter.
- Type **east** in the Find What field.
- Click on Find Next.  
Note that the "East" in Easton is highlighted.
- Click on Find Next.  
Note that "east" is highlighted.
- Click on Find Next.  
Note that the "East" in Eastern is highlighted.
- Click on Find Next. The following message should appear: "Word has finished searching the selection. Do you want to search the remainder of the document?"
- Click on No.
- Click on Cancel.

#### **Replace - Using the Menu**

- Highlight "Monica is from Easton. She lives on the east side of town. Her daughter attends Eastern High School."
- Click on Edit.
- Highlight Replace. Press Enter.
- Type "east" in the Find What box.
- Click on Find Next. Do not replace the "East" in "Easton."

- Click on Find Next.
- In the Replace With box, type **west**.
- Click on Replace.
- The "East" in Eastern is highlighted.
- Click on Replace.
- The following message will appear: "Word has finished searching the selection. Do you want to search the remainder of the document?"
- Click on No.
- Click on Close.
- Your text should now read:  
"Monica is from Easton. She lives on the west side of town. Her daughter attends Western High School."

### Document Display option

Word offers several ways to display the document. Each of these views is designed to make certain tasks easier. The available views are:

- Normal view - Best for general editing tasks
- Page Layout - Ideal for working with formatting and page layout
- Online Layout - Optimize view on-screen
- Outline – Designed for working with outlines

### Draft font view

Draft font view is a display option which provides a single generic font for all text. It indicates special formatting by underlining or boldface. Graphics display as empty boxes. Draft font view provides the fastest editing and screen display and it is particularly useful when editing the content of a document that contains a lot of fancy formatting and graphics.

- To turn Draft mode view on or off
- Click **Tools|Option**
- In Necessary click **View tab** to display view options
- Select the Draft font check box to turn on or off
- Select **OK**

### Full Screen View

Full screen view provides the maximum amount of screen real estate to display your document contents. In full screen view the title bar, menus, toolbars, status bar and all other window elements are hidden and your document occupies the entire screen. You can enter or edit text and select from the menu using the keyboard command.

To turn Full screen view on or off

Click **View|Full Screen**

### **Zooming the Screen**

The zooming command lets you control the size of your document on-screen. You can enlarge it to facilitate reading small fonts or decrease it to view an entire page.

Click **View|Zoom**

Select the desired **radio button**

- 200%, 100% or 75%
- Enter custom magnification
- Page width
- whole page

Click **OK**

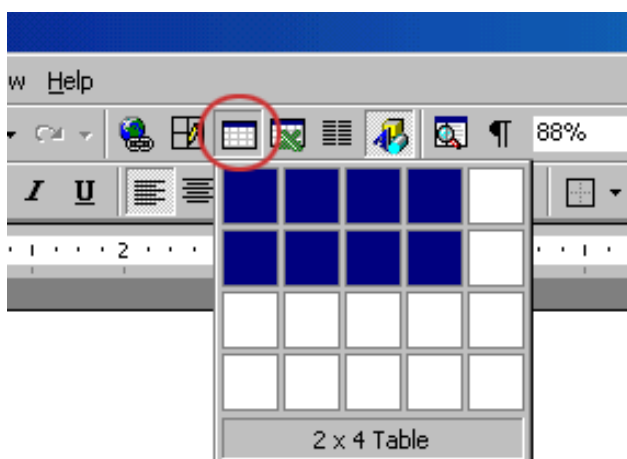
### **Tables**

Tables are used to display data and there are several ways to build them in Word. Begin by placing the cursor where you want the table to appear in the document and choose one of the following methods.

#### **Insert a Table**

There are two ways to add a table to the document using the Insert feature:

- Click the **Insert Table** button on the standard toolbar. Drag the mouse along the grid, highlighting the number of rows and columns for the table.
- 

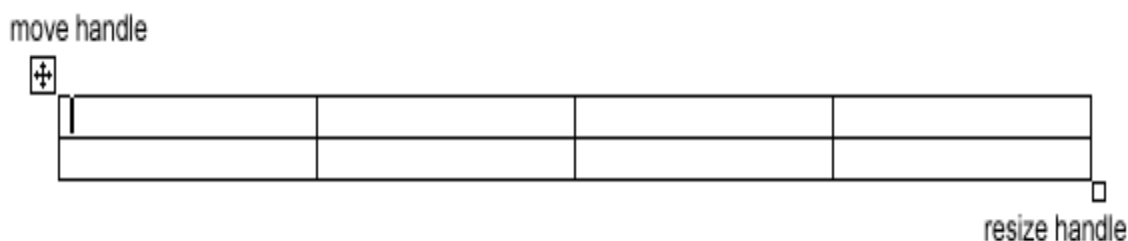






## Moving and Resizing a Table

A four-sided moving arrow and open box resizing handle will appear on the corners of the table if the mouse is placed over the table. Click and drag the four-ended arrow to move the table and release the mouse button when the table is positioned where you want it. Click and drag the open box handle to resize the table. Change the column widths and row heights by clicking the cell dividers and dragging them with the mouse.



## Tables and Borders Toolbar

The Tables and Borders toolbar allows you to add border styles, shading, text effects, alignment, and more options to your table. Access the toolbar by clicking **Table|Draw Table** or **View|Toolbars|Tables and Borders**.

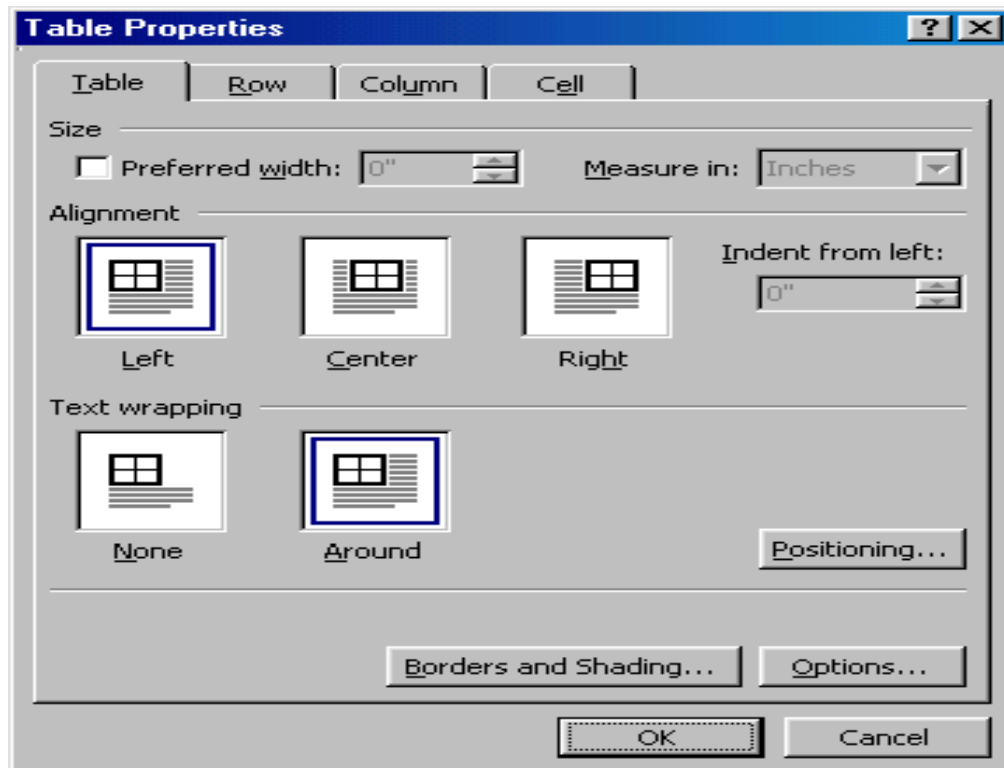


You will need to highlight the cells of the table you want to format. Click and drag the mouse over the cells, or use the following shortcuts:

Selection	Menu Method	Mouse Method
One cell	<b>Table Select Cell</b>	Click the bottom, left corner of the cell when a black arrow appears
One row	<b>Table Select Row</b>	Click outside the table to the left of the row
One column	<b>Table Select Column</b>	Click outside the table above the column when a black arrow appears
Several rows	(none)	Click outside the table to the left of the row and drag the mouse down
Several columns	(none)	Click outside the table above the column
Entire table	<b>Table Select Table</b>	Triple-click to the left of the table

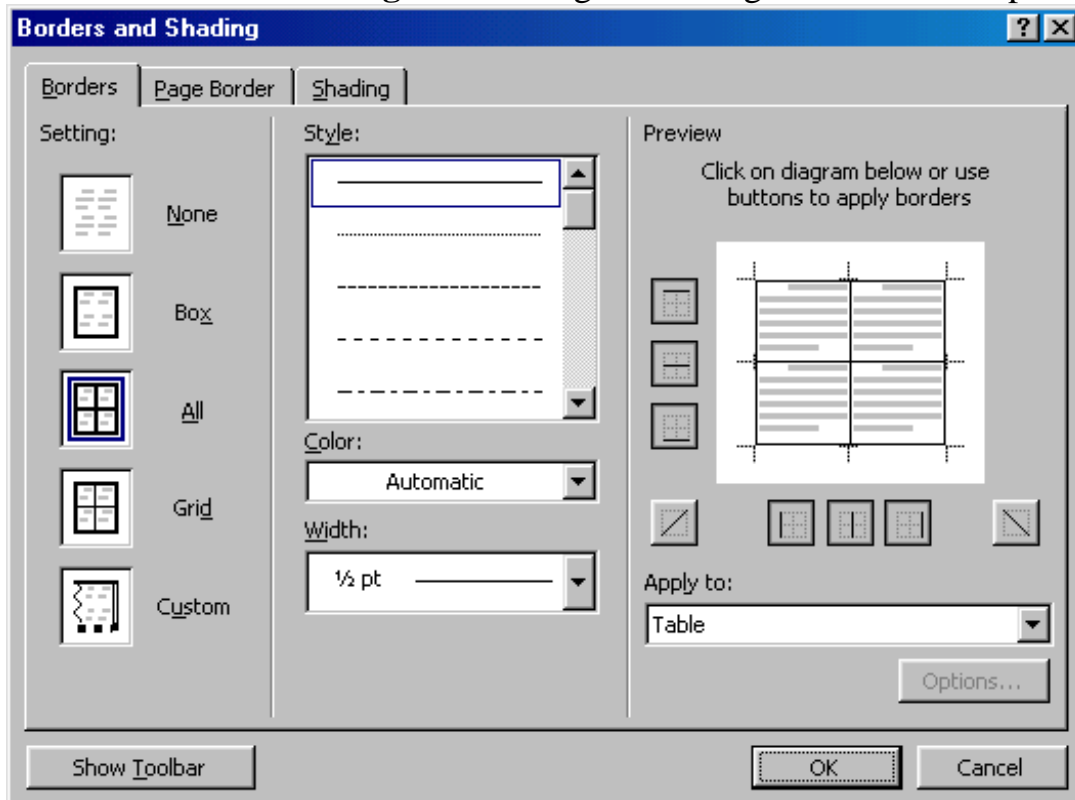
## Table Properties

Use the **Table Properties** dialog box to modify the alignment of the table with the body text and the text within the table. Access the box by selecting **Tables|Table Properties**.

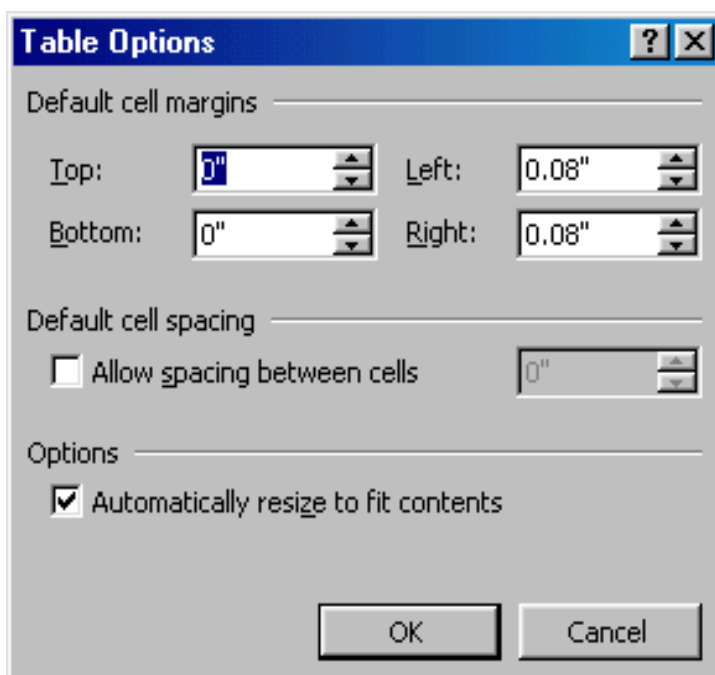


- **Size** - Check the **Preferred width** box and enter a value if the table should be an exact width.
- **Alignment** - Highlight the illustration that represents the alignment of the table in relation to the text of the document.
- **Text wrapping** - Highlight "None" if the table should appear on a separate line from the text or choose "Around" if the text should wrap around the table.

- **Borders and Shading** - Select from a number of border styles, colors, and widths. Click the **Shading** tab to change the background color and pattern.

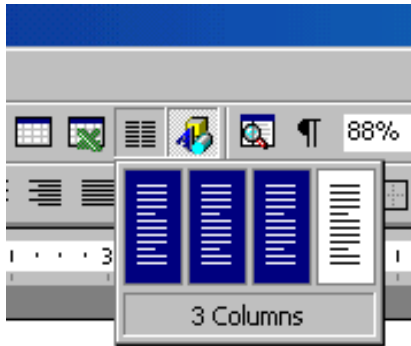


- **Options** - Click the **Options** button on the **Table Properties** window. To change the spacing between the document text and the table borders under **Default cell margins**. Check the **Allow spacing between cells** box and enter a value to add space between the table cells.

