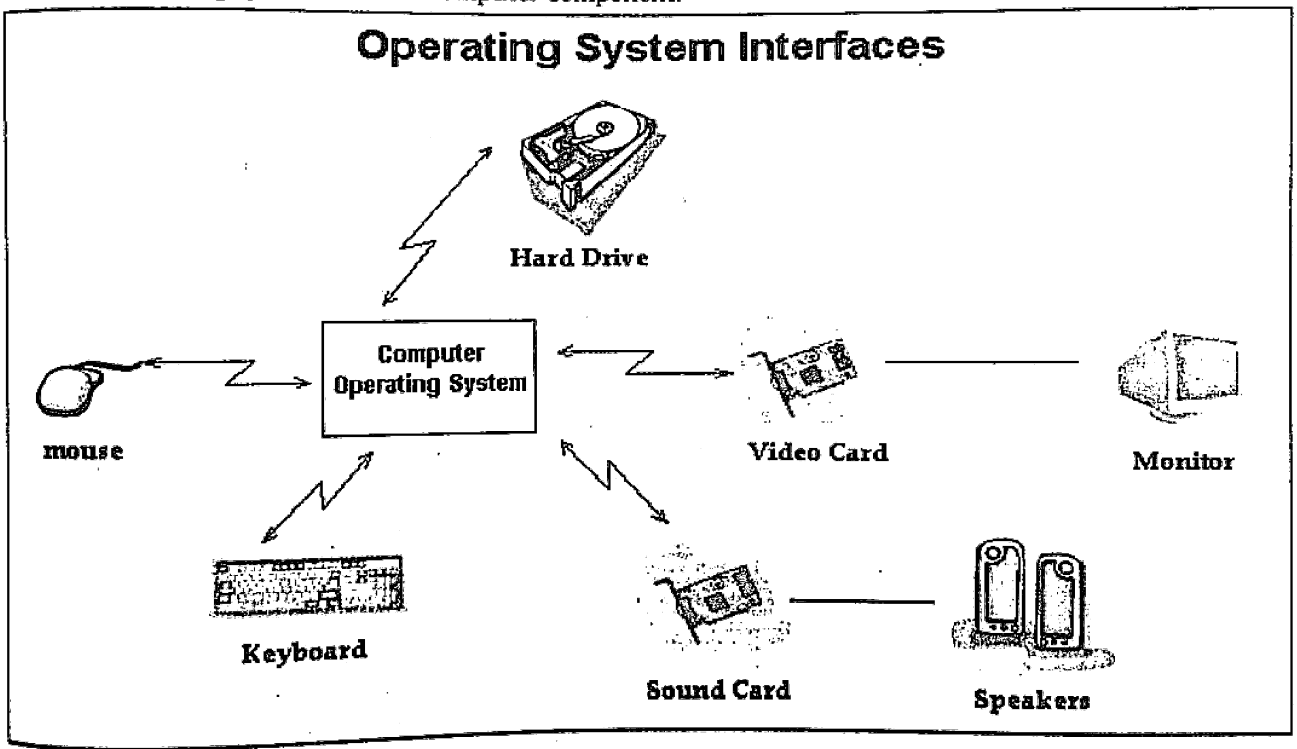
CHAPTER 8 Operating Systems

The operating system is the core software component of the computer. It performs many functions and is, in very basic terms, an interface between your computer and the outside world. In the section about hardware, a computer is described as consisting of several component parts including your monitor, keyboard, mouse, and other parts. The operating system provides an interface to these parts using what is referred to as "drivers". This is why sometimes when you install a new printer or other piece of hardware, your system will ask you to install more software called a driver.

WHAT DOES A DRIVER DO?

A driver is a specially written program which understands the operation of the device it interfaces to, such as a printer, video card, sound card or CD ROM drive. It translates commands from the operating system or user into commands understood by the the component computer part it interfaces with. It also translates responses from the component computer part back to responses that can be understood by the operating system, application program, or user. The below diagram gives a graphical depiction of the interfaces between the operating system and the computer component.



OTHER OPERATING SYSTEM FUNCTIONS

The operating system provides for several other functions including:

- System tools (programs) used to monitor computer performance, debug problems, or maintain parts of the system.
- A set of libraries or functions which programs may use to perform specific tasks especially relating to interfacing with computer system components.

The operating system makes these interfacing functions along with its other functions operate smoothly and these functions are mostly transparent to the user.

OPERATING SYSTEM CONCERNS

An operating system is a computer program. Operating systems are written by human programmers who make mistakes. Therefore there can be errors in the code even though there may be some testing before the

product is released. Some companies have better software quality control and testing than others so you may notice varying levels of quality from operating system to operating system. Errors in operating systems cause three main types of problems :

System crashes and instabilities : These can happen due to a software bug typically in the operating system, although computer programs being run on the operating system can make the system more unstable or may even crash the system by themselves. This varies depending on the type of operating system. A system crash is the act of a system freezing and becoming unresponsive which would cause the user to need to reboot.

Security flaws : Some software errors leave a door open for the system to be broken into by unauthorized intruders. As these flaws are discovered, unauthorized intruders may try to use these to gain illegal access to your system. Patching these flaws often will help keep your computer system secure.

Sometimes errors in the operating system will cause the computer **not to work correctly** with some peripheral devices such as printers.

OPERATING SYSTEM TYPES

There are many types of operating systems. The most common is the Microsoft suite of operating systems. They include from most recent to the oldest :

Windows XP Professional Edition : A version used by many businesses on workstations. It has the ability to become a member of a corporate domain.

Windows XP Home Edition : A lower cost version of Windows XP which is for home use only and should not be used at a business.

Windows 2000 : A better version of the Windows NT operating system which works well both at home and as a workstation at a business. It includes technologies which allow hardware to be automatically detected and other enhancements over Windows NT.

Windows ME : A upgraded version from windows 98 but it has been historically plagued with programming errors which may be frustrating for home users.

Windows 98 : This was produced in two main versions. The first Windows 98 version was plagued with programming errors but the Windows 98 Second Edition which came out later was much better with many errors resolved.

Windows NT : A version of Windows made specifically for businesses offering better control over workstation capabilities to help network administrators.

Windows 95 : The first version of Windows after the older Windows 3.x versions offering a better interface and better library functions for programs.

There are other worthwhile types of operating systems not made by Microsoft. The greatest problem with these operating systems lies in the fact that not as many application programs are written for them. However if you can get the type of application programs you are looking for, one of the systems listed below may be a good choice.

Unix : A system that has been around for many years and it is very stable. It is primary used to be a server rather than a workstation and should not be used by anyone who does not understand the system. It can be difficult to learn. Unix must normally run an a computer made by the same company that produces the software.

Linux : Linux is similar to Unix in operation but it is free. It also should not be used by anyone who does not understand the system and can be difficult to learn.

Apple MacIntosh - Most recent versions are based on Unix but it has a good graphical interface so it is both stable (does not crash often or have as many software problems as other systems may have) and easy to learn. One drawback to this system is that it can only be run on Apple produced hardware.

KERNEL

In computing, the kernel is the central component of most computer operating systems; it is a bridge between applications and the actual data processing done at the hardware level. The kernel's responsibilities include managing the system's resources (the communication between hardware and software components). Usually as a basic component of an operating system, a kernel can provide the lowest-level abstraction layer for the resources (especially processors and I/O devices) that application software must control to perform its function. It typically makes these facilities available to application processes through inter-process communication mechanisms and system calls.

In most cases, the boot loader starts executing the kernel in supervisor mode. The kernel then initializes itself and starts the first process. After this, the kernel does not typically execute directly, only in response to external events (e.g., via system calls used by applications to request services from the kernel, or via interrupts used by the hardware to notify the kernel of events). Additionally, the kernel typically provides a loop that is executed whenever no processes are available to run; this is often called the idle process.

Kernel Process management : The main task of a kernel is to allow the execution of applications and support them with features such as hardware abstractions. A process defines which memory portions the application can access. (For this introduction, process, application and program are used as synonyms.) Kernel process management must take into account the hardware built-in equipment for memory protection.

To run an application, a kernel typically sets up an address space for the application, loads the file con-

taining the application's code into memory (perhaps via demand paging), sets up a stack for the program and branches to a given location inside the program, thus starting its execution.

Multi-tasking kernels are able to give the user the illusion that the number of processes being run simultaneously on the computer is higher than the maximum number of processes the computer is physically able to run simultaneously. Typically, the number of processes a system may run simultaneously is equal to the number of CPUs installed .

The operating system might also support multiprocessing in that case, different programs and threads may run on different processors. A kernel for such a system must be designed to be re-entrant, meaning that it may safely run two different parts of its code simultaneously. This typically means providing synchronization mechanisms (such as spinlocks) to ensure that no two processors attempt to modify the same data at the same time.

Kernel Memory management: The kernel has full access to the system's memory and must allow processes to safely access this memory as they require it. Often the first step in doing this is virtual addressing, usually achieved by paging and/or segmentation. Virtual addressing allows the kernel to make a given physical address appear to be another address, the virtual address. Virtual address spaces may be different for different processes; the memory that one process accesses at a particular (virtual) address may be different memory from what another process accesses at the same address. This allows every program to behave as if it is the only one (apart from the kernel) running and thus prevents applications from crashing each other.

Kernel Device management: To perform useful functions, processes need access to the peripherals connected to the computer, which are controlled by the kernel through device drivers. For example, to show the user something on the screen, an application would make a request to the kernel, which would forward the request to its display driver, which is then responsible for actually plotting the character/pixel. A kernel must maintain a list of available devices. This list may be known in advance (e.g. on an embedded system where the kernel will be rewritten if the available hardware changes), configured by the user (typical on older PCs and on systems that are not designed for personal use) or detected by the operating system at run time.

MULTITASKING

In computing, multitasking is a method where multiple tasks, also known as processes, share common processing resources such as a CPU. In the case of a computer with a single CPU, only one task is said to be running at any point in time, meaning that the CPU is actively executing instructions for that task. Multitasking solves the problem by scheduling which task may be the one running at any given time, and when another waiting task gets a turn. The act of reassigning a CPU from one task to another one is called a context switch. When context switches occur frequently enough the illusion of parallelism is achieved. Even on computers with more than one CPU (called multiprocessor machines), multitasking allows many more tasks to be run than there are CPUs. For example, when you see someone in the car next to you eating a burrito, talking on his cell phone, and trying to drive at the same, that person is multitasking.

Multiprocessing : A computer processing mode that provides for simultaneous processing of two or more programs or routines by use of multiple CPU's. Multiprocessing is the use of two or more central processing units (CPUs) within a single computer system. The term also refers to the ability of a system to support more than one processor and/or the ability to allocate tasks between them.

APPLICATIONS

WHAT IS AN APPLICATION

Applications are programs that are installed on computers to give users the ability to do specific tasks. For example, Microsoft Word® is a program that gives the user the ability to write documents. Some program packages come in a set with multiple programs included to provide multiple capabilities such as the Microsoft Office® suite of programs. This suite of programs also includes Microsoft Outlook® which is used to send and receive e-mail. It also includes other programs with more capabilities.

HOW APPLICATION PROGRAMS WORK

Application programs are written in a text based computer language as mentioned in the section about hardware and software. Once written, they are compiled into a binary language the computer understands. The application programs use function calls to interface to the various computer peripherals such as your keyboard, mouse, screen, printers, and other devices. Most of these function calls are provided by the operating system so the application programs are usually compiled for a specific operating system such as Microsoft Windows 2000®, Microsoft Windows XP®, or Microsoft Windows 98®.

Application Problems : An application program is a computer program. It is written by human programmers who make mistakes. Therefore there can be errors in the code even though there may be some testing before the product is released. Application programs vary widely in the quality of the code. Errors in code are referred to as "bugs". Bugs can cause unpredictable results including system crashes, inability to perform expected functions, or providing an exploit for an attacker who wants to gain control of your system. Bad Applications

There are many types of applications that can cause problems on your computer system.

Applications with **serious bugs.**

Applications that come with **unwanted programs.** Some applications come with additional software that you may not really want but is installed by default. Normally this is only annoying and may slightly slow your system down when it boots because some ot these items will load every time you start your computer.

Adware : Most adware comes with programs that may be purchased or downloaded for free on the internet. Adware will cause advertising popups to appear nn your computer. Besides being annoying, they will slow your ability to access the internet. Many times these programs will download other ad programs. These programs are very difficult to remove from your system because they are usually hidden on your system very well. Many times it requires an expert to remove these programs but later I will give you some tips on how you can either remove them or render them ineffective, but to be able to do this you must have reasonable knowledge about your system.

Spyware : This usually comes with some free programs and it will monitor your internet activity and send information to some corporation. This type of program is not normally seriously harmful but most people do not want to have their activities monitored. There are also programs to remove spyware but it is best to not install it in the first place.

FILENAME

A filename is a text string that identifies a file. Every file stored on a computer's hard disk has a filename that helps identify the file within a given folder. Therefore, each file within a specific folder must have a different filename, while files in different folders can have the same name.

Filenames may contain letters, numbers, and other characters. Depending on the operating system, certain characters cannot be used since they conflict with operators or other syntax used by the operating system. Different operating systems also have different limits for the number of characters a filename can have. While older operating systems limited filenames to only 8 or 16 characters, newer OS's allow filenames to be as long as 256 characters. Of course, for most practical purposes, 16 characters is usually enough.

Filenames also usually include a file extension, which identifies the type of file. For example .txt, .exe, .COM, etc.

APPLICATION FILES

Applications have a variety of files they use for three basic purposes.

- Executable files
- Configuration files

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.
- **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 win-

dow 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 TYPES

Because files can have different purposes, they have different types. The file type is best identified by its file structure. For example a text file would have a very different structure than a file than can be executed. An executable file must have a specific structure to be able to be run. The file structure is used to determine its MIME type. The word MIME stands for multipurpose internet mail extension and is used as a standard to identify various file types.

FILE EXTENSIONS

In operating systems such as Microsoft Windows systems, Linux, and Unix, a file extension is used to help identify the type of file. On Microsoft Window systems, many file types are associated with a particular program which can read the file. For exampl a file with a .pdf extension can be read by the Adob Acrobat application program.

Files are actually identified by what is called a MIME type. This can be done because files that are executable have a different structure than a data structure. **Therefore file extensions are not the only way to identify a file type nor are they the most accurate. Apple MacIntosh computer systems do not use a file extension to identify file types.**

EXECUTABLE FILE TYPES

The most important file type to be aware of are executable file types. This is because if you accidentally run an executable file on your system, it may install a virus or some other unwanted software program. Executable file types include:

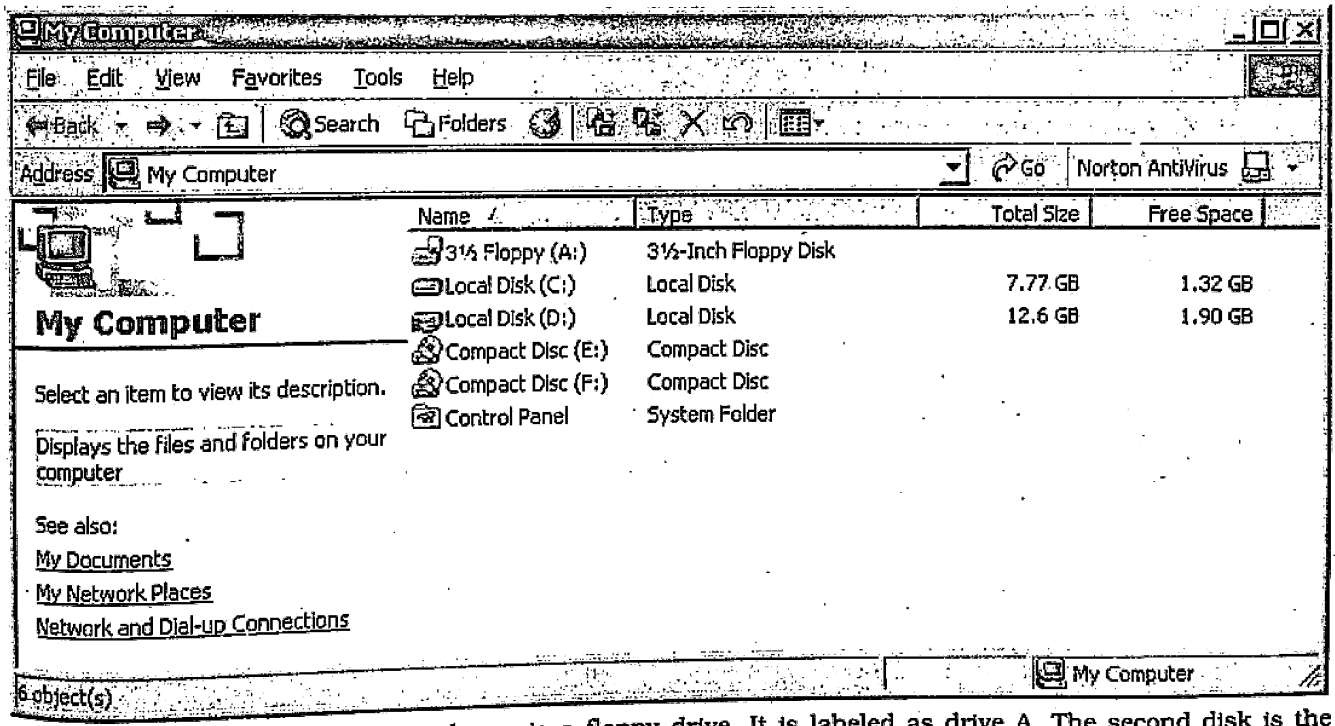
- .com
- .exe

FILE MANAGEMENT

FILE ORGANIZATION

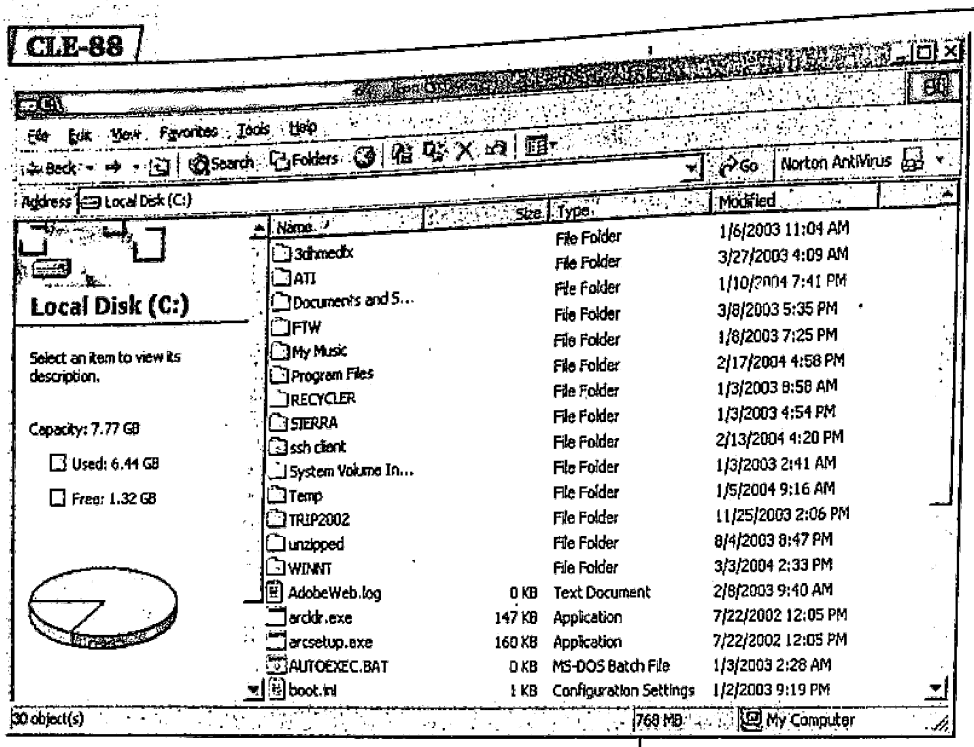
Files can be placed in folders similar to the way single sheets of paper can be placed into folders in a file cabinet. Folders can be created on the hard drive or nested inside each other any way the computer user desires.

Browsing Your files using Windows : If using a Windows operating system double click on the "My Computer" icon on your desktop. A window like the one shown below will open.



The first drive in the window shown is a floppy drive. It is labeled as drive A. The second disk is the system hard drive labeled as drive C. The third disk shown is a data disk shown as drive D. This is not a normal setup on most systems but I like to use a hard drive to hold my data that is different than the hard drive that holds the operating system. Drives E and F are compact disks (CD ROM drives) of which one is a read/write drive.

The drive letters will vary depending on how your system is configured and depending on whether you have any network drives. If you do have network drives, you should use them for the mail place you store your files. This is because files on network drives are usually backed up nightly in most organizations. If your files are not backed up and your hard drive fails, you will lose your data.



SUBDIRECTORY

Computers store data in a series of directories. Each directory, or folder, may contain files or other directories. If a directory is located within another directory, it is called a subdirectory (or subfolder) of that folder. Subdirectories may refer to folders located directly within a folder, as well as folders that are stored in other folders within a folder. For example, the main directory of a file system is the root directory. Therefore, all other folders are subdirectories of the root folder.

FILESYSTEM

A file system (often also written as file system) is a method of storing and organizing computer files and their data. Essentially, it organizes these files into a database for the storage, organization, manipulation, and retrieval by the computer's operating system. The file system allows you to create new files and folders, which are added to different parts of the "file tree" on your hard disk.

For example, your hard disk probably has separate folders for programs, documents, pictures, music, and movie files. Within these folders, there are likely other folders that further organize your files. All these folders (or directories) are organized by your computer's file system. There are also several folders your computer's operating system uses to store system files, such as start up data and system preferences. Some of these folders are invisible to the user, but are recognized by the computer's file system.

DIRECTORY

A directory is another name for a folder. Files on your hard disk are organized into various folders, or directories, so that it is easier to keep track of them. For example, you may keep your pictures in one folder and your music files in another folder. Folders can also contain other folders, allowing for more specific organization.

Since you can have folders within a folder, files on your hard drive are organized much like branches on a tree. The main directory on your hard drive is appropriately called the "root directory." Folders that exist within the root directory most likely contain other folders, which may branch out to even more folders.

COPYING FILES

There are several ways Windows operating systems allow files to be copied or moved. They include :

Drag and drop : In the window above it is easy to drag one of the files into one of the folders. This will move the file into the folder. This can also be done by opening two windows using the "My Computer" icon and dragging the file from one window to another.

Copy and paste : You can open a "My Computer" window, and do the following:

- On the "My Computer" menu select "Edit", then "Copy".
- Navigate to the location where you want to put the file. You can navigate by using the "Up" folder to go up one level into the folder structure or by double clicking on folders to enter them. If the "Up" folder does not exist in your "My Computer" window, on your menu, select "View", then "toolbars", then select "Standard Buttons".
- On the "My Computer" menu select "Edit", then "Paste". The file will be copied to the location you have navigated to.

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.

If you want to copy the files :

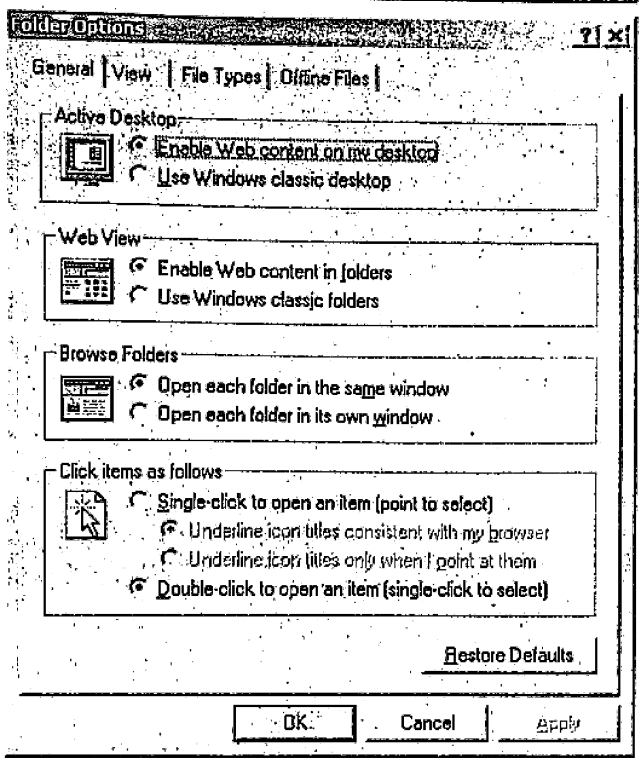
1. On the "My Computer" menu select "Edit", then "Copy".
2. Navigate to the location where you want to put the file.
3. On the "My Computer" menu select "Edit", then "Paste". The file will be copied to the location you have navigated to

VIEW SETTINGS

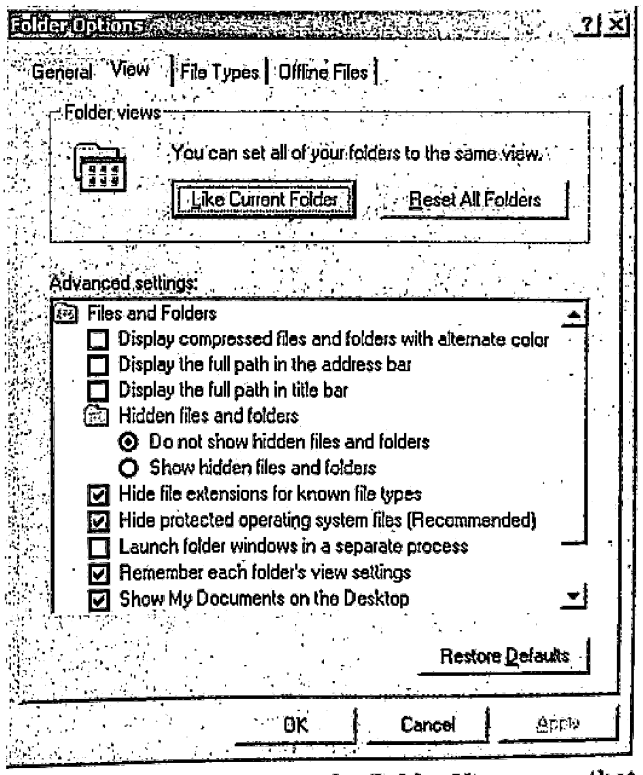
The Default Windows Setting is Dangerous : Windows systems come with default file view settings. The default is to "Hide file extensions for known file types". This setting can be used to decieve a computer user into believing that a file is safe to open when it is not. Files containing viruses can be sent to a computer with the name "document.txt.exe" which is a file that the computer will run. The file will appear to the computer user as "document.txt" making the user believe that it is safe to open, but if the user clicks on it the file will be run and be able to infect the computer.

Changing the View Settings : Open "My Computer" by clicking on the "My Computer" icon on your desktop. Click on the menu item "View" and select "Details" from the drop down menu. This will change the current settings for the folder or location you are in, but the change is not permanent yet.