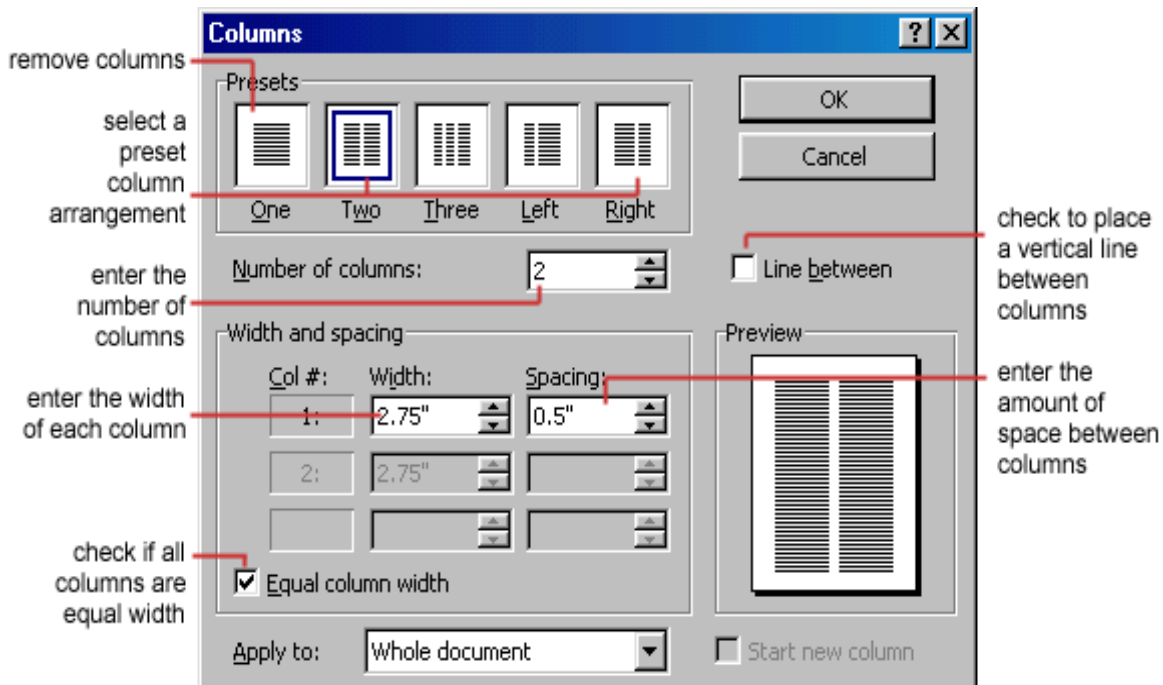


## Columns

To quickly place text in a column format, click the **Columns** button on the standard toolbar and select the number of columns by dragging the mouse over the diagram.



For more column options, select **Format|Columns** from the menu bar. The **Columns** dialog box allows you to choose the properties of the columns. Select the number and width of the columns from the dialog box.



## Drop Caps

A drop cap is a large letter that begins a paragraph and drops through several lines of text as shown below.

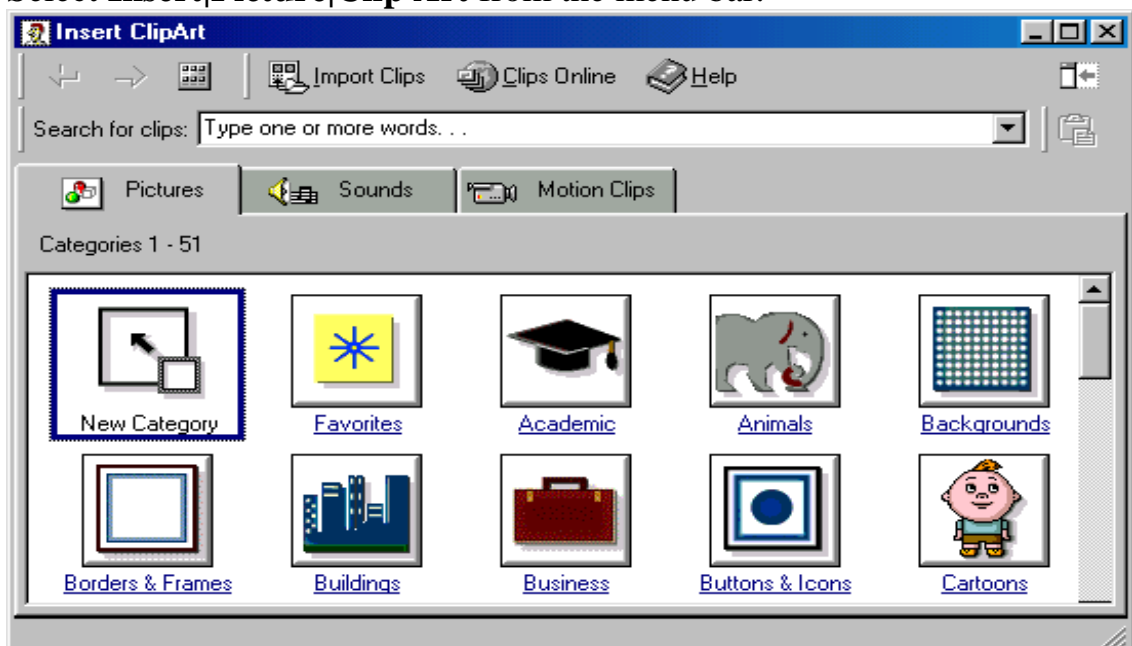
Add a drop cap to a paragraph by following these steps:

- Place the cursor within the paragraph whose first letter will be dropped.
- Select **Format|Drop Cap** from the menu bar.
- The **Drop Cap** dialog box allows you to select the position of the drop cap, the font, the number of lines to drop, and the distance from the body text.
- Click **OK** when all selections have been made.
- To modify a drop cap, select **Format|Drop Cap** again to change the attributes, or click on the letter and use the handles to move and resize the letter.

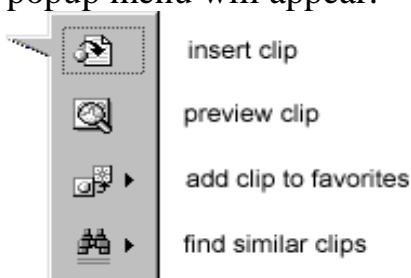
## Adding Clip Art

To add a clip art image from the Microsoft library to a document, follow these steps:

- Select **Insert|Picture|Clip Art** from the menu bar.



- To find an image, click in the white box following **Search for clips**. Delete the words "Type one or more words. . ." and enter keywords describing the image you want to use.
- OR -
- Click one of the category icons.
- Click once on the image you want to add to the document and the following popup menu will appear:



- **Insert Clip** to add the image to the document.
- **Preview Clip** to view the image full-size before adding it to the document. Drag the bottom, right corner of the preview window to resize the image and click the "x" close button to end the preview.
- **Add Clip to Favorites** will add the selected image to your favorites directory that can be chosen from the **Insert ClipArt** dialog box.
- **Find Similar Clips** will retrieve images similar to the one you have chosen.
- Continue selecting images to add to the document and click the **Close** button in the top, right corner of the **Insert ClipArt** window to stop adding clip art to the document.

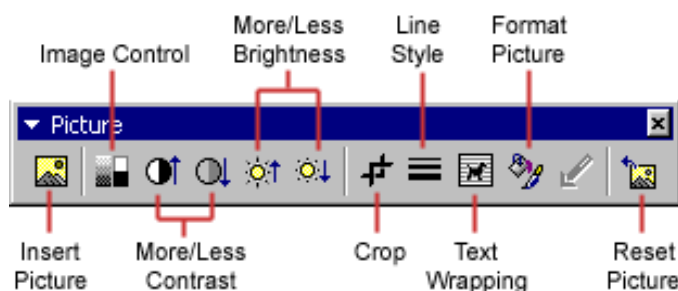
### Add an Image from a File

Follow these steps to add a photo or graphic from an existing file:

- Select **Insert|Picture|From File** on the menu bar.
- Click the down arrow button on the right of the **Look in:** window to find the image on your computer.
- Highlight the file name from the list and click the **Insert** button.

### Editing A Graphic

Activate the image you wish to edit by clicking on it once with the mouse. Nine handles will appear around the graphic. Click and drag these handles to resize the image. The handles on the corners will resize proportionally while the handles on the straight lines will stretch the image. More picture effects can be changed using the Picture toolbar. The **Picture toolbar** should appear when you click on the image. Otherwise, select **View|Toolbars|Picture** from the menu bar to activate it.

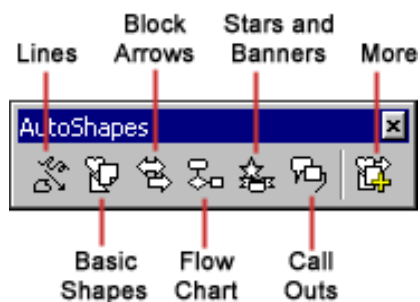


- **Insert Picture** will display the image selection window and allows you to change the image.
- **Image Control** allows to to make the image grayscale, black and white, or a watermark.

- **More/Less Contrast** modifies the contrast between the colors of the image.
- **More/Less Brightness** will darken or brighten the image.
- Click **Crop** and drag the handles on the activated image to delete outer portions of the image.
- **Line Style** will add a variety of borders to the graphic.
- **Text Wrapping** will modify the way the document text wraps around the graphic.
- **Format Picture** displays all the image properties in a separate window.
- **Reset Picture** will delete all the modifications made to the image.

## Auto Shapes

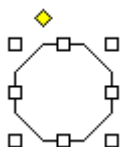
The AutoShapes toolbar will allow you to draw many different geometrical shapes, arrows, flow chart symbols, stars, and banners on the document. Activate the AutoShapes toolbar by selecting **Insert|Picture|AutoShapes** or **View|Toolbars|AutoShapes** from the menu bar, or clicking the **AutoShapes** button on the Drawing toolbar. Click each button on the toolbar to view the options for drawing the shape.




- **Lines** - After clicking the Lines button on the AutoShapes toolbar, draw a *straight line*, *arrow*, or *double-ended arrow* from the first row of options by clicking the respective button. Click in the document where you would like the line to begin and click again where it should end. To draw a *curved line* or *freeform shape*, select curved lines from the menu (first and second buttons of second row), click in the document where the line should appear, and click the mouse every time a curve should begin. End creating the graphic by clicking on the starting end or pressing the **ESC** key. To *scribble*, click the last button in the second row, click the mouse in the document and hold down the left button while you draw the design. Let go of the mouse button to stop drawing.



- **Basic Shapes** - Click the Basic Shapes button on the AutoShapes toolbar to select from many *two- and three-dimensional shapes, icons, braces, and brackets*. Use the drag-and-drop method to draw the shape in the document. When the shape has been made, it can be resized using the open box handles and other adjustments specific to each shape can be modified using the yellow diamond handles.



- **Block Arrows** - Select Block Arrows to choose from many types of *two- and three-dimensional arrows*. Drag-and-drop the arrow in the document and use the open box and yellow diamond handles to adjust the arrowheads. Each AutoShape can also be rotated by first clicking the **Free Rotate** button on the drawing toolbar . Click and drag the green handles around the image to rotate it. The tree image below was created from an arrow rotated 90 degrees.

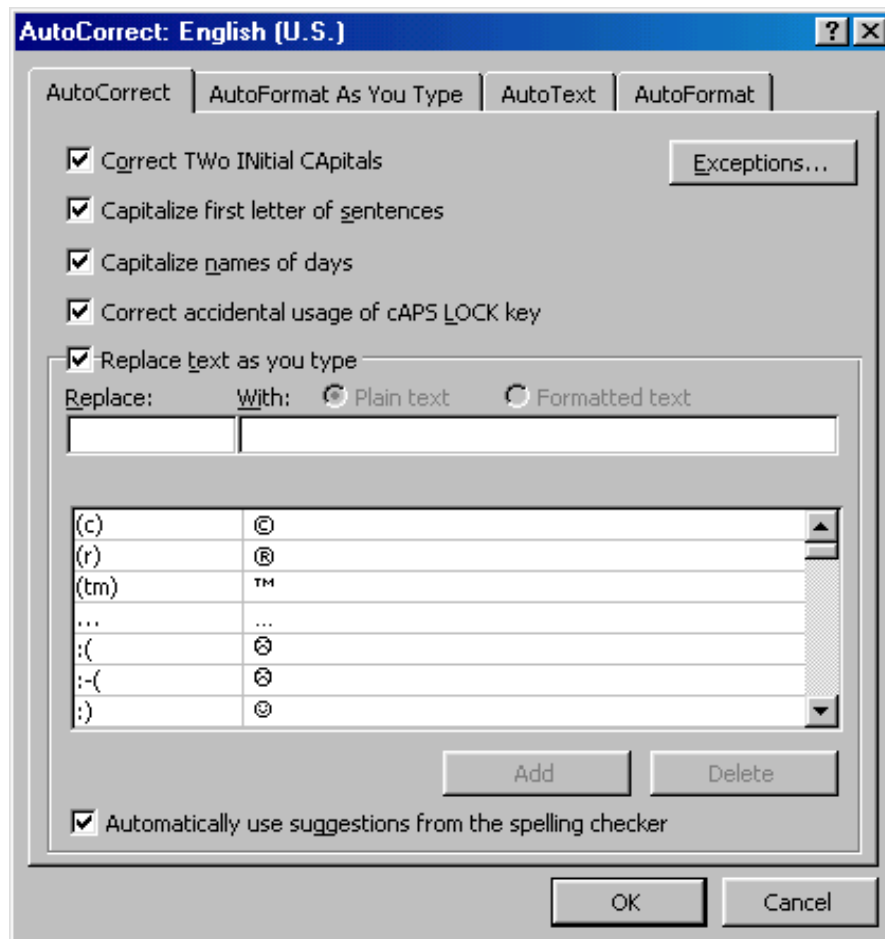


- **Flow Chart** - Choose from the flow chart menu to add *flow chart elements* to the document and use the line menu to draw connections between the elements.
- **Stars and Banners** - Click the button to select *stars, bursts, banners, and scrolls*.
- **Call Outs** - Select from the *speech and thought bubbles, and line call outs*. Enter the call out text in the text box that is made.
- **More AutoShapes** - Click this button to choose from a list of clip art categories.

Each of the submenus on the AutoShapes toolbar can become a separate toolbar. Just click and drag the gray bar across the top of the submenus off of the toolbar and it will become a separate floating toolbar.

## AutoCorrect

Word automatically corrects many commonly misspelled words and punctuation marks with the AutoCorrect feature. To view the list of words that are automatically corrected, select **Tools|AutoCorrect**. This may be a hidden feature so click the double arrows at the bottom of the **Tools** menu listing if the AutoCorrect choice is not listed.



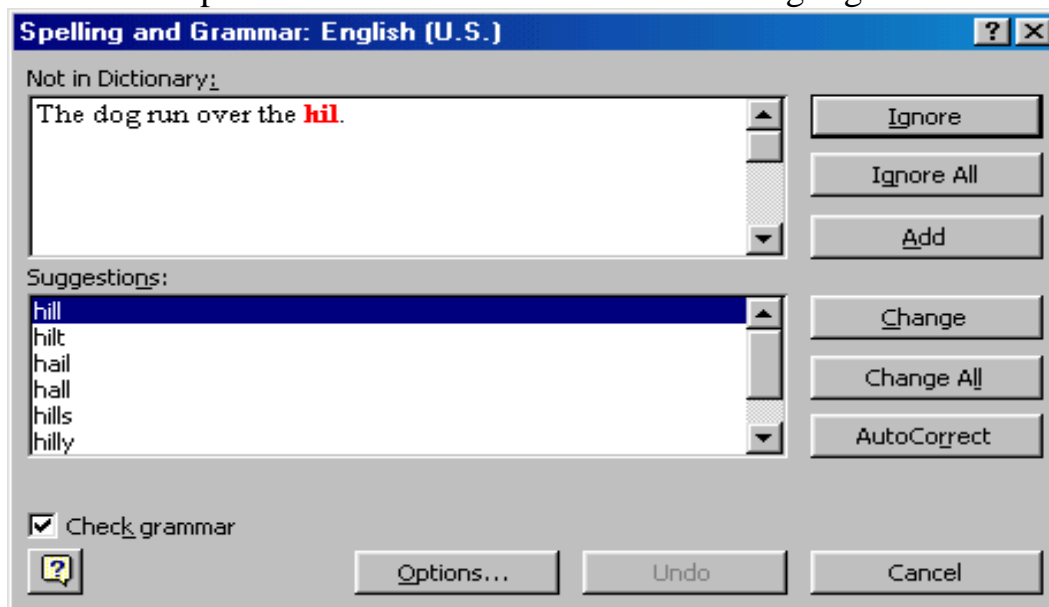
Many options including the accidental capitalization of the first two letters of a word and capitalization of the first word of the sentence can be automatically corrected from this page. If there are words you often misspell, enter the wrong and correct spellings in the **Replace** and **With** fields.

## Spelling and Grammar Check

Word will automatically check for spelling and grammar errors as you type unless you turn this feature off. Spelling errors are noted in the document with a red underline. Grammar errors are indicated by a green underline. To disable this feature, select **Tools|Options** from the menu bar and click the **Spelling and Grammar** tab on the dialog box. Uncheck "Check spelling as you type" and "Check grammar as you type", and click **OK**.

To use the spelling and grammar checker, follow these steps:

- Select **Tools|Spelling and Grammar** from the menu bar. The **Spelling and Grammar** dialog box will notify you of the first mistake in the document and misspelled words will be highlighted in red.



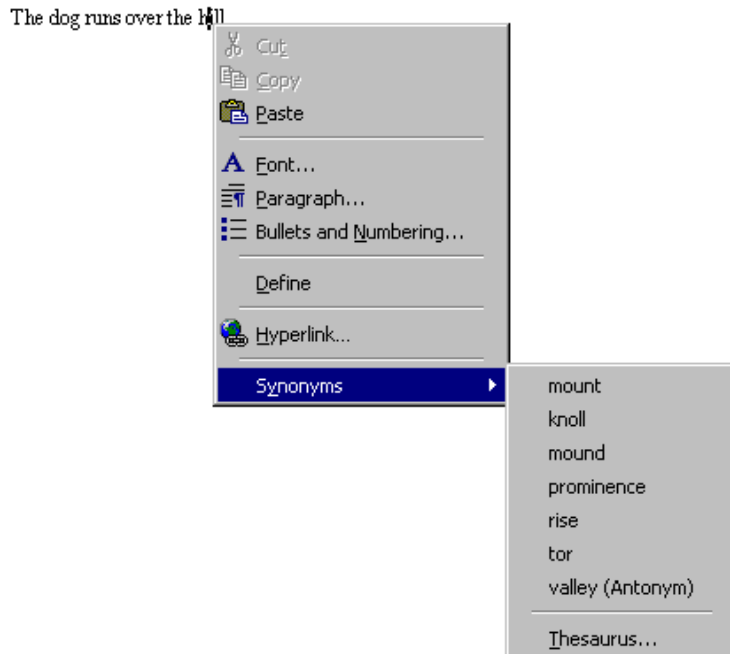
- If the word is spelled correctly, click the **Ignore** button or click the **Ignore All** button if the word appears more than once in the document.
- If the word is spelled incorrectly, choose one of the suggested spellings in the **Suggestions** box and click the **Change** button or **Change All** button to correct all occurrences of the word in the document. If the correct spelling is not suggested, enter the correct spelling in the **Not In Dictionary** box and click the **Change** button.
- If the word is spelled correctly and will appear in many documents you type (such as your name), click the **Add** button to add the word to the dictionary so it will no longer appear as a misspelled word.

As long as the **Check Grammar** box is checked in the **Spelling and Grammar** dialog box, Word will check the grammar of the document in addition to the spelling. If you do not want the grammar checked, remove the checkmark from this box. Otherwise, follow these steps for correcting grammar:

- If Word finds a grammar mistake, it will be shown in the box as the spelling errors. The mistake is highlighted in green text.
- Several suggestions may be given in the **Suggestions** box. Select the correction that best applies and click **Change**.
- If no correction is needed (Word is often wrong more than it is right), click the **Ignore** button.

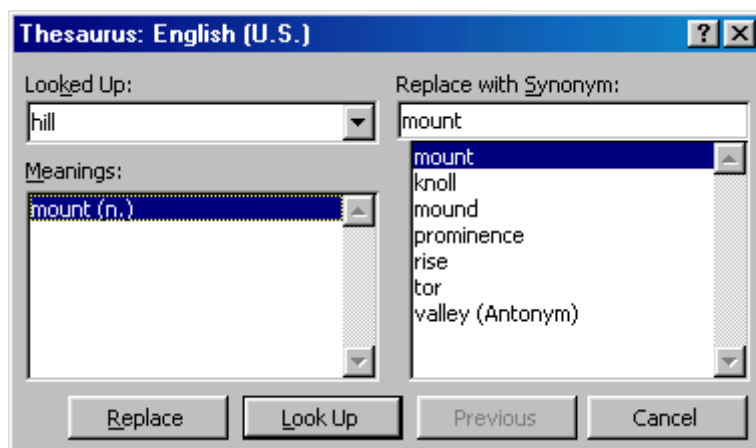
## Synonyms

Word 2000 has a new feature for finding synonyms. Simply right-click on the word and select **Synonyms** from the shortcut menu. From the list of suggested words, highlight the word you would like to use or click **Thesaurus...** for more options.



## Thesaurus

To use the thesaurus, select **Tools|Language|Thesaurus** from the menu bar or select it from the **Synonyms** shortcut menu as detailed above.

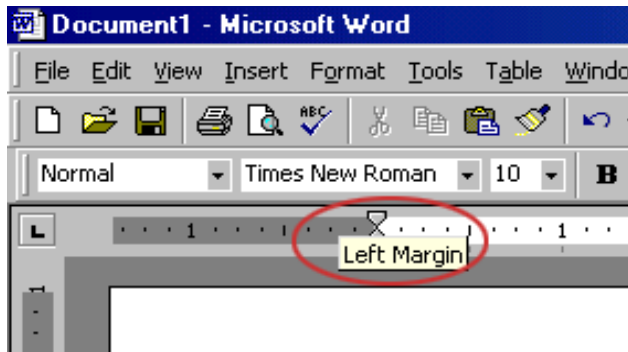


A list of meanings and synonyms are given on the windows. Double-click on the words in the **Meanings** box or click the **Look Up** button to view similar words. Double-click words in the **Replace with Synonym** box to view synonyms of those words. Highlight the word you would like to add and click the **Replace** button.

## Page Margins

The page margins of the document can be changed using the rulers on the page and the **Page Setup** window. The ruler method is discussed first:

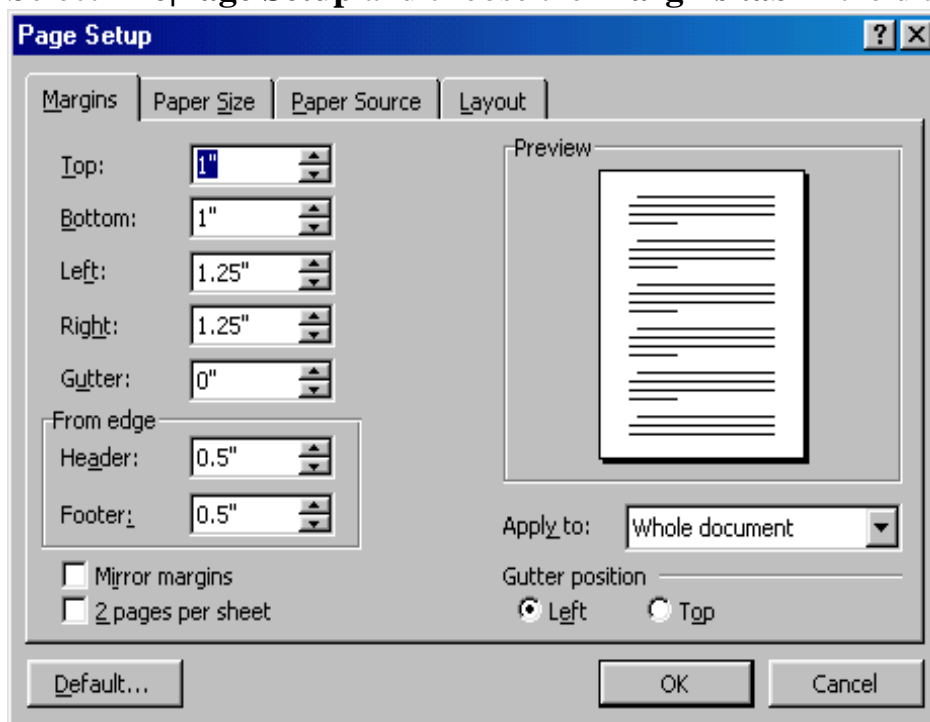
- Move the mouse over the area where the white ruler changes to gray.



- When the cursor becomes a double-ended arrow, click with the mouse and drag the margin indicator to the desired location.
- Release the mouse when the margin is set.

The margins can also be changed using the **Page Setup** dialog box:

- Select **File|Page Setup** and choose the **Margins** tab in the dialog box.

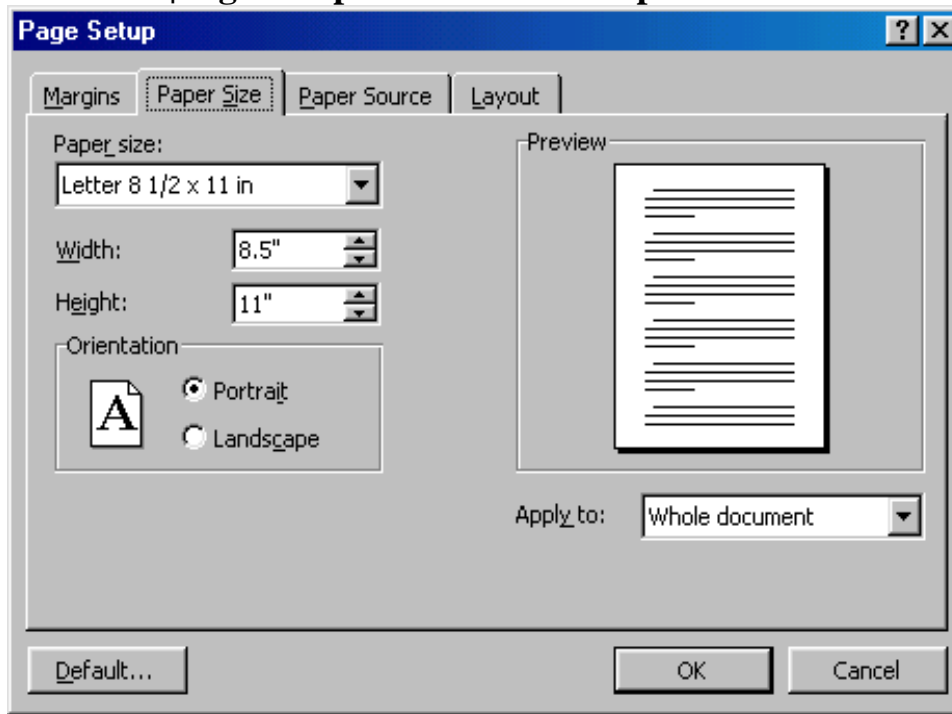


- Enter margin values in the **Top**, **Bottom**, **Left**, and **Right** boxes. The **Preview** window will reflect the changes.
- If the document has **Headers** and/or **Footers**, the distance this text appears from the edge of the page can be changed.
- Click **OK** when finished.

## Page Size and Orientation

Change the orientation page within the Page Setup dialog box.

- Select **File|Page Setup** and choose the **Paper Size** tab.



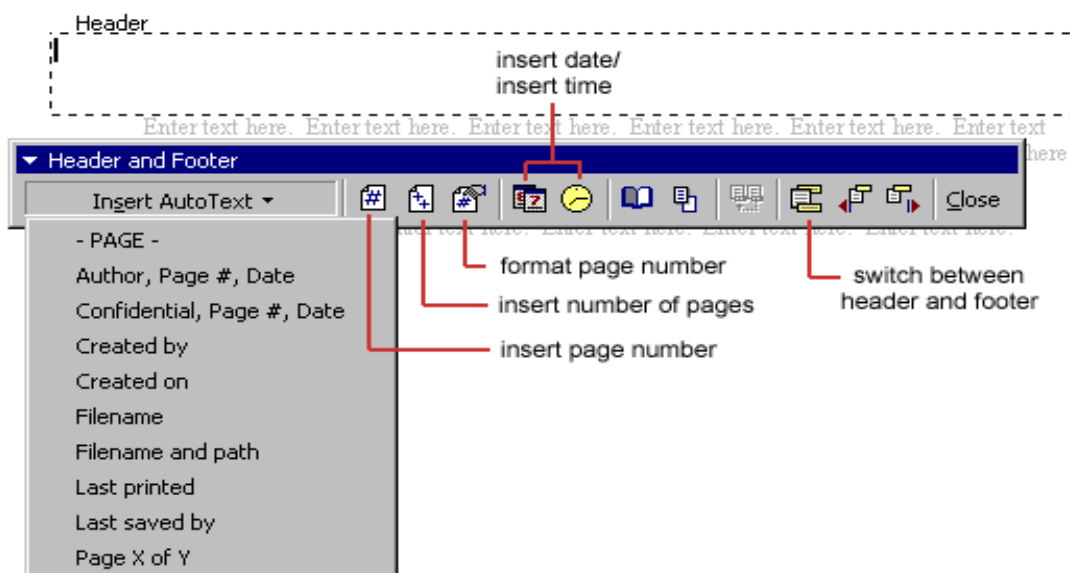
- Select the proper paper size from the drop-down menu.
- Change the orientation from **Portrait** or **Landscape** by checking the corresponding radio button.

## Headers and Footers

A header is text that is added to the top margin of every page such as a document title or page number and a footer is text added to the bottom margin. Follow these steps to add or edit headers and footers in the document:

- Select **View|Header and Footer** from the menu bar. The Header and Footer toolbar will appear and the top of the page will be highlighted as shown

below.