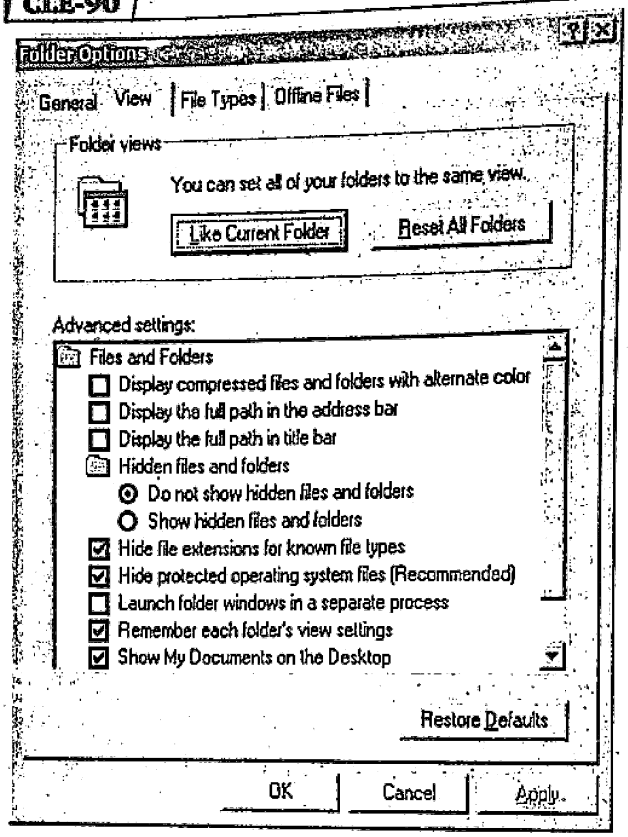
To change the file view settings, if you are using Windows 2000 or XP click on the menu item "Tools" and "Folder options" selection. If you are using Windows 98, click on "View", and "Folder options". A dialogue box similar to the one below should appear.



Click on the view tab and the dialogue box will change as shown below :



Click on the button in the Folder Views area that says "Like current folder" and answer yes when asked if you want to change all folders to match the current folder. Change the rest of the settings to match the dialogue box as shown below :



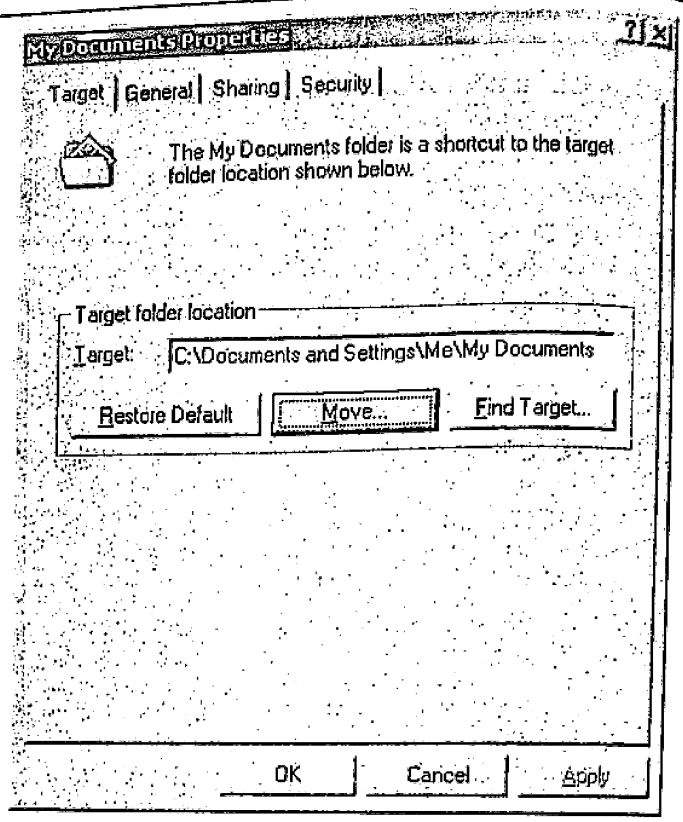
The first three selections are display settings which make it more convenient to navigate through files and folders. Be sure and uncheck the checkbox next to "Hide file extensions for known file types". If you are using Windows 2000 or Windows XP, this should be done for every user that logs in since each unique user that uses the machine will get their own desktop and user profile.

FILE BACKUPS

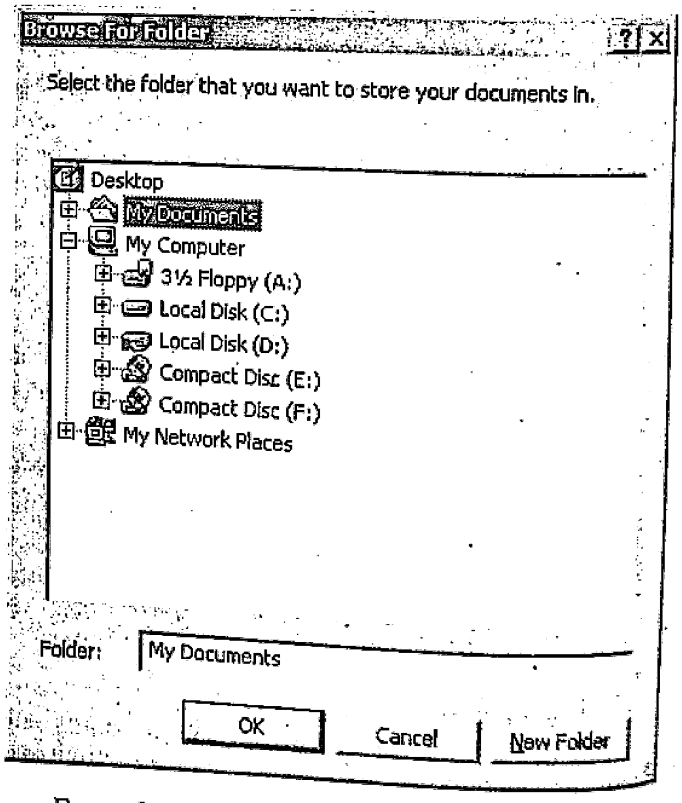
File backups are very important to protect your data. Is your hard drive fails or your operating system malfunctions, you could loose all your data. If you do regular backups, you will drastically reduce the data loss that could occur.

Using the Network for Backups : Backing up your data is very important. If you are operating on a corporate or organizational network and have disk drives shared from a file server it is likely that files stored there are backed up every night. If possible you should store your files on this server.

Since Windows operating systems use the "My Documents" folder as the location to store your files by default it will be helpful to set up your system so the "My Documents" folder points to one of your network drives. If running a Windows 2000 or Windows XP system, you can right click on the "My Documents" folder ether on your desktop or displayed from the Start menu and select properties. A dialogue box similar to the one shown below will appear.



Click on the "Move" button. A dialogue box similar to the one below will appear.



Expand the "My Computer" object by clicking on the + next to it. Then select the appropriate network drive that is best to put your documents in.

How to Backup Data if You do not have a network

If you do not have a network and only have a single computer you should periodically back up your data. You should purchase or own one of the following:

- A read/write CD ROM or DVD drive
- A Zip drive
- A tape drive - Usually these are more expensive.

You should be aware of where you store your files and you should also know where your mail files are stored by your mail program such as Outlook or Outlook Express. If you right click on your inbox folder in Outlook Express you can find the location where your mail is stored.

INTRODUCTION OF MS-DOS

MS-DOS is an operating system initially developed by "Tim Patterson" and he later sold it to Microsoft Corporation.

MS-DOS is abbreviation of Microsoft Disk Operating System. It performs various tasks listed below—

(a) Control the processing of every application program such as Word, Excel and others.

(b) Manages the files created on system.

(c) Displays the information on screen

Booting : Process that starts up a computer is called "Booting". After we switch 'ON' the power, it checks for the proper functioning of all the peripheral devices attached with the computer.

It searches for the operating system, when located, loads it into main memory. Booting is of two types—

Cold Boot : Firstly the memory and the peripheral devices are checked before loading the operating system.

Warm Boot : Performed by pressing "Ctrl+Alt+Del" key simultaneously. Memory and peripheral devices are not checked in this case. The operating system is directly loaded **OR** we can say that when we are working in an application and that software not running **OR** the computer hangs then we prefer Warm Boot by pressing "Ctrl + Alt + Del" to escape from the problem. By this the software that causing the problem to user will stop running and system starts again.

COMPONENTS OF MS-DOS

It consists the following :

- Boot Record
- IO. Sys
- MS DOS. SYS
- COMMAN.COM

Boot Record : This term indicates the 'start up' of computer when we boot computer it means we turning it ON and loading the operating system into our computer's memory.

IO. SYS Program : This program interacts between the computer's ROM (Read Only Memory), BIOS (Basic Input Out-put Services) and MS.DOS sys.

As its name indicates it is an program of Input/Output control. It controls the operation of keyboard, screen, printer, disk controller and system clock.

The final task performed by it load the command processor program i.e. COMMAND.COM.

MSDOS. SYS Program : It interacts directly with the application program and IO.sys prog.

COMMAND. COM PROGRAM : It is also called command-processor. It is a user system interface. Some of the commands of MS-DOS are defined in this file and they are loaded into the memory along with this file.

So, let us proceed to MS-DOS commands and they are :

- Internal Commands
- External Commands

We can consider the term "command" as a key to perform a specific function **OR**

The order (command) of the commander to command his soldiers.

INTERNAL COMMANDS

The command which are defined in the command.com are :

- Very fast
- Stored in RAM (Random Access Memory)
- Always available even if no such file name or directory exists on the disk.