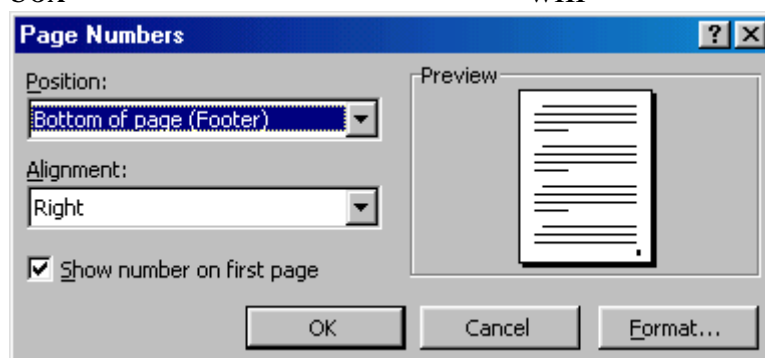


- Type the heading in the **Header** box. You may use many of the standard text formatting options such as font face, size, bold, italics, etc.
- Click the **Insert AutoText** button to view a list of quick options available.
- Use the other options on the toolbar to add page numbers, the current date and time.
- To edit the footer, click the **Switch Between Header and Footer** button on the toolbar.
- When you are finished adding headers and footers, click the **Close** button on the toolbar.

## Page Numbers

Follow these instructions for another way to add page numbers to a document.

- Select **Insert|Page Numbers** from the menu bar and the following dialog box will appear.



- Select the position of the page numbers by choosing "Top of page" or "Bottom of page" from the **Position** drop-down menu.
- Select the alignment of the page numbers in the **Alignment** drop-down menu.

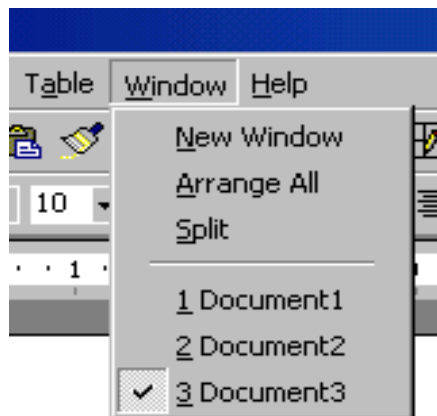
- If you do not want the page number to show on the first page (if it is a title page, for example), uncheck the **Show number of first page** box.
- Click **OK** when finished.

## Print Preview and Printing

Preview your document by clicking the Print Preview button on the standard toolbar or by selecting **File|Print Preview**. When the document is ready to print, click the Print button from the Print Preview screen or select **File|Print**.

## Working on Multiple Documents

Several documents can be opened simultaneously if you are typing or editing multiple documents at once. All open documents are listed under the **Window** menu as shown below. The current document has a checkmark beside the file name. Select another name to view another open document or click the button on the Windows taskbar at the bottom of the screen.



## Switching between Documents

Select the Window menu. At the bottom is a list of all opened documents with a check mark next to the name of the current active document

Click the name of the document you want to active

## Controlling Multiple Document View

To restore or minimize or maximize windows, click its restore, minimize or maximize button.

Word has a command that displays all your open documents. Select windows; arrange all to tile all document windows. When you tile your document every document is displayed in a small window with no overlapping of windows.



## **Moving and copying text between Documents**

When you have more than one document open you can move and copy text and graphics between documents.

Make the source document active and select the text

Select **Edit| Copy or Cut**

Make the destination document active move the insertion point to the location for the text

Select **Edit|Paste**

**There is no command to save all opened documents in one step, save documents one by one.**

## **Mail Merge**

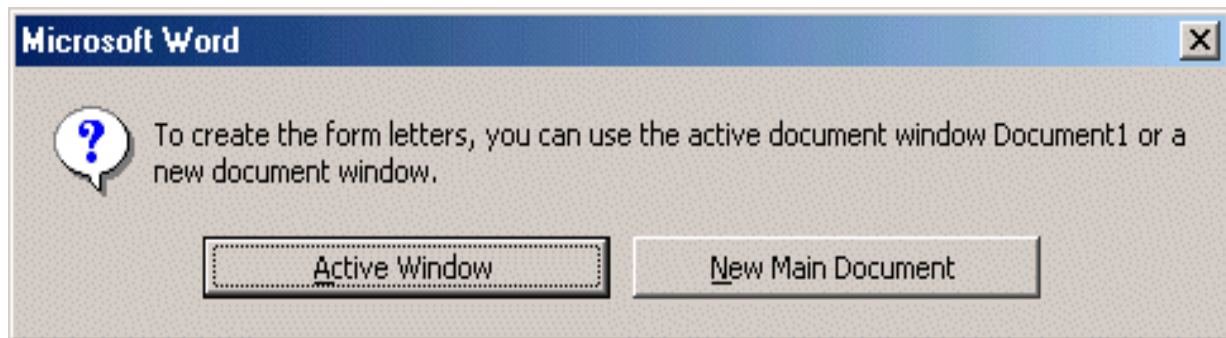
### **Introduction**

A mail merge is a **word processing** feature that allows creating common letters, mailing labels, envelopes, or cataloging documents to and/or for a group of people as stored in a database.

Some examples of mail merge scenarios are:

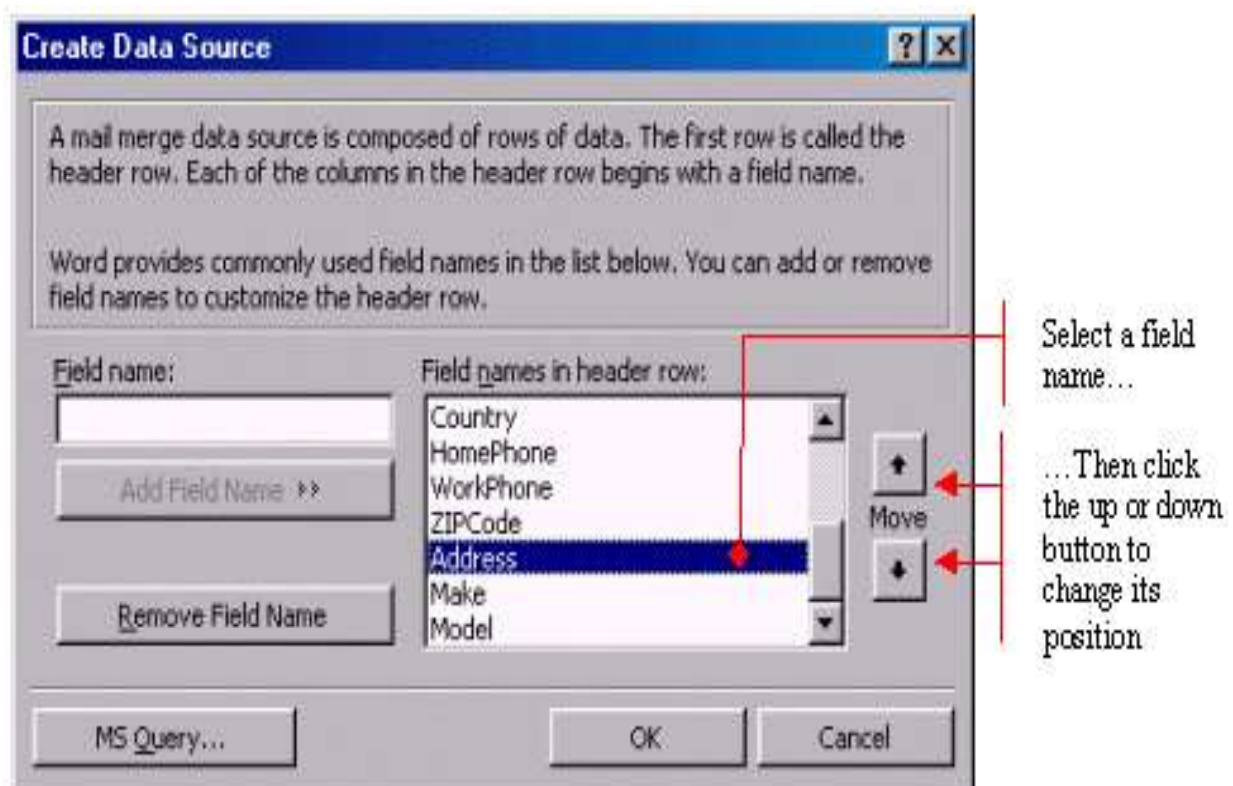
- A letter has to be sent to various parents, tutors, or guardians of students of a high school.
- A company keeps track of its various customers with the product each particular customer is interested in; then the company regularly sends a letter to these customers to signal a promotion or special discount they would benefit from.
- An employer would like to send a letter to employees according to their respective department.

When creating a Mail Merge in Microsoft Word, you can use data from various sources including a Microsoft Outlook contact list, a Microsoft Excel worksheet, a Microsoft Access database, or a Notepad text document. But the easiest way is to create a small database of items in Microsoft Word. Then, insert these items or data into a main document that you will eventually create or design.



## Create Data Source

To use a Mail Merge document in Microsoft Word, first create the document where data will originate from: this is called the source document. The source document resembles a small database of resources combining fields and their related data such as customers name and other personal information.



## Compose the Letter Document

Once the source document has been prepared, you can create the main letter as the document to be sent to the intended audience, in this case the car customers.

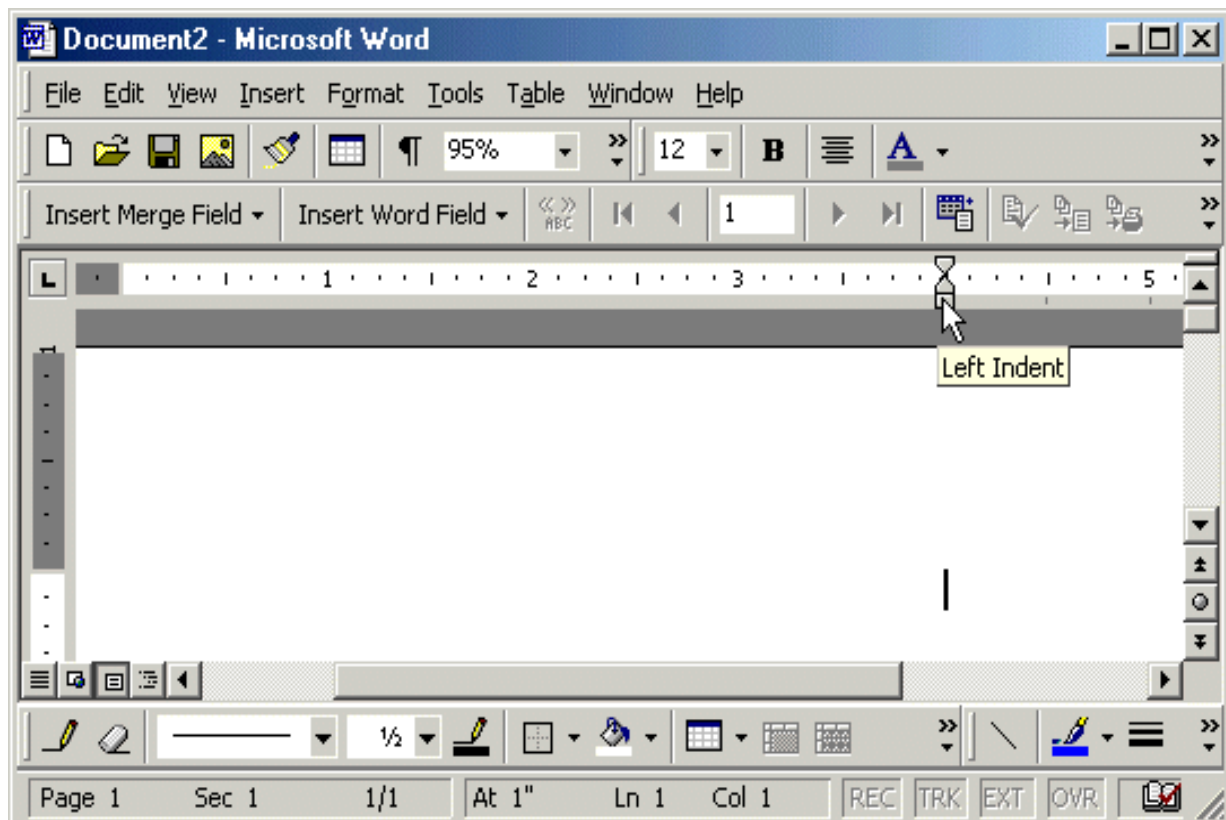
The document you create here is structurally similar to a regular correspondence, except that you don't need to remember the recipients. You will be using fields created from the source document.

Once you are back in Microsoft Word, there is a new toolbar on your screen. The Mail Merge toolbar allows you to perform all kinds of operations related to mail merging. We will use the buttons one by one and as we move on, you will find out what each one is used for.







After designing the letter, you can substitute the recipient's information by selecting the appropriate field using the Insert Merge Field button from the Mail Merge toolbar.

### Explore the Document

Once the document has been created, you can check its behavior and accuracy by using the View Merged Data from the Mail Merge toolbar.



After you have inserted the fields, your document appears to be filled with unreadable characters although their meaning seems obvious. To read the letter in its real version, you should remove or toggle these characters.

	The View Merged Data allows you to read your document more realistically. When you press it, it appears in a grayed state.
	The First Record button will displays the very first record on the database.
	If you have at least one record behind, click the Previous record button.
	To jump to a particular record, click in the Go To Record text box, type a number and press Enter. The corresponding record will be displayed.
	When navigating through the records, click the Next Record to get to the next.
	Clicking the Last Record button will take you to the very last record in the database.

### Keyboard Shortcuts

Keyboard shortcuts can save time and the effort of switching from the keyboard to the mouse to execute simple commands. Print this list of Word keyboard shortcuts and keep it by your computer for a quick reference.

**Note:** A plus sign indicates that the keys need to be pressed at the same time.

Action	Keystroke	Action	Keystroke
<b>Document actions</b>		<b>Text Style</b>	
Open a file	CTRL+O	Font face	CTRL+SHIFT+F
New file	CTRL+N	Font size	CTRL+SHIFT+P
Close a file	CTRL+W	Bold	CTRL+B
Save As	F12	Italics	CTRL+I
Save	CTRL+S or SHIFT+F12	Underline	CTRL+U
Print Preview	CTRL+F2	Double underline	CTRL+SHIFT+D
Print	CTRL+P	Word underline	CTRL+SHIFT+W
Show/Hide paragraph symbols	CTRL+*	All caps	CTRL+SHIFT+A
Spelling and grammar	F7	Change case	SHIFT+F3
Help	F1	Subscript	CTRL+=
Find	CTRL+F	Superscript	CTRL+SHIFT+=
Replace	CTRL+H	Make web hyperlink	CTRL+K
Go To	CTRL+G		

<b>Cursor movement</b>	
Select all - entire document	CTRL+A
Select from cursor to beginning of line	SHIFT+Home
Select from cursor to end of line	SHIFT+END
Go to beginning of line	HOME
Go to end of line	END
Go to beginning of document	CTRL+Home
Go to end of document	CTRL+End

<b>Formatting</b>	
Cut	CTRL+X
Copy	CTRL+C
Paste	CTRL+V
Undo	CTRL+Z
Redo	CTRL+Y
Format painter	CTRL+SHIFT+C
Left alignment	CTRL+L
Center alignment	CTRL+E
Right alignment	CTRL+R
Justified	CTRL+J
Delete previous word	CTRL+Backspace
Apply bulleted list	CTRL+SHIFT+L
Indent	CTRL+M
Page break	CTRL+Enter

<b>Tables</b>	
Go to next cell	Tab
Go to previous cell	SHIFT+Tab
Go to beginning of column	ALT+PageUp
Highlight to beginning of column	ALT+SHIFT+PageUp
Go to end of column	ALT+PageDown
Highlight to end of column	ALT+SHIFT+PageDown
Go to beginning of row	ALT+Home
Highlight to beginning of row	ALT+SHIFT+Home
Go to end of row	ALT+End
Highlight to end of row	ALT+SHIFT+End
Column break	CTRL+SHIFT+Enter

<b>Miscellaneous</b>	
Copyright symbol - ©	ALT+CTRL+C
Date field	ALT+SHIFT+D
Go to footnotes	ALT+CTRL+F
Show/Hide ¶	CTRL+SHIFT+8
Thesaurus	SHIFT+F7

## All Shortcuts

This list shows only the most common keyboard shortcuts. To print a list of all the shortcuts in Word, follow these steps:

- Select **Tools|Macro|Macros** from the menu bar.
- From the **Macros In** drop-down menu, select **Word Commands**.
- Select **ListCommands** from the macro listing.
- Click the **Run** button.
- Choose **Current Menu and Keyboard Settings** from the popup window and click **OK**.
- Word will automatically open a new document containing a table of keystrokes. **Print** the document

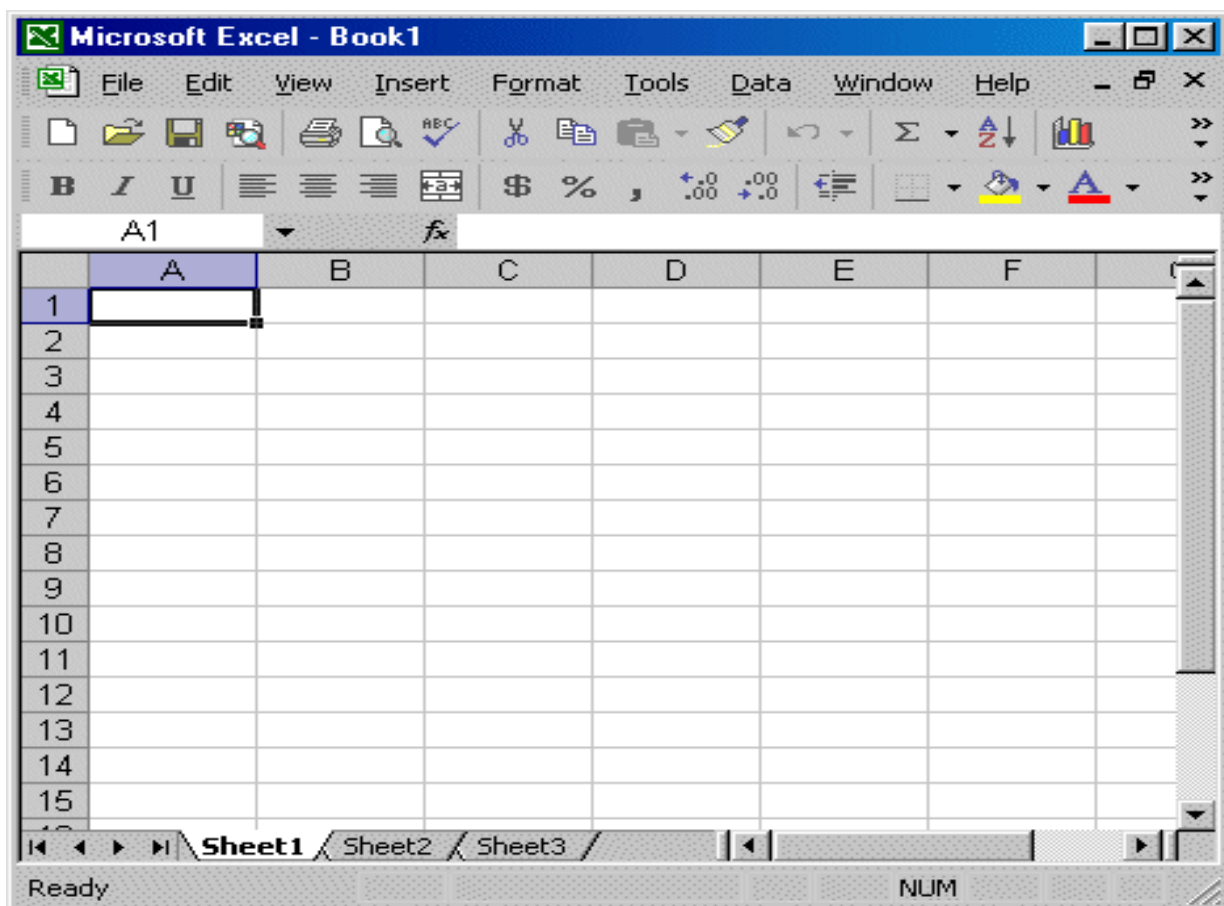
## Starting Excel

Before you start Excel, you must have Excel installed on your computer, and you should have basic understanding of Windows operating system.

To start Excel, follow the following steps.

4. Click the Start Button
5. Move your mouse pointer to program. A menu of programs appear
6. Move your mouse pointer over Microsoft Excel and click on it. Excel starts and displays the screen as shown below.

## Screen Layout



## The Title Bar

This lesson will familiarize you with the Microsoft Excel screen. You will start with the Title bar, which is located at the very top of the screen. On the Title bar, Microsoft Excel displays the name of the workbook you are currently using. At the top of your screen, you should see "Microsoft Excel - Book1" or a similar name.

## The Menu Bar

The Menu bar is directly below the Title bar. The menu begins with the word File and continues with Edit, View, Insert, Format, Tools, Data, Window, and Help. You use a menu to give instructions to the software. Point with your mouse to a menu option and click the left mouse button. A drop-down menu opens. You can now use the left and right arrow keys on your keyboard to move left and right across the Menu bar. You can use the up and down arrow keys to move up and down the drop-down menu.

## Toolbars

Toolbars provide shortcuts to menu commands. Toolbars are generally located just below the Menu bar. Point to View, which is located on the Menu bar.

## Worksheets

Microsoft Excel consists of worksheets. Each worksheet contains columns and rows. The columns are lettered A to IV; the rows are numbered 1 to 65536. The combination of a column coordinate and a row coordinate make up a cell address. For example, the cell located in the upper left corner of the worksheet is cell A1, meaning column A, and row 1. Cell E10 is located under column E on row 10. You enter your data into the cells on the worksheet.

## The Formula Bar



### Formula Bar

If the Formula bar is turned on, the cell address displays in the Name box on the left side of the Formula bar. Cell entries display on the right side of the Formula bar. Before proceeding, make sure the Formula bar is turned on.

1. Point to View, which is located on the Menu bar.
2. Click the left mouse button. A drop-down menu opens. On the drop-down menu, if Formula Bar has a check mark next to it, the Formula bar is turned on. Press the Esc key to close the drop-down menu.
3. If Formula Bar does not have a check mark next to it, press the down arrow key until Formula Bar is highlighted; then presses Enter. The Formula bar should now appear below the toolbars.
4. Note that the current cell address displays on the left side of the Formula bar.



## The Status Bar



### Status Bar

If the Status bar is turned on, it appears at the very bottom of the screen. Before proceeding, make sure the Status bar is turned on.

Notice the word "Ready" on the Status bar at the lower left side of the screen. The word "Ready" tell you that Excel is in the Ready mode and awaiting your next command. Other indicators appear on the Status bar in the lower right corner of the screen. Here are some examples:

The Num Lock key is a toggle key. Pressing it turns the numeric keypad on and off. You can use the numeric keypad to enter numbers as if you were using a calculator. The letters "NUM" on the Status bar in the lower right corner of the screen indicate that the numeric keypad is on.

The Caps Lock key is also a toggle key. Pressing it turns the caps function on and off. When the caps function is on, your entry appears in capital letters.

Other functions that appear on the Status bar are Scroll Lock and End. Scroll Lock and End are also toggle keys. Pressing the key toggles the function between on and off. Scroll Lock causes the movement keys to move the window without moving the cell pointer. End lets you jump around the screen. We will discuss both of these later in more detail.

Make sure the Scroll Lock and End indicators are off and complete the following exercises.

### The Down Arrow Key

You can use the down arrow key to move downward one cell at a time.

### The Up Arrow Key

You can use the Up Arrow key to move upward one cell at a time.

### The Tab Key

You can use the Tab key to move across the page to the right, one cell at a time.

### **The Shift+Tab Keys**

You can hold down the Shift key and then press the Tab key to move to the left, one cell at a time.

### **The Right and Left Arrow Keys**

You can use the right and left arrow keys to move right or left one cell at a time.

### **Page Up and Page Down**

The Page Up and Page Down keys move the cursor up and down one page at a time.

### **The End Key**



#### **The Status Bar**

The End key, used in conjunction with the arrow keys, causes the cursor to move to the far end of the spreadsheet in the direction of the arrow.

**Note:** If you have entered data into the worksheet, the End key moves you to the end of the data area.

### **The Home Key**

The Home key, used in conjunction with the End key, moves you to cell A1 -- or to the beginning of the data area if you have entered data.

### **Moving Quickly Around the Worksheet**

The following are shortcuts for moving quickly from one cell to a cell in a different part of the worksheet.

#### **Go to -- F5**

The F5 function key is the "Go To" key. If you press the F5 key while in the Ready mode, you are prompted for the cell to which you wish to go. Enter the cell address, and the cursor jumps to that cell.

#### **Go to -- Ctrl-G**

You can also use Ctrl-G to go to a specific cell.

## Name Box

You can also use the Name box to go to a specific cell.

## Scroll Lock



### The Status Bar

Scroll Lock moves the window, but not the cell pointer.

## Selecting Cells

If you wish to perform a function on a group of cells, you must first select those cells by highlighting them.

### Alternative Method: Selecting Cells by Dragging

You can also highlight an area by holding down the left mouse button and dragging the mouse over the area. In addition, you can select noncontiguous areas of the worksheet by doing the following:

## Entering Data

In this lesson, you are going to learn how to enter data into your worksheet. First, you place the cursor in the cell in which you would like to enter data. Then you type the data and press Enter.

## Editing a Cell

After you enter data into a cell, you can edit it by pressing F2 while you are in the cell you wish to edit.

### Alternate Method: Editing a Cell by Double-Clicking in the Cell

You can change "Joker" to "Johnson" as follows:

1. Move the cursor to cell A1.
2. Double-click in cell A1.
3. Press the End key. Your cursor is now at the end of your text.
4. Use the backspace to erase "r," "e," and "k."
5. Type **h**nson.
6. Press Enter.

## Changing a Cell Entry

Typing in a cell while you are in the Ready mode replaces the old cell entry with the new information you type.

1. Move the cursor to cell A1.
2. Type **Cathy**.
3. Press Enter. The name "Cathy" should replace "Johnson."

## Wrapping Text

When you enter text that is too long to fit in a cell into a cell, it overlaps the next cell. If you do not want it to overlap the next cell you can wrap the text.

1. Move to cell A2.
2. Type **Text too long to fit**.
3. Press Enter.
4. Return to cell A2.
5. Choose Format > Cells from the menu.
6. Choose the Alignment tab.
7. Click Wrap Text.
8. Click OK. The text wraps.

## Deleting a Cell Entry

To delete an entry in a cell or a group of cells, you place the cursor in the cell or highlight the group of cells and press Delete.

1. Place the cursor in cell A2.
2. Press the Delete key.

## Entering Numbers as Labels or Values

In Microsoft Excel, you can enter numbers as labels or as values. Labels are alphabetic, alphanumeric, or numeric text on which you do not perform mathematical calculations. Values are numeric text on which you perform mathematical calculations. If you have a numeric entry, such as an employee number, on which you do not perform mathematical calculations, enter it as a label by typing a single quotation mark first.

Enter a number:

1. Move the cursor to cell B1.
2. Type **100**.

3. Press Enter.

The number 100 appears in cell B1 as a numeric value. You can perform mathematical calculations using this cell entry. Note that by default the number is right-aligned.

Enter a value:

1. Move the cursor to cell C1.
2. Type '100.
3. Press Enter.

The number 100 appears in cell C1 as a label. Note that by default the cell entry is left-aligned and a green triangle appears in the upper left corner of the cell.

### Smart Tags

When you make an entry that Microsoft Excel believes you may want to change, a smart tag appears. Smart tags give you the opportunity to make changes easily. Cells with smart tag in them appear with a green triangle in the upper left corner. When you place your cursor in the cell, the Trace Error icon appears. Click on the Trace Error icon and options appear. When you made your entry in cell C1 in the previous section, a smart tag should have appeared.

1. Move to cell C1.
2. Click on the Trace Error icon. An options list appears. You can convert the label to a number, obtain help, ignore the error etc.

### Saving a File

This is the end of Lesson1. To save your file:

1. Choose File > Save from the menu.
2. Go to the directory in which you want to save your file.
3. Type **lesson1** in the File Name field.
4. Click on Save.

### Closing Microsoft Excel

Close Microsoft Excel.

1. Choose File > Close from the menu.

## Formatting Text and Performing Mathematical Calculations

In this lesson, you are going to learn how to format text and perform basic mathematical calculations. To start, open a blank Microsoft Excel workbook.

### Choosing a Default Font

Microsoft Excel enables you to choose a default font. The default font is the style of typeface that Excel will use unless you specify a different style. For the exercises in this lesson, you want your font to be set to Arial, Regular, and Size 10. To set your font to Arial, Regular, and Size 10:

1. Choose Format > Cells from the menu.
2. Choose the Font tab.
3. In the Font box, choose Arial.
4. In the Font Style box, choose Regular.
5. In the Size box, choose 10.
6. If there is no check mark in the Normal Font box, click to place a check mark there. Your selections are now the default.
7. Click OK.

### Adjusting the Standard Column Width

When you open Microsoft Excel, the width of each cell is set to a default width. This width is called the standard column width. You need to change the standard column width to complete your exercises. To make the change, follow these steps:

1. Choose Format > Column > Standard Width from the menu. The Standard Width dialog box opens.
2. Type **25** in the Standard Column Width field. Click OK. The width of every cell on the worksheet should now be set to 25.
3. Move to cell A1.
4. Type **Cathy**.
5. Press Enter.