EXTERNAL COMMANDS

The commands which form part of the MS-DOS but are not present in the system. Before an external command can be put to use, it has to be firstly loaded.

- Slow in comparison to internal commands.
- Not stored, have to loaded before use.
- Not available, we have to give the complete path of the file, where it is present.
- If an external command is not present then DOS gives an error message of "bad command or file name".

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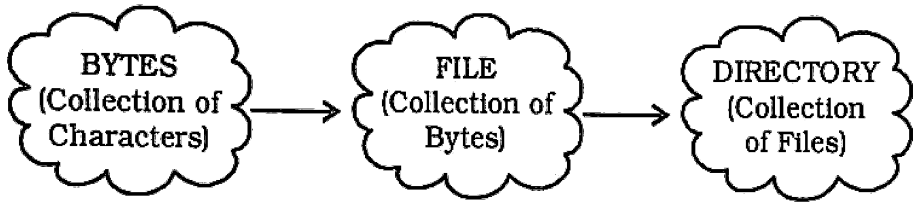
MS DOS COMMANDS OVERVIEW

Command	Description
append	Causes MS-DOS to look in other directories when editing a file or running a command.
arp	Displays, adds, and removes arp information from network devices.
assign	Assign a drive letter to an alternate letter.
assoc	View the file associations.
at	Schedule a time to execute commands or programs.
atmadm	Lists connections and addresses seen by Windows ATM call manager.
attrib	Display and change file attributes.
batch	Recovery console command that executes a series of commands in a file.
bootcfg	Recovery console command that allows a user to view, modify, and rebuild the boot.ini
break	Enable / disable CTRL + C feature.
cacls	View and modify file ACL's.
call	Calls a batch file from another batch file.
cd	Changes directories.
chcp	Supplement the International keyboard and character set information.
chdir	Changes directories.
chdsk	Check the hard disk drive running FAT for errors.
chkntfs	Check the hard disk drive running NTFS for errors.
choice	Specify a listing of multiple options within a batch file.
cls	Clears the screen.
cmd	Opens the command interpreter.
color	Easily change the foreground and background color of the MS-DOS window.
command	Opens the command interpreter.
compact	Compresses and uncompress files.
control	Open Control Panel icons from the MS-DOS prompt.
convert	Convert FAT to NTFS.
copy	Copy one or more files to an alternate location.
date	View or change the systems date.
debug	Debug utility to create assembly programs to modify hardware settings.
defrag	Re-arrange the hard disk drive to help with loading programs.
del	Deletes one or more files.
delete	Recovery console command that deletes a file.
deltree	Deletes one or more files or directories.
dir	List the contents of one or more directory.
disable	Recovery console command that disables Windows system services or drivers.
diskcomp	Compare a disk with another disk.
diskcopy	Copy the contents of one disk and place them on another disk.
edit	View and edit files.
edlin	View and edit files.
erase	Erase files from computer.
exit	Exit from the command interpreter.
fasthelp	Displays a listing of MS-DOS commands and information about them.
fdisk	Utility used to create partitions on the hard disk drive.
find	Search for text within a file.
findstr	Searches for a string of text within a file.
fixboot	Writes a new boot sector.
fixmbr	Writes a new boot record to a disk drive.
format	Command to erase and prepare a disk drive.
help	Display a listing of commands and brief explanation.
if	Allows for batch files to perform conditional processing.
ifshlp.sys	32-bit file manager.
keyb	Change layout of keyboard.
label	Change the label of a disk drive.
lh	Load a device driver in to high memory.
listsvc	Recovery console command that displays the services and drivers.
lock	Lock the hard disk drive.
logoff	Logoff the currently profile using the computer.
logon	Recovery console command to list installations and enable administrator login.
map	Displays the device name of a drive.
md	Command to create a new directory.
mem	Display memory on system.

mkdir	Command to create a new directory.
move	Move one or more files from one directory to another directory.
msdex	Utility used to load and provide access to the CD-ROM.
net	Update, fix, or view the network or network settings
nslookup	Look up an IP address of a domain or host on a network.
pathping	View and locate locations of network latency.
print	Prints data to a printer port.
prompt	View and change the MS-DOS prompt.
rd	Removes an empty directory.
rename	Renames a file or directory.
rmdir	Removes an empty directory.
route	View and configure windows network route tables.
scandisk	Run the scandisk utility.
scanreg	Scan registry and recover registry from errors.
shutdown	Shutdown the computer from the MS-DOS prompt.
sys	Transfer system files to disk drive.
time	View or modify the system time.
tree	View a visual tree of the hard disk drive.
type	Display the contents of a file.
undelete	Undelete a file that has been deleted.
unformat	Unformat a hard disk drive.

ARRANGEMENT IN MS-DOS

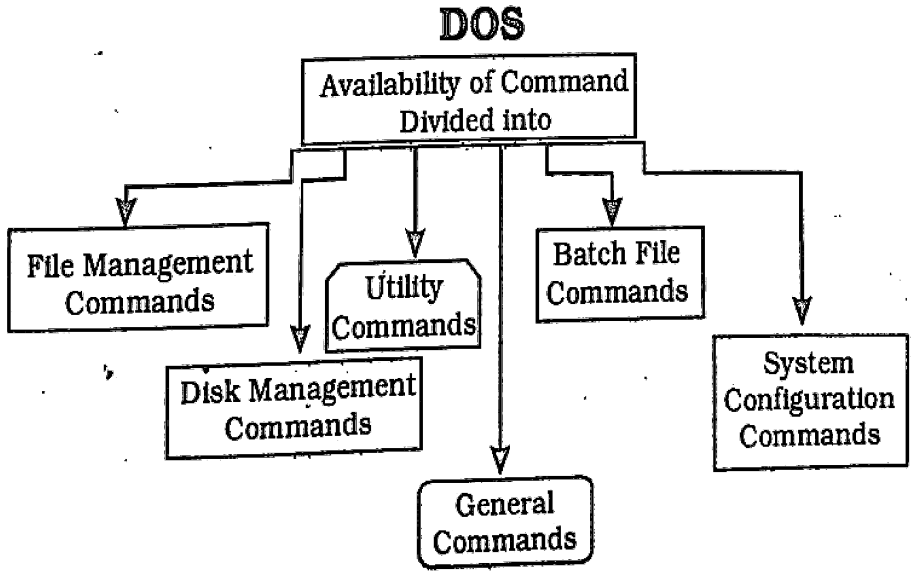


Let us understand, what the above diagram telling us. It states that a collecting of characters (e.g.. a, b, c, 3,], *) make a "BYTE". And further this collection of Bytes make a "FILE" (e.g.. data stored → Hello world" or any graphic). And this collection of file stored into a directory.

For example, as we see in any of industries or in any organisation number of file should contain in a folder for the security and convenience. The same principle is used by the DOS.

So, the next thing we should care that these files sometimes need some modification (changes), some of the files be useless after some time and some will be checked from time to time.

So, in order to perform above task DOS faciliate us with some of its useful commands and they are categorised as stated below :



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MICROSOFT WINDOWS XP

Windows XP : An operating system, sometimes called an "OS", is the main program the computer uses to function properly. Operating systems act as a link between you, the user, and the programs you use on a computer. Different types of computers use different types of operating systems. The majority of computers used either run Microsoft Windows or the Mac OS. While files can be shared between these two types of systems, they are generally incompatible.

Windows Features : Most PCs run on an operating system called Windows. These particular tutorial deals with the Windows XP professional version of the Windows operating system. The operating system is what allows you as the user to access the information in the computer. To understand how to use a computer, it is important to know several features of the Windows system.