### Cell Alignment

The name "Cathy" is aligned with the left side of the cell. You can change the cell alignment.

### Centering by Using the Menu

To center the name Cathy, follow these steps:

1. Move the cursor to cell A1.
2. Choose Format > Cells from the menu. The Format Cells dialog box opens.
3. Choose the Alignment tab.
4. Click to open the drop-down box associated with the Horizontal field. After the drop-down box is opened, click on Center.
5. Click OK to close the dialog box. The name "Cathy" is centered.

### Right-Aligning by Using the Menu

To right-align the name "Cathy," follow these steps:

1. Move the cursor to cell A1.
2. Choose Format > Cells from the menu. The Format Cells dialog box opens.
3. Choose the Alignment tab.
4. Click to open the drop-down box associated with the Horizontal field. After the drop-down box is opened, click on Right (Indent).
5. Click OK to close the dialog box. The name "Cathy" is right-aligned.

	A	B
1	Cathy	
2		

### Left-Aligning by Using the Menu

To left-align the name "Cathy," follow these steps:

1. Move the cursor to cell A1.
2. Choose Format > Cells from the menu. The Format Cells dialog box opens.
3. Choose the Alignment tab.
4. Click to open the drop-down box associated with the Horizontal field. After the drop-down box is opened, click on Left (Indent).
5. Click OK to close the dialog box. The name "Cathy" is left-aligned.

	A	B
1	Cathy	
2		

### Alternate Method: Alignment by Using the Formatting Toolbar

Using the Formatting toolbar, you can quickly perform tasks. You can use the Formatting toolbar to change alignment.

## Centering by Using the Toolbar

To center the name "Cathy," follow these steps:

1. Move the cursor to cell A1.
2. Click on the Center icon, which is located on the Formatting toolbar.



The red circle designates the Align Center icon.

## Right-Aligning by Using the Toolbar

You can right-align the name "Cathy" by following these steps:

1. Move the cursor to cell A1.
2. Click on the Align Right icon, which is located on the Formatting toolbar.



The red circle designates the Align Right icon.

## Left-Aligning by Using the Toolbar

You can left align the name "Cathy" by following these steps:

1. Move the cursor to cell A1.
2. Click on the Align Left icon, which is located on the Formatting toolbar.



The red circle designates the Align Left icon.

## Adding Bold, Underline, and Italic

You can bold, underline, or italicize text in Microsoft Excel. You can also combine these features -- in other words, you can bold, underline, and italicize a single piece of text.

In the exercises that follow, you will learn three different methods for bolding, italicizing, or underlining text in Microsoft Excel. You will learn to bold, italicize, and underline by using the menu, the icons, and the shortcut keys.

## Adding Bold by Using the Menu

1. Type **Bold** in cell A2.



2. Click on the check mark located on the Formula bar. Clicking on the check mark is similar to pressing Enter.



3. Choose Format > Cells from the menu. The Format Cells dialog box opens.
4. Choose the Font tab.
5. Click on Bold in the Font Style box.
6. Click OK. The word "Bold" should now be bolded.

### Adding Italic by Using the Menu

1. Type **Italic** in cell B2.
2. Click on the check mark located on the Formula bar. Clicking on the check mark is similar to pressing Enter.
3. Choose Format > Cells from the menu. The Format Cells dialog box opens.
4. Click on Italic in the Font style box.
5. Click OK. The word "Italic" is italicized.

### Adding Underline by Using the Menu

Microsoft Excel provides several types on underlines. The exercise that follows illustrates some of them.

#### Single Underline

1. Type **Underline** in cell C2.
2. Click on the check mark located on the Formula bar. Clicking on the check mark is similar to pressing Enter.
3. Choose Format > Cells from the menu. The Format Cells dialog box opens.
4. Click to open the drop-down menu associated with the Underline box.
5. Click on Single.
6. Click OK. The cell entry now has a single underline.

#### Double Underline

1. Type **Underline** in cell D2.
2. Click on the check mark located on the Formula bar.
3. Choose Format > Cells from the menu. The Format Cells dialog box opens.
4. Click to open the drop-down menu associated with the Underline field.
5. Click on Double.
6. Click OK. The cell entry now has a double underline.

### Single Accounting

1. Type **Underline** in cell E2.
2. Click on the check mark located on the Formula bar.
3. Choose Format > Cells from the menu. The Format Cells dialog box will open.
4. Click to open the drop-down menu associated with the Underline field.
5. Click on Single Accounting.
6. Click OK. The cell entry now has a single accounting underline.

### Double Accounting

1. Type **Underline** in cell F2.
2. Click on the check mark located on the Formula bar.
3. Choose Format > Cells from the menu. The Format Cells dialog box will open.
4. Click to open the drop-down menu associated with the Underline field.
5. Click on Double Accounting.
6. Click OK. The cell entry now has a double accounting underline.

### Adding Bold, Underline, and Italic by Using the Menu

1. Move the cursor to cell G3.
2. Type **all three**.
3. Click on the check mark located on the Formula bar.
4. Choose Format > Cells from the menu. The Format Cells dialog box opens.
5. Choose the Font tab.
6. Click on Bold Italic in the Font Style box.
7. Click to open the drop-down menu associated with the Underline field. Then click on Single.
8. Click OK. The words "All three" are now bolded, italicized, and underlined.

### Removing Bolding and Italics by Using the Menu

1. Highlight cells B1 to C1. Place your cursor in cell B1. Press the F8 key. Press the right arrow key once.
2. Choose Format > Cells from the menu. The Format Cells dialog box opens.
3. Click on Regular in the Font style box.
4. Click OK. Cell B1 is no longer be bolded. Cell C1 is no longer italic.

### Removing an Underline by Using the Menu

1. Move to cell C2.
2. Choose Format > Cells from the menu. The Format Cells dialog box opens.

3. Click to open the drop-down menu associated with the Underline field. Then click on None.
4. Click OK. The underlined is removed.

### Alternate Method: Adding Bold by Using the Icon

1. Type **Bold** in cell A3.
2. Click on the check mark located on the Formula bar.
3. Click on the Bold icon, which is on the Formatting toolbar.
4. Click again on the Bold icon if you wish to remove the bolding.

### Alternate Method: Adding Italic by Using the Icon

1. Type *Italic* in cell B3.
2. Click on the check mark located on the Formula bar.



3. Click on the Italic icon, which is on the Formatting toolbar.
4. Click again on the Italic icon if you wish to remove the italics.

### Alternate Method: Adding Underline by Using the Icon

1. Type Underline in cell C3.
2. Click on the check mark located on the Formula bar.



3. Click on the Underline icon, which is on the Formatting toolbar.
4. Click again on the Underline icon if you wish to remove the underline.

### Alternate Method: Adding Bold, Underline, and Italic by Using Icons

1. Type **All Three** in cell D3.
2. Click on the check mark located on the Formula bar.
3. Click on the Bold icon.
4. Click on the Italic icon.
5. Click on the Underline icon

### Alternate Method: Adding Bold by Using Shortcut Keys

1. Type **Bold** in cell A4.
2. Click on the check mark located on the Formula bar.

3. Hold down the Ctrl key while pressing "b" (Ctrl-b).
4. Press Ctrl-b again if you wish to remove the bolding.

### **Alternate Method: Adding Italic by Using Shortcut Keys**

1. Type **Italic** in cell B4.
2. Click on the check mark located on the Formula bar.
3. Hold down the Ctrl key while pressing "i" (Ctrl-i).
4. Press Ctrl-i again if you wish to remove the italic formatting.

### **Alternate Method: Adding Underline by Using Shortcut Keys**

1. Type **Underline** in cell C4.
2. Click on the check mark located on the Formula bar.
3. Hold down the Ctrl key while pressing "u" (Ctrl-u).
4. Press Ctrl-u again, if you wish to remove the underline.

### **Alternate Method: Adding Bold, Underline, and Italic by Using Shortcut Keys**

1. Type **All three** in cell D4.
2. Click on the check mark located on the Formula bar.
3. Hold down the Ctrl key while pressing "b" (Ctrl-b).
4. Hold down the Ctrl key while pressing "i" (Ctrl-i).
5. Hold down the Ctrl key while pressing "u" (Ctrl-u).

### **Changing the Font, Font Size, and Font Color**

You can change the Font, Font Size, and Font Color of the data you enter.

#### **Changing the Font**

1. Type **Times New Roman** in cell A5.
2. Click on the check mark located on the Formula bar.
3. Choose Format > Cells from the menu. The Format Cells dialog box opens.
4. Choose the Font tab. All of the Fonts listed in the Font box are available to you.
5. Find and click on Times New Roman in the Font box.
6. Click OK. The font changes from Arial to Times New Roman.

#### **Changing the Font Size**

1. Place the cursor in cell A5.
2. Choose Format > Cells from the menu. The Format Cells dialog box opens.

3. Choose the Font tab.
4. Click on 16 in the Size box.
5. Click OK. The font size changes to 16.

### Changing the Font Color

1. Place the cursor in cell A5.
2. Choose Format > Cells from the menu. The Format Cells dialog box opens.
3. Choose the Font tab.
4. Click to open the drop-down menu associated with the color field.
5. Click on Blue.
6. Click OK. The color changes to blue.

### Alternate Method: Changing the Font Color by Using the Icon

1. Place the cursor in cell A5.
2. Click on the down arrow next to the Font Color icon. Click on Red. Your font changes to red.

### Working with Long Text

Whenever you type text that is too long to fit into a cell, Microsoft Excel attempts to display all the text. It left-aligns the text regardless of the alignment that has been assigned to it, and it borrows space from the blank cells to the right. However, a long text entry will never write over cells that already contain entries - - instead, the cells that contain entries cuts off the long text. Do the following exercise to see how this works.

1. Move the cursor to cell A6.
2. Type **Now is the time for all good men to go to the aid of their army.**
3. Press Enter. Everything that does not fit into cell A6 spills over into the adjacent cell.
4. Move the cursor to cell B6.
5. Type **TEST.**
6. Press Enter. The entry in cell A6 is cut off.
7. Move the cursor to cell A6.
8. Look at the Formula bar. The text is still in the cell.

### Changing a Single Column Width

Earlier you increased the column width of every column on the worksheet. You can also increase individual column widths. If you increase the column width, you will be able to see the long text.

1. Make sure the cursor is anywhere under column A.
2. Choose Format > Column > Width from the menu. The column width dialog box opens.
3. Type **55** in the Column Width field.
4. Click OK.

Column A is set to a width of 55. You should now be able to see all of the text.

### **Alternate Method: Changing a Single Column Width by Dragging**

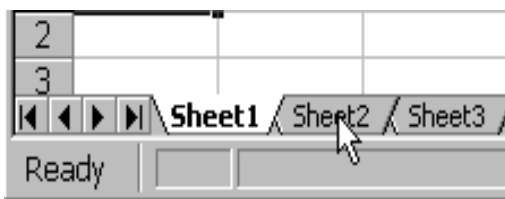
You can also change the column width with the cursor.

1. Place the cursor on the line between the B and C column headings. The cursor should look like the one displayed here, with two arrows.
2. Move your mouse to the right while holding down the left mouse button. The width indicator appears on the screen.
3. Release the left mouse button when the width indicator shows approximately 40.

### **Moving to a New Worksheet**

In Microsoft Excel, each workbook is made up of several worksheets. Before moving to the next topic, move to a new worksheet.

1. Click on Sheet2 in the lower left corner of the screen.



### **Setting the Enter Key Direction**

In Microsoft Excel, you can specify which direction the cursor moves when you press the Enter key. You can have the cursor move up, down, left, right, or not at all. You will now make sure the cursor is set to move down when you press the Enter key.

1. Choose Tools > Options from the menu. The Options dialog box opens.
2. Choose the Edit tab.
3. Make sure there is a check mark in the "Move Selection after Enter" box.
4. If Down is not selected, click to open the Direction drop-down box. Click on Down.
5. Click OK.

## Making Numeric Entries

In Microsoft Excel, you can enter numbers and mathematical formulas into cells. When a number is entered into a cell, you can perform mathematical calculations such as addition, subtraction, multiplication, and division. When entering a mathematical formula, precede the formula with an equal sign. Use the following to indicate the type of calculation you wish to perform:

+ Addition, - Subtraction, \* Multiplication, / Division, ^ Exponential

## Performing Mathematical Calculations

The following exercises demonstrate how to perform mathematical calculations.

### Addition

1. Move your cursor to cell A1.
2. Type **1**.
3. Press Enter.
4. Type **1** in cell A2.
5. Press Enter.
6. Type **=A1+A2** in cell A3.
7. Press Enter. Cell A1 has been added to cell A2, and the result is shown in cell A3.  
Place the cursor in cell A3 and look at the Formula bar.

### Subtraction

1. Press F5. The Go To dialog box opens.
2. Type **B1** in the Reference field.
3. Press Enter. The cursor should move to cell B1.
4. Type **5** in cell B1.
5. Press Enter.
6. Type **3** in cell B2.
7. Press Enter.
8. Type **=+B1- B2** in cell B3.
9. Press Enter. Cell B1 has been subtracted from B2, and the result is shown in cell B3.  
Place the cursor in cell B3 and look at the Formula bar.

### Multiplication

1. Hold down the Ctrl key while you press "g" (Ctrl-g). The Go To dialog box opens.

2. Type **C1** in the Reference field.
3. Press Enter. You should now be in cell C1.
4. Type **2** in cell C1.
5. Press Enter.
6. Type **3** in cell C2.
7. Press Enter.
8. Type **=C1\*C2** in cell C3.
9. Press Enter. Cell C1 is multiplied by cell C2 and the result is displayed in cell C3.  
Place the cursor in cell C3 and look at the Formula bar.

### Division

1. Press F5.
2. Type **D1** in the Reference field.
3. Press Enter. You should now be in cell D1.
4. Type **6** in cell D1.
5. Press Enter.
6. Type **3** in cell D2.
7. Press Enter.
8. Type **=D1/D2** in cell D3.
9. Press Enter. Cell D1 is divided by cell D2 and the result is displayed in cell D3.  
Place the cursor in cell D3 and look at the Formula bar.

### The AutoSum Icon

The AutoSum icon on the Standard toolbar automatically adds a column of numbers. The following illustrates the SUM function:

1. Go to cell F1.
2. Type **3**. Press Enter.
3. Type **3**. Press Enter.
4. Type **3**. Press Enter.
5. Click on the AutoSum button, which is located on the Standard toolbar.
6. F1 to F3 should now be highlighted.
7. Press Enter. Cells F1 through F3 are added.

### Automatic Calculation

If you have automatic calculation turned on, Microsoft Excel recalculates the worksheet as you change cell entries. You can check to make sure automatic calculation is turned on.



## Setting Automatic Calculation

1. Choose Tools > Options from the menu.
2. Choose the Calculation tab.
3. Select Automatic if it is not already selected.
4. Click OK.

## Trying Automatic Calculation

Make the changes outlined below and note how Microsoft Excel automatically recalculates.

1. Move to cell A1.
2. Type **2**. Press the Enter key. The results shown in cell A3 have changed. The number in cell A1 has been added to the number in cell A2 and the results display in cell A3.
3. Move to cell B1.
4. Type **6**.
5. Press the Enter key. The results shown in cell B3 have changed. The number in cell B1 has been subtracted from the number in cell B2 and the results display in cell B3.
6. Move to cell C1.
7. Type **4**. Press the Enter key. The results shown in cell C3 have changed. The number in cell C1 has been multiplied by the number in cell C2 and the results display in cell C3.
8. Move to cell D1.
9. Type **12**. Press the Enter key. The results shown in cell D3 have changed. The number in cell D1 has been divided by the number in cell D2 and the results display in cell D3.

## Formatting Numbers

You can format the numbers you enter into Microsoft Excel. You can add commas to separate thousands, specify the number of decimal places, place a dollar sign in front of the number, or display the number as a percent in addition to several other options.

4		
5	1234567	
6		

Before formatting

4		
5	1,234,567.00	
6		

After formatting

1. Move the cursor to cell A5.
2. Type **1234567**.
3. Press Enter.
4. Move the cursor back to cell A5.
5. Choose Format > Cells from the menu. The Format Cells dialog box will open.
6. Choose the Number tab.
7. Click on Number in the Category box.
8. Type **2** in the Decimal Places box.
9. Place a check mark in the Use 1000 Separator box.
10. Click OK. The number should now display with two decimal places. The thousands should now be separated by commas.

### Adding a Dollar Sign to a Numeric Entry

1. Move the cursor to cell A5.
2. Choose Format > Cells from the menu. The Format Cells dialog box opens.
3. Choose the Number tab.
4. Click on Currency in the Category box.
5. Make sure there is a "\$" in the Symbol box.

4		
5	\$1,234,567.00	
6		

6. Click OK. The number displays with a dollar sign.

### Alternate Method: Formatting Numbers by Using the toolbar

1. Move the cursor to cell A6.
2. Type **1234567**.
3. Press Enter.
4. Move the cursor back to cell A6.
5. Click twice on the Increase Decimal icon to change the number format to two decimal places. Clicking on the Decrease Decimal icon decreases the decimal places.
6. Click once on the Comma Style icon to add commas to the number.
7. To change the number to a currency format, click on the Currency Style format.

8. Move the cursor to cell A7.
9. Type **.35** (note the decimal point).
10. Press Enter. Move the cursor back to cell A7.
11. Click on the Percent Style icon to turn .35 to a percent.



### More Advanced Mathematical Calculations

When you perform mathematical calculations in Microsoft Excel, be careful of precedence. Calculations are performed from left to right, with multiplication and division performed before addition and subtraction.

1. Move to a new worksheet by clicking on Sheet3 in the lower left corner of the screen.
2. Go to cell A1.
3. Type **=3+3+12/2\*4**.
4. Press Enter.

**Note:** Microsoft Excel divided 12 by 2, multiplied the answer by 4, added 3, and then added another 3. The answer, 30, displays in cell A1.

To change the order of calculation, use parentheses. Microsoft Excel calculates the information in parentheses first.

1. Double-click in cell A1.
2. Edit the cell to read **= (3+3+12)/2\*4**.
3. Press Enter.

**Note:** Microsoft Excel added 3 plus 3 plus 12, divided the answer by 2, and multiplied the result by 4. The answer, 36, displays in cell A1.

### Cell Addressing

Microsoft Excel records cell addresses in formulas in three different ways, called absolute, relative, and mixed. The way a formula is recorded is important when you copy it.

With relative cell addressing, when you copy a formula from one area of the worksheet to another, Microsoft Excel records the position of the cell relative to the cell that originally contained the formula. The following exercises demonstrate:

1. Go to cell A7.

2. Type 1. Press Enter.
3. Type 1. Press Enter.
4. Type 1. Press Enter.
5. Go to cell B7.
6. Type 2. Press Enter.
7. Type 2. Press Enter.
8. Type 2. Press Enter.
9. Go to cell A10.

In addition to typing a formula, you can also enter formulas by using Point mode. When you are in Point mode, you can enter a formula either by clicking on a cell with your mouse or by using the arrow keys.

1. You should be in cell A10.
2. Type =.
3. Use the up arrow key to move to cell A7.
4. Type +.
5. Use the up arrow key to move to cell A8.
6. Type +.
7. Use the up arrow key to move to cell A9.
8. Press Enter.
9. Look at the Formula bar while in cell A10. Note that the formula you entered is recorded in cell A10.

### **Copying by Using the Menu**



You can copy entries from one cell to another cell. To copy the formula you just entered, follow these steps:

1. You should be in cell A10.
2. Choose Edit > Copy from the menu. Moving dotted lines appear around cell A10, indicating the cells to be copied.
3. Press the Right Arrow key once to move to cell B10.
4. Choose Edit > Paste from the menu. The formula in cell A10 is copied to cell B10.
5. Press Esc to exit the Copy mode.

Compare the formula in cell A10 with the formula in cell B10 (while in the respective cell, look at the Formula bar). The formulas are the same except that the formula in cell A10 sums the entries in column A and the formula in cell B10 sums the entries in column B. The formula was copied in a relative fashion.

Before proceeding with the next exercise, you must copy the information in cells A7 to B9 to cells C7 to D9. This time you will copy by using the Formatting toolbar.

### **Copying by Using the Formatting Toolbar**

1. Highlight cells A7 to B9. Place the cursor in cell A7. Press F8. Press the down arrow key twice. Press the right arrow key once. A7 to B9 should be highlighted.
2. Click on the Copy icon , which is located on the Formatting toolbar.
3. Use the arrow key to move the cursor to cell C7.
4. Click on the Paste icon , which is located on the Formatting toolbar.
5. Press Esc to exit Copy mode.

### **Absolute Cell Addressing**

An absolute cell address refers to the same cell, no matter where you copy the formula. You make a cell address an absolute cell address by placing a dollar sign in front of both the row and column identifiers. You can do this automatically by using the F4 key. To illustrate:

1. Move the cursor to cell C10.
2. Type =.
3. Use the up arrow key to move to cell C7.
4. Press F4. Dollar signs should appear before the C and before the 7.
5. Type +.
6. Use the up arrow key to move to cell C8.
7. Press F4.
8. Type +.
9. Use the up arrow key to move to cell C9.
10. Press F4.
11. Press Enter. The formula is recorded in cell C10.

### **Copying by Using the Keyboard Shortcut**

Now copy the formula from C10 to D10. This time, you will copy by using the keyboard shortcut.

1. Your cursor should be in cell C10.
2. Hold down the Ctrl key while you press "c" (Ctrl-c). This copies the contents of cell C10.
3. Press the right arrow once.

4. Hold down the Ctrl key while you press "v" (Ctrl-v). This pastes the contents of cell C10 in cell D10.
5. Press Esc to exit the Copy mode.

Compare the formula in cell C10 with the formula in cell D10. They are the same. The formula was copied in an absolute fashion. Both formulas sum column C.

### **Mixed Cell Addressing**

You use mixed cell addressing to reference a cell that is part absolute and part relative. You can use the F4 key.

1. Move the cursor to cell E1.
2. Type =.
3. Press the up arrow key once.
4. Press F4.
5. Press F4 again. Note that the column is relative and the row is absolute.
6. Press F4 again. Note that the column is absolute and the row is relative.
7. Press Esc.

### **Deleting Columns**

You can delete columns from your spreadsheet. To delete columns C and D:

1. Click on column C and drag to column D.
2. Choose Edit > Delete from the menu. Column D is deleted.
3. Click anywhere on the spreadsheet to remove your selection.

### **Deleting Rows**

You can delete rows from your spreadsheet. To delete rows 1 through 4:

1. Click on the row 1 drag to row 4.
2. Choose Edit > Delete from the menu. Rows 1 through 4 are deleted.
3. Click anywhere on the spreadsheet to remove your selection.

### **Inserting Columns**

There will be times when you will need to insert a column or columns into your spreadsheet. To insert a column:

1. Click on A to select column A.
2. Choose Insert > Columns from the menu. A column is inserted to the right of column A.

3. Click anywhere on the spreadsheet to remove your selection.

### **Inserting Rows**

You can also insert rows into your spreadsheet:

1. Click on 2 to select row 2.
2. Choose Insert > Rows from the menu. A row is inserted above row 2.
3. Click anywhere on the spreadsheet to remove your selection.

### **Creating Borders**

You can use borders to make entries on your spreadsheet stand out. Accountants usually place a single underline above a final number and a double underline below. The following illustrates:


1. Go to cell B7.
2. Choose Format > Cells from the menu.
3. Choose the Border tab.
4. In the Style box, click on the single underline
5. Click on the top of the Border box.
6. In the Style box, click on the double underline.
7. Click on the bottom of the Border box.
8. Click OK. Cell B7 now has a border.

### **Alternate Method: Creating Borders by Using the Icon**

1. Go to cell C7. Click on the down arrow beside the Borders icon.
2. Select the Top and Double Bottom Border. Cell C7 now has borders.

### **Merge and Center**

You will sometimes want to center a piece of text over several columns. The following example shows you how.


1. Go to cell B1.
2. Type **Sample Spreadsheet**.
3. Click the check mark on the Formula bar.
4. Select columns B1 to D1.
5. Click on the Merge and Center icon  on the formatting toolbar. Cells B1, C1, and D1 are merged and centered.

## Adding Background Color

You can add background color to a cell or group of cells:

1. Go to cell B1.
2. Choose Format > Cells from the menu.
3. Choose the Patterns tab.
4. Choose Sky Blue.
5. Click OK. The background of cell B1 is now Sky Blue.

## Alternate Method: Adding Background Color by Using the Icon

1. Select cells B7 to D7.
2. Click on the down-arrow next to the Fill Color icon .
3. Select Pale Blue. The background of cells B7 to D7 is now Pale Blue.

## Using Auto Format

You can format your data manually or you can use one of Microsoft Excel's many AutoFormats.

1. Select cells B1 to D7.
2. Choose Format > Auto Format from the menu. Several formats are listed from which you can choose.
3. Choose the Accounting 2 format.
4. Click OK. Your data is formatted in the Accounting 2 style.

## Saving Your File

To save your file: Choose File>Save from the menu.

1. Go to the directory in which you want to save your file.
2. Type **lesson2** in the File Name field.
3. Click on Save.

## Closing Microsoft Excel

This is the end of Lesson 2. Close Microsoft Excel. Choose File > Exit from the menu.



## Numbers and Mathematical Calculations

Microsoft Excel has many functions that you can use. Functions allow you to quickly and easily find an average, the highest number, the lowest number, a count of the number of items in a list, and make many other useful calculations.

### Reference Operators

Reference operators refer to a cell or a group of cells. There are two types of reference operators, range and union.

A range reference refers to all the cells between and including the reference. A range reference consists of two cell addresses separated by a colon. The reference A1:A3 includes cells A1, A2, and A3. The reference A1:C3 includes A1, A2, A3, B1, B2, B3, C1, C2, and C3.

A union reference includes two or more references. A union reference consists of two or more cell addresses separated by a comma. The reference A7,B8,C9 refers to cells A7, B8, and C9.

### Functions

Microsoft Excel has a set of prewritten formulas called functions. Functions differ from regular formulas in that you supply the value but not the operators, such as +, -, \*, or /. For example, you can use the SUM function to add. When using a function, remember the following:

- Use an equal sign to begin a formula.
- Specify the function name.
- Enclose arguments within parentheses.
- Use a comma to separate arguments.

Here is an example of a function:

```
=SUM (2,13,A1,B27)
```

In this function:

The equal sign begins the function.

SUM is the name of the function.

2, 13, A1, and B27 are the arguments.

Parentheses enclose the arguments.

A comma separates the arguments.

The SUM function adds the arguments together. In the exercises that follow, we will look at various functions.

### Typing a Function

1. Open Microsoft Excel.
2. Type **12** in cell B1.
3. Press Enter.
4. Type **27** in cell B2.
5. Press Enter.
6. Type **24** in cell B3.
7. Press Enter.
8. Type **=SUM (B1:B3)** in cell A4.
9. Press Enter. Microsoft Excel sums cells B1 to B3.

### Alternate Method: Entering a Function by Using the Menu

1. Type **150** in cell C1.
2. Press Enter.
3. Type **85** in cell C2.
4. Press Enter.
5. Type **65** in cell C3.
6. Press Enter. Your cursor should be in cell C4.
7. Choose Insert > Function from the menu.
8. Choose Math & Trig in the Or Select A Category box.
9. Click on Sum in the Select A Function box.
10. Click on OK. The Functions Arguments dialog box opens.
11. Type **C1:C3** in the Number1 field, if it does not automatically appear.
12. Click on OK. Microsoft Excel sums cells C1 to C3.
13. Move to cell A4.
14. Type the word **Sum**.
15. Press Enter.

As you learned in Lesson 2, you can also calculate a sum by using the Sum icon.

### Calculating an Average

You can use the AVERAGE function to calculate the average of a series of numbers.

1. Move your cursor to cell A6.
2. Type **Average**. Press the right arrow key to move to cell B6.
3. Type **=AVERAGE (B1:B3)**.
4. Press Enter. The average of cells B1 to B3, which is 21, will appear.

### Calculating an Average by Using the Sum Icon

In Microsoft Excel XP, you can use the Sum icon to calculate an average.

1. Move your cursor to cell C6.
2. Click on the drop-down arrow next to the Sum icon.
3. Click on Average.
4. Highlight C1 to C3.
5. Press Enter. The average of cells C1 to C3, which is 100, appears.

### Calculating Min

You can use the MIN function to find the lowest number in a series of numbers.

1. Move your cursor to cell A7.
2. Type **Min**.
3. Press the right arrow key to move to cell B7.
4. Type **= MIN (B1:B3)**.
5. Press Enter. The lowest number in the series, which is 12 appears.

### Calculating Max

You can use the MAX function to find the highest number in a series of numbers.

1. Move your cursor to cell A8.
2. Type **Max**.
3. Press the right arrow key to move to cell B8.
4. Type **= MAX (B1:B3)**.
5. Press Enter. The highest number in the series, which is 27, appears.

**Note:** You can also use the drop-down menu next to the Sum icon to calculate minimums and maximums.

### Calculating Count

You can use the count function to count the number of items in a series.

1. Move your cursor to cell A9.
2. Type **Count**

3. Press the right arrow key to move to cell B9.
4. Click on the down arrow next to the Sum icon.
5. Click on Count.
6. Highlight B1 to B3.
7. Press Enter. The number of items in the series, which is 3 appears.