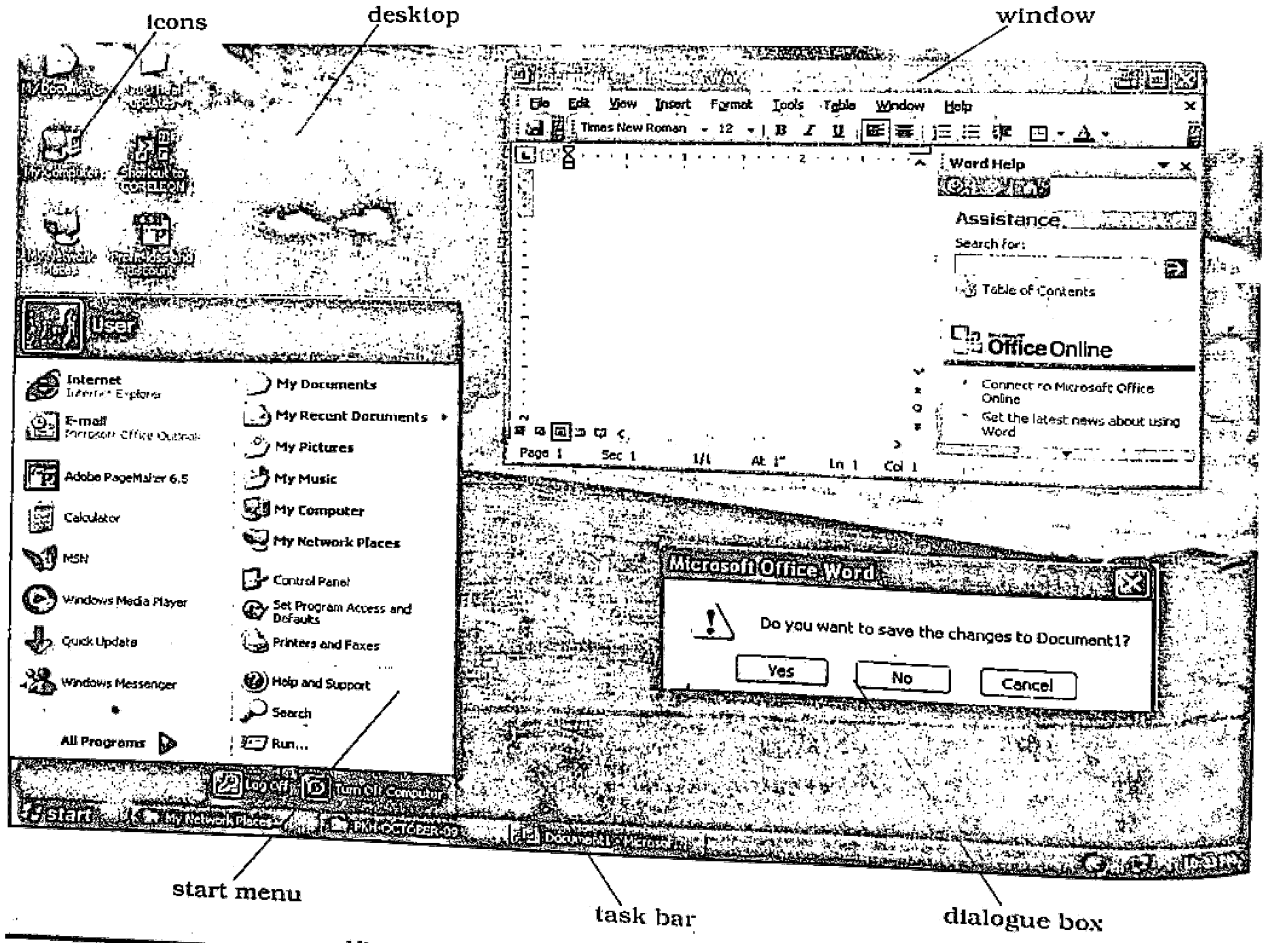
Desktop : The desktop is the area you see when the computer is not running applications. It consists of the icons on top of it, as well as the Start button and other features. The desktop can be used to temporarily store information or to move around documents and windows.

Icon : Icons are little pictures that represent different programs or saved items. Double-clicking on the icon accesses the information icons represent.

Window : Each application opened will appear in its own window, or its own little section of the screen. Windows can be moved and resized so that you can operate many different applications at the same time. To learn how to manipulate windows, refer to the Manipulating Windows portion of Level.

Dialogue Box : When you ask the computer to do certain commands, such as to save your work, the computer will need more information from you, and this will appear in a dialogue box. These boxes contain options and commands for the computer to execute.

Start Menu : The Start Menu provided a customizable nested list of programs for the user to launch, as well as a list of most recently opened documents, a way to find files and get help, and access to the system settings. Later enhancements via Windows Desktop Update included access to special folders like "My Documents," "Favourites" etc. Windows XP's Start Menu was expanded to encompass various My Documents folders (including My Music and My Pictures), and transplanted other items like My Computer and My Network Places from the Windows desktop.



Taskbar : The taskbar is the long horizontal bar at the bottom of your screen. Unlike the desktop, which can get obscured by the windows on top of it, the taskbar is visible almost all the time. It has four main sections:

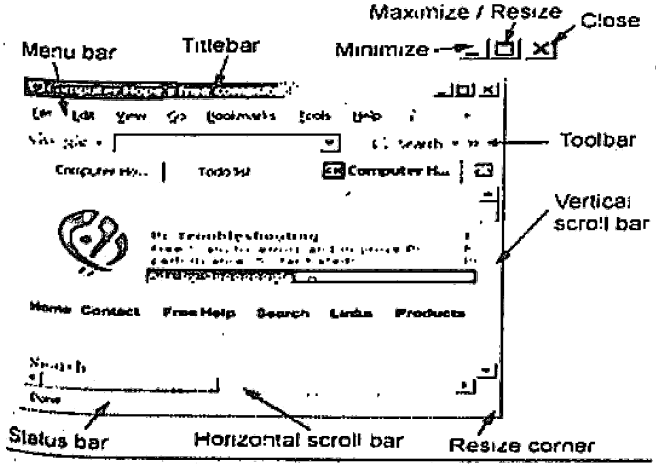
- The Start button, which opens the Start menu.
- The Quick Launch toolbar, which lets you start programs with one click.
- The middle section, which shows you which programs and documents you have open and allows you to quickly switch between them.
- The notification area, which includes a clock and icons (small pictures) that communicate the status of certain programs and computer settings.

Title Bar : Title Bar located along the top of a window or a dialog box that displays the name of the window or software program being used.

Toolbar : A toolbar is a set of icons or buttons that are part of a software program's interface or an open window. When it is part of a program's interface, the toolbar typically sits directly under the menu bar. For example, Adobe Photoshop includes a toolbar that allows you to adjust settings for each selected tool. If the paintbrush is selected, the toolbar will provide options to change the brush size, opacity, and flow. Microsoft Word has a toolbar with icons that allow you to open, save, and print documents, as well as change the font, text size, and style of the text. Like many programs, the Word toolbar can be customized by adding or deleting options. It can even be moved to different parts of the screen.

Menu Bar : A menu bar is a horizontal strip that contains lists of available menus for a certain program. In Windows programs, the menu bar resides at the top of each open window, while on the Mac, the menu bar is always fixed on the top of the screen. Despite this major difference, the menu bar serves the same purpose on each platform.

Example of Microsoft Windows window

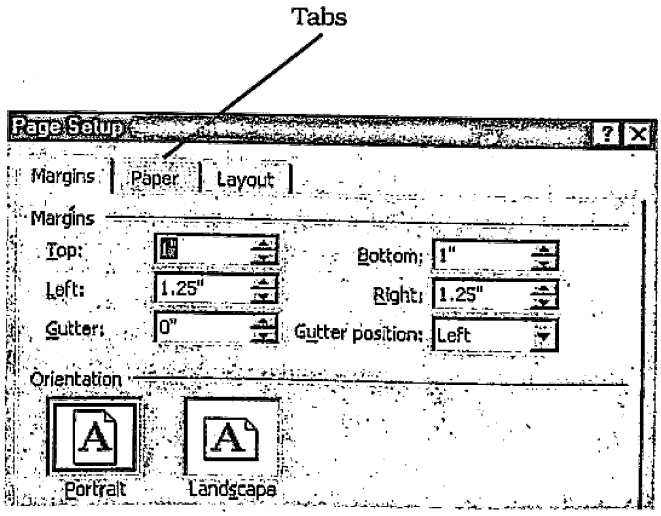


Nearly all programs have a menu bar as part of their user interface. It includes menu items and options specific to the particular program. Most menu bars have the the standard File, Edit, and View menus listed first. The File menu includes options such as Save and Open File..., the Edit menu has items such as Undo, Copy, Paste, and Select All, while in the View menu you'll find viewing options such as changing the layout of open windows. Word processing programs, such as Microsoft Word, also include menu options such as Insert, Format, and Font which you will most likely not find in a Web browser's menu bar.

Status Bar : A status bar is a small area at the bottom of a window. It is used by some applications to display helpful information for the user. For example, an open folder window on the desktop may display the number of items in the folder and how many items are selected

Scroll Bar : When the contents of a window are too large to be displayed entirely within the window, a scroll bar will appear. For example, if a Web page is too long to fit within a window, a scroll bar will show up on the right-hand side of the window, allowing you to scroll up and down the page. If the page is too wide for the window, another scroll bar will appear at the bottom of the window, allowing you to scroll to the left and right. If the window's contents fit within the current window size, the scroll bars will not appear.

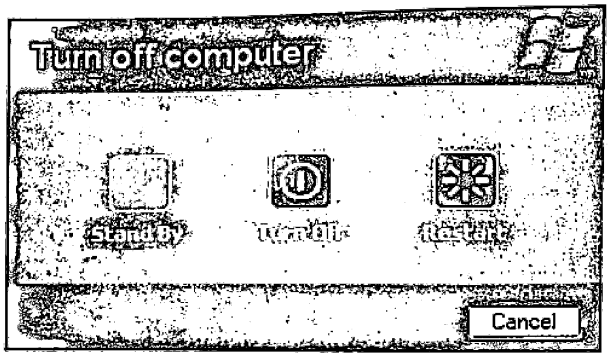
Tab Menu : Tab menus, which are often present in dialogue boxes, are menus that represent many different "pages" of information. To access each "page," click on the tab at the top of the dialogue box.



STARTUP, SHUT DOWN AND SLEEP

Start up : First of all, you will need to turn the computer on. Do this by pushing the power button on the front of the computer unit. The computer takes a few minutes to start up, so be patient.

Shut Down : To shut down, click with your mouse on the button in the lower left-hand corner of the screen labeled **Start**. On the menu that pops up, click on **Turn off computer**. This will bring up a dialogue box with more options in it. Click **"Turn Off."** It is important to remember that turning off the computer by pressing the power button without going through the shut down process may damage the computer.



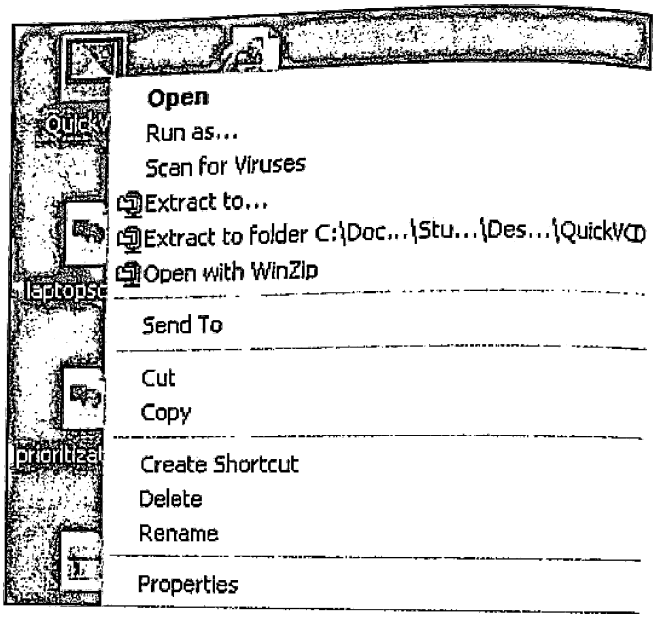
Stand By : When a computer is left alone for a while, it goes into "sleep" or "stand by" mode to save energy. In stand by mode, the computer slows down its inner processes because they are not being used. The computer also blacks out the monitor. If you wish to use a computer and the monitor is dark, check to see if it is in stand by before you try to start it up. Usually, the computer has a green light on or near the power button that signifies that it is on, but in stand by mode. To "wake it up," move the mouse or hit a key on the keyboard. In about 8-10 seconds the computer will wake up and be fully functional. If you do not realize that the computer is in stand by and you try to turn it on with the power button, the computer will wake up and a dialogue box will appear, but it will not damage the computer.

Hibernation : Hibernation is a feature of many computer operating systems where the contents of RAM are written to non-volatile storage such as a hard disk, as a file or on a separate partition, before powering off the computer. When the computer is restarted it reloads the content of memory and is restored to the state it was in when hibernation was invoked. Hibernation is used as an alternative to powering down the computer, because hibernating and later restarting is usually faster than closing down, later starting up, and starting all the programs that were running. Going into hibernation requires no user interaction; shutting down when programs are open either requires programs to be closed properly, or user interaction to force them to close, with possible loss of data or additional work on the part of the user to save all unsaved data in running programs. Hibernation serves a similar purpose as Sleep mode. It offers greater power savings in exchange for a slower resume; see below for a comparison.

OPENING AND CLOSING AN APPPLICATION

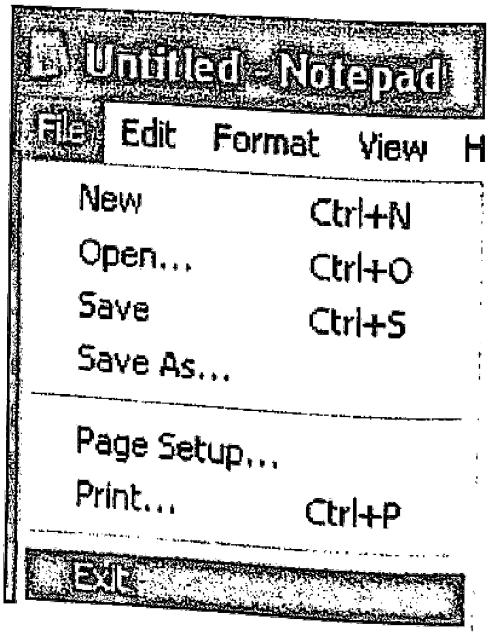
To open an application you have two options:

1. **Open the Start menu** and click on the name of the application.
2. Find the icon for the application and either double click it or right click and choose **Open**.



To close an application:

1. **Most applications can be closed by choosing "File" menu** and selecting **Quit** or **Exit**.
2. If no file menu is available, click the **"X" button** in the upper right-hand corner of the application's window.



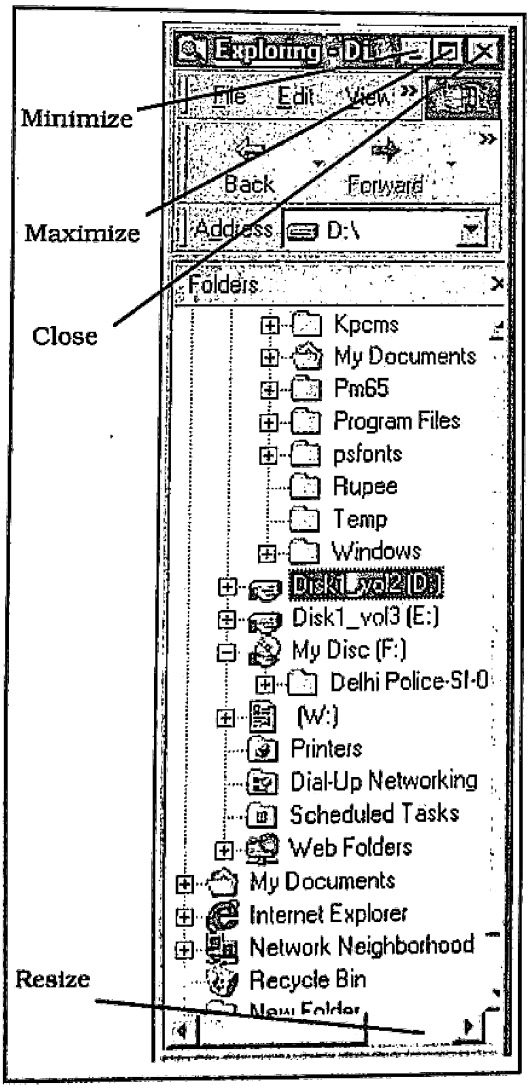
MANIPULATING WINDOWS

The sizes of the windows on your screen can be changed so that more windows are visible. Following is a list of common features that can be implemented on all windows.

Maximize : This function allows you to concentrate on one application by making its window cover the entire screen.

Minimize : This function allows you to keep an application running, but remove it from the desktop area so that other applications can be accessed. The minimized program becomes a bar at the bottom of the screen, and can be accessed by clicking on the bar.

Resize : If an application window is not maximized, it can be resized so that more or less content can be seen. If you move your mouse pointer to one of the edges of the window, it will become a two-way arrow. At this point, hold down the left mouse button and drag the perimeter of the window in or out. When you release the mouse button, the window will resize to your specifications.

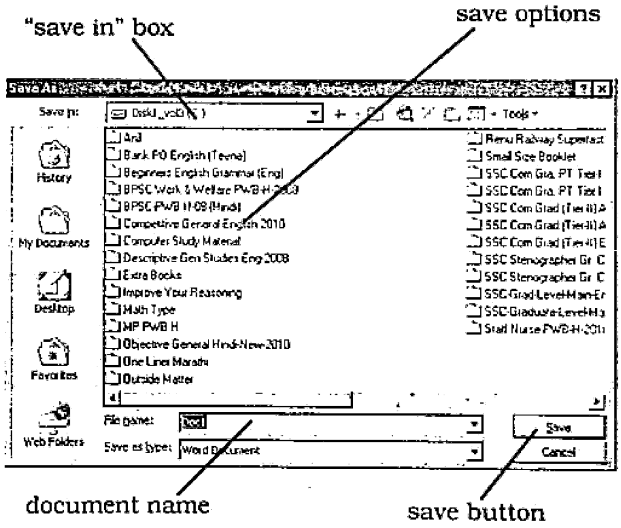


Close : This function closes and exits the application you are running. However, if you are running an application such as Microsoft Word, the window of each document will have a close button, and clicking this button will only close that particular document, and not the entire program. It is important to always save your work before using the close feature, as any unsaved changes will be lost.

SAVING

Saving material onto a disk stores that material so that it can be accessed again. Any work you do on the computer should be saved, including papers and other assignments. Although you may be working in different applications, the saving procedure is generally the same.

1. **Insert a disk into the correct disk drive.**
2. Go under the File menu in the application, and choose "Save As."
3. When the **Save As** dialogue box appears, click the arrow button next to the Save In box. This will cause a menu of save options to appear.
4. To save on your removable disk, choose either the 3 1/2" Floppy Drive or the Zip Drive accordingly.



5. Type in a filename that will identify your document at the bottom of the box.
6. Click the **Save** button located in the lower right-hand corner of the box.
7. Save work as you continue, you only need to click on the save icon or go under **File > Save**.