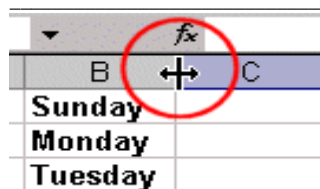
### Filling Cells Automatically

You can use Microsoft Excel to fill cells automatically with a series. For example, you can have Excel automatically fill in times, the days of the week or months of the year, years, and other types of series. Days of the week and months of the year fill in a similar fashion. The following demonstrates filling the days of the week:

1. Move to Sheet2.
2. Move to cell A1.
3. Type **Sun**.
4. Move to cell B1.
5. Type **Sunday**.
6. Highlight cells A1 to B1.
7. Bold cells A1 to B1.
8. Find the small black square in the lower right corner of the highlighted area. This is called the Fill Handle.
9. Grab the Fill Handle and drag with your mouse to fill cell A1 to B24. Note how the days of the week fill the cells in a series. Also, note that the Auto Fill Options icon appears.
10. Click on the Auto Fill Options icon.
11. Choose the Copy Cells radio button. The entry in cells A1 and B1 are copied to all the cells highlighted.
12. Click on the Auto Fill Options icon again.
13. Choose the Fill Series radio button. The cells fill as a series from Sunday to Saturday again.
14. Click on the Auto Fill Options icon again.
15. Choose the Fill without Formatting radio button. The cells fill as a series from Sunday to Saturday, but the entries are not bolded.
16. Click on the Auto Fill Options icon again.
17. Choose the Fill Weekdays radio button. The cells fill as a series from Monday to Friday.

Some of the entries in column B are too long to fit in the column. You can quickly adjust the column width to fit the longest entry.

1. Move your cursor over the line that separates column B and C. The Width Indicator appears.



2. Double-click. The Column adjusts to fit the longest entry.

The following demonstrates filling time:

1. Type **1:00** into cell C1.
2. Grab the Fill Handle and drag with your mouse to highlight cells A1 to A24. Note that each cell fills using military time.
3. Press Esc and then click anywhere on the worksheet to remove the highlighting.

To change the format of the time:

1. Select cells C1 to C24.
2. Choose Format > Cells from the menu.
3. Choose the Number tab.
4. In the Category box, choose Time.
5. In the Type box, choose 1:30 PM.
6. Click OK. The time is no longer in military time.

You can also fill numbers.

Type a **1** in cell D1.

1. Grab the Fill Handle and drag with your mouse to highlight cells D1 to D24. The number 1 fills each cell.
2. Click on the Auto Fill Options icon.
3. Choose the Fill Series radio button. The cells fill as a series starting with 1, 2, 3.

Here is another interesting fill feature.

1. Go to cell E1.
2. Type **Lesson 1**.
3. Grab the Fill Handle and drag with your mouse to highlight cells E1 to E24.
4. The cells fill in as a series: Lesson 1, Lesson 2, Lesson 3, and so on.

## Printing

The simplest way to print is to click on the Print icon located on the Standard toolbar. Dotted lines will appear on your screen after you click on the print icon. The dotted lines indicate the right, left, top, and bottom edges of your printed pages.

## Print Preview

There are many print options. You can select print options options in Page Setup or in Print Preview. In Print Preview, you can see the results of your selections onscreen. You can use print options to:

- Determine whether to print landscape or portrait. If you print portrait on an 8 1/2 by 11 sheet of paper, the length across the top of your page will be 8 1/2 inches. If you print landscape on an 8 1/2 by 11 sheet of paper, the length across the top of your page will be 11 inches.
- Scale your document. If your data is small in comparison to the page, you may want to scale upward so the data fills the entire page. If your data is too large to fit on the page, you may want to scale downward.
- Specify how many pages wide and how many pages long you want your printed document to be.
- Select the paper size and print quality.
- Set the first page number.

If you choose the Margins tab, you can:

- Set the size of your margins including your header and footer margins.
- Center your spreadsheet horizontally and/or vertically on the page.

If you choose the Header/Footer tab, you can select headers and footers. A header is text that appears at the top of every page. A footer is text that appears at the bottom of every page. You can use headers and footers to insert page numbers, dates, and other information.

To choose a header:

1. Choose the Header/Footer tab.
2. Click on the down arrow next to the Header field to open the drop-down box for the header field.
3. Choose a Header from the list.

To choose footer:

1. Choose the Header/Footer tab.
2. Click on the down arrow next to the Footer field to open the drop-down box for the Footer field.
3. Choose Footer from the list.

Click on the Custom Header or Custom Footer button to customize your headers and footers. Use the Left Section to place your options on the left side of the page, the Center Section to place your options in the center of the page, and the Right Section to place your option's on the right side of the page.

The Sheet tab has options that allow you to choose which rows and columns will repeat at the left and the top of the page. It also has options that allows you to determine whether gridlines and/or row column headings print

To preview and print your spreadsheet:

1. Choose File > Preview from the menu.
2. Click on Setup.
3. Choose the Page tab.
4. Choose Portrait.
5. In the Adjust To field, type **110%** to set the size to 110%.
6. Choose the Margin tab.
7. Check the horizontally box in the Center on Page frame to center your spreadsheet horizontally.
8. Click on OK.
9. Click on Print. The Print dialog box opens.
10. Click on OK to print the file.

## **Saving Your File**

To save your file:

1. Choose File>Save from the menu.
2. Go to the directory in which you want to save your file.
3. Type **lesson3** in the File Name field.
4. Click on Save.

## **Closing Microsoft Excel**

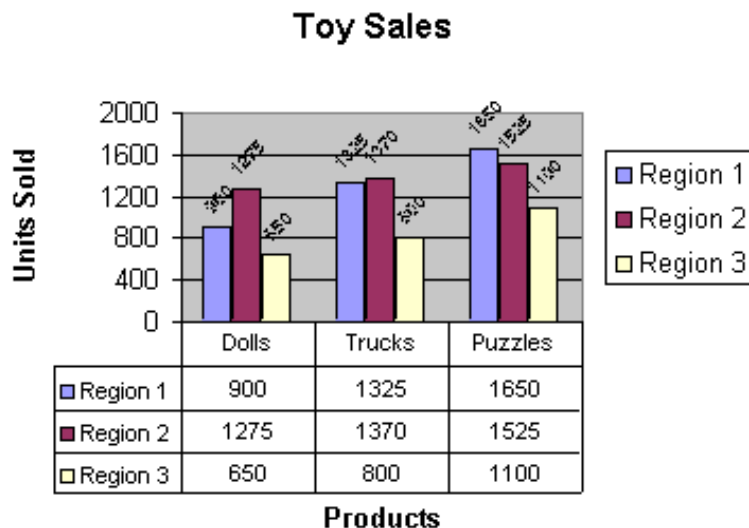
This is the end of Lesson 3. Close Microsoft Excel.

1. Choose File > Exit from the menu.

## Creating Charts

Using Microsoft Excel, you can represent numbers in a chart. You can choose from a variety of chart types. And, as you change your data, your chart will automatically update. You can use Microsoft Excel's Chart Wizard to take you through the process step-by-step.

### Creating a Column Chart



To create the column chart shown above, start by creating the spreadsheet below exactly as shown.

	A	B	C	D	E
1	<b>Toy Sales</b>				
2					
3	<b>Products</b>	<b>Region 1</b>	<b>Region 2</b>	<b>Region 3</b>	
4	Dolls	900	1275	650	
5	Trucks	1325	1370	800	
6	Puzzles	1650	1525	1100	
7					

After you have created the spreadsheet, you are ready to create your chart.

1. Highlight cells A3 to D6. You must highlight all the cells containing the data you want in your chart. You should also include the data labels.
2. Choose Insert > Chart from the menu.
3. Click on Column to select the type of chart you want to create.
4. In the Chart Sub-type box, choose the Clustered Column icon to select the chart sub-type.



5. Click on Next.
6. To place the product names on the x-axis, select the Columns radio button.
7. Click on Next.
8. Type Toy Sales in the Chart Title field. Toy Sales will appear as the title of your chart.
9. Type Products in the Category (X) Axis field. Products will appear as your x-axis title.
10. Type Units Sold in the Value (Y) Axis field. Units Sold will appear as your y-axis title.
11. Choose the Data Labels tab.
12. Select Value in the Labels Contain Frame to display the data labels as values.
13. Choose the Data Table tab.
14. Select Show Data Table. The data table will appear below your chart.
15. Click on Next.
16. Choose as Object in Sheet1 to make your chart an embedded object and part of the worksheet.
17. Click on Finish
18. Your chart will appear on the spreadsheet.

### **Changing the Size and Position of a Chart**

When you select a chart, handles appear on the right and left sides, the top and bottom, and the corners of the chart. You can drag the handles on the top and bottom of the chart to increase or decrease the height of the chart. You can drag the handles on the left and right sides of the chart to increase or decrease the width of the chart. You can drag the handles on the corners of the chart to increase or decrease the size of the chart proportionally.

You can change the position of a chart by clicking on the chart and dragging


1. Use the handles to adjust the size of your chart.
2. Click on the chart and drag to position the chart under the data.

### **Modify Your Chart**


You can modify your chart by using the Chart toolbar. If the Chart toolbar is not already available, choose View > Toolbars > Chart from the menu.

Chart Toolbar

To change the data area font size:

1. Click on the down arrow on the Chart toolbar. A drop-down menu opens.
2. Choose Data Table from the drop-down menu.
3. Click on the Options icon . Choose the Font tab
4. In the Size box, type 8.
5. Click on OK. Your font size is now 8.

To change the angle of the data labels:

1. Click on the down arrow on the Chart toolbar. A drop-down menu opens.
2. Choose "Region 1" Data Labels from the drop-down menu.
3. Click on the Angle Counter Clockwise icon . The Region 1 Data Labels are angled counter-clockwise.
4. Repeat this process for Regions 2 and 3.

To change the font size of the Region data labels:

1. Click on the down arrow on the Chart toolbar. A drop-down menu opens.
2. Choose "Region 1" Data Labels from the drop-down menu.
3. Click on the Options icon. Choose the Font tab.
4. In the Size box, type 6.
5. Click on OK. Your font size is now 6.
6. Repeat this process for Region 2 and 3.

You can also make changes by double-clicking on the item you want to change.

To change the chart scale:

1. Double-click on the scale. The Format Axis dialog box opens.
2. Choose the Scale tab.
3. Type 400 in the Major Unit field.
4. Click on OK. Your chart is now scaled in units of 400.

## **Saving Your File**

To save your file:

1. Choose File>Save from the menu.
2. Go to the directory in which you want to save your file.
3. Type **lesson4** in the File Name field.
4. Click on Save.

## **Closing Microsoft Excel**

This is the end of Lesson 4. Close Microsoft Excel.

1. Choose File > Exit from the menu.

## Page Properties and Printing

### Page Breaks

To set page breaks within the worksheet, select the row you want to appear just below the page break by clicking the row's label. Then choose **Insert Page Break** from the menu bar. You may need to click the double down arrow at the bottom of the menu list to view this option.

### Page Setup

Select **File Page Setup** from the menu bar to format the page, set margins, and add headers and footers.

- **Page**  
Select the **Orientation** under the **Page** tab in the Page Setup window to make the page Landscape or Portrait. The size of the worksheet on the page can also be formatting under **Scaling**. To force a worksheet to print only one page wide so all the columns appear on the same page, select **Fit to 1 page(s) wide**.
- **Margins**  
Change the top, bottom, left, and right margins under the **Margins** tab. Enter values in the header and footer fields to indicate how far from the edge of the page this text should appear. Check the boxes for centering horizontally or vertically on the page.
- **Header/Footer**  
Add preset headers and footers to the page by clicking the drop-down menus under the Header/Footer tab.

To modify a preset header or footer, or to make your own, click the **Custom Header** and **Custom Footer** buttons. A new window will open allowing you to enter text in the left, center, or right on the page.

**Format Text** - Click this button after highlighting the text to change the font, size, and style.

**Page Number** - Insert the page number of each page.

**Total Number of Pages** - Use this feature along with the page number to create strings such as "page 1 of 15".

**Date** - Add the current date.

**Time** - Add the current time.

**File Name** - Add the name of the workbook file.

**Tab Name** - Add the name of the worksheet's tab.

- **Sheet**

Check **Gridlines** if you want the gridlines dividing the cells to be printed on the page. If the worksheet is several pages long and only the first page includes titles for the columns, select **Rows to repeat at top** to choose a title row that will be printed at the top of each page.

### **Print Preview**

Select **File Print Preview** from the menu bar to view how the worksheet will print. Click the **Next** and **Previous** buttons at the top of the window to display the pages and click the **Zoom** button to view the pages closer. Make page layout modifications needed by clicking the **Page Setup** button. Click **Close** to return to the worksheet or **Print** to continue printing.

### **Print**

To print the worksheet, select **File Print** from the menu bar.

- **Print Range** - Select either all pages or a range of pages to print.
- **Print What** - Select selection of cells highlighted on the worksheet, the active worksheet, or all the worksheets in the entire workbook.
- **Copies** - Choose the number of copies that should be printed. Check the **Collate** box if the pages should remain in order.

Click **OK** to print.

### **Keyboard Shortcuts**

Keyboard shortcuts can save time and the effort of switching from the keyboard to the mouse to execute simple commands. Print this list of Excel keyboard shortcuts and keep it by your computer for a quick reference.

**Note:** A plus sign indicates that the keys need to be pressed at the same time.

PC BASIC

Action	Keystroke
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Document actions	
Open a file	CTRL+O
New file	CTRL+N
Save As	F12
Save	CTRL+S
Print	CTRL+P
Find	CTRL+F
Replace	CTRL+H
Go to	F5

Cursor Movement	
One cell up	up arrow
One cell down	down arrow
One cell right	Tab
One cell left	SHIFT+Tab
Top of worksheet (cell A1)	CTRL+Home
End of worksheet (last cell with data)	CTRL+End
End of row	Home
End of column	CTRL+left arrow
Move to next worksheet	CTRL+PageDown

Formulas	
Apply AutoSum	ALT+=
Current date	CTRL+;
Current time	CTRL+:
Spelling	F7
Help	F1
Macros	ALT+F8

Action	Keystroke
--------	-----------

Selecting Cells	
All cells left of current cell	SHIFT+left arrow
All cells right of current cell	SHIFT+right arrow
Entire column	CTRL+Spacebar
Entire row	SHIFT+Spacebar
Entire worksheet	CTRL+A

Text Style	
Bold	CTRL+B
Italics	CTRL+I
Underline	CTRL+U
Strikethrough	CTRL+5

Formatting	
Edit active cell	F2
Format as currency with 2 decimal places	SHIFT+CTRL+\$
Format as percent with no decimal places	SHIFT+CTRL+%
Cut	CTRL+X
Copy	CTRL+C
Paste	CTRL+V
Undo	CTRL+Z
Redo	CTRL+Y
Format cells dialog box	CTRL+1