TIPS FOR SAVING

- Save often. This is by far the most important step in the saving procedure. The more you save, the less chance you have of losing any of your hard work. Errors and freeze-ups can occur, and unsaved work will be lost. Also, always save before printing because this is the time when many errors occur.
- Use specific filenames. When naming your saved works, label them with detailed names so for

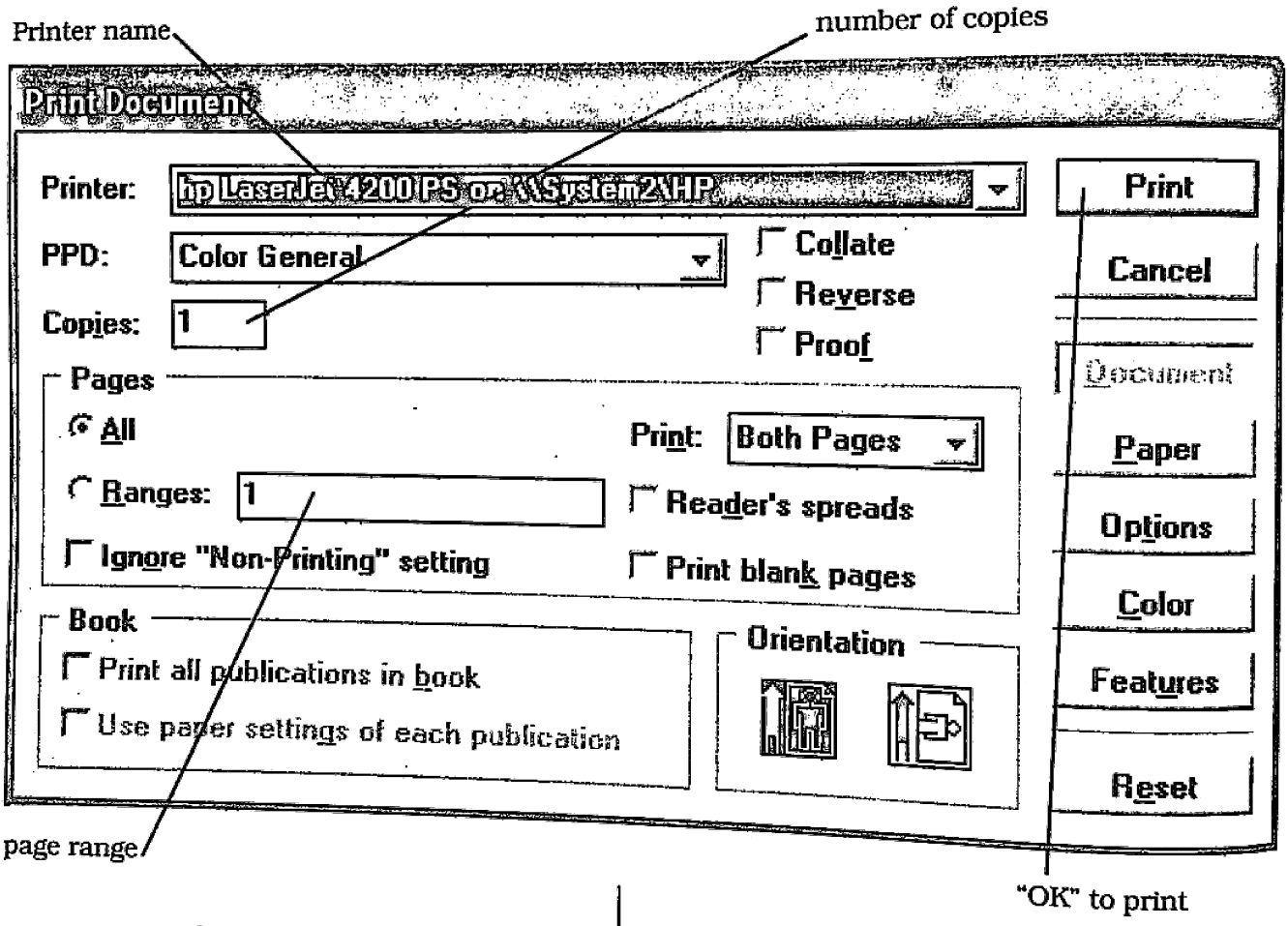
of errors. Make sure you save important works on two disks so that if one dis fails, you have a backup copy on another disk.

PRINTING

Most applications print in a similar fashion. Follow these steps to print your work.

1. **Save your work. Computers sometimes freeze when you ask them to print, and all of your work may be lost.**
2. **Go under the File** menu to **Print.**
3. When the dialogue box appears. check to make sure that the printer listed is the printer in the lab you are in. If it is not, click on the arrow to the right of the printer name and choose the correct printer.
4. Choose how many copies you would like printed.
5. Decide if you only want a portion of the work to be printed and choose the number of pages to print.
6. Click OK.

Printing from Your Dorm Room it is possible to print documents from a PC in your dorm room to the printer in the lab of your building. If you are interested in having this option, call to schedule an appointment with the Residential Computing Connection (RCC) at 372-0525 or visit their website by clicking the link on the left side of the top of your screen called "Residential Computing."

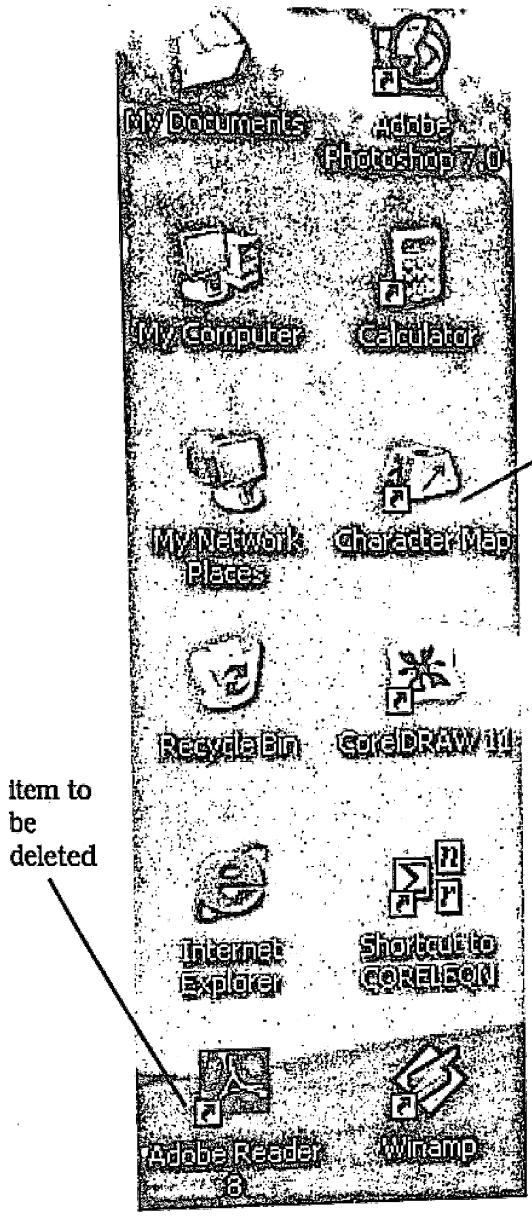


DELETING FILES

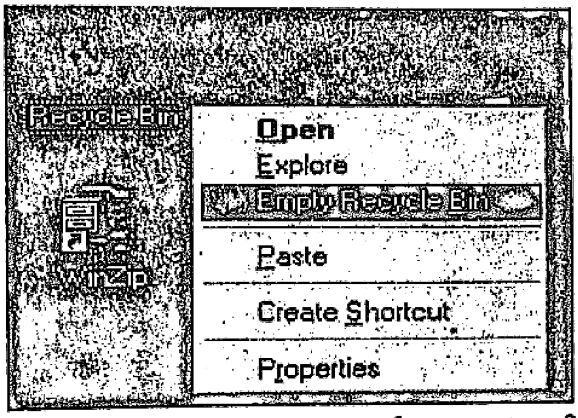
If you choose to delete an item from your disk or from the computer's hard drive, you will need to access the Recycle Bin. It is important to remember that you may only delete items from the hard drive that you have created. To delete an item from a disk or the hard drive, use the following steps.

1. **If it is on a removable disk, first insert the disk into the correct drive. Next double-click on the My Computer** icon on the **Desktop.** Choose the drive that the item is located on by double clicking the appropriate drive icon. Open the file that the item is located in.
2. Left-click on the item that you wish to delete and hold the button down.
3. Drag the item out of the window it is in and place it over the **Recycle Bin** located on the **Desktop.**

4. When the **Recycle Bin** is highlighted, release the button. The item should disappear from the drive.
5. When the dialogue box appears asking you if you are sure you want to delete this item, click **Yes.**



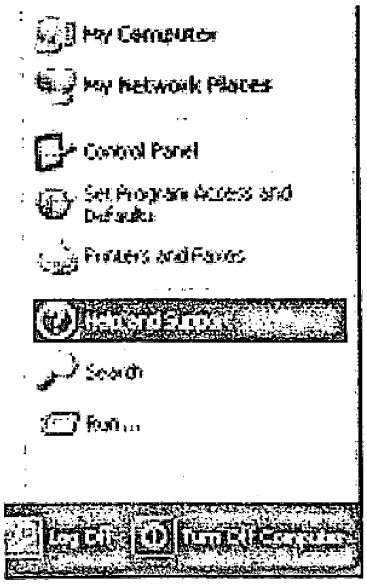
When you deposit items in the Recycle Bin, they will not be permanently removed from the computers memory without you telling it to do so. If you decide you still want to keep something, double-click on the Recycle Bin and drag the item back out. To permanently erase an item from the computer, right-click on the Recycle Bin and choose Empty Recycle Bin. Remember, once you empty the Recycle Bin, the items inside will be permanently erased from the computer's memory.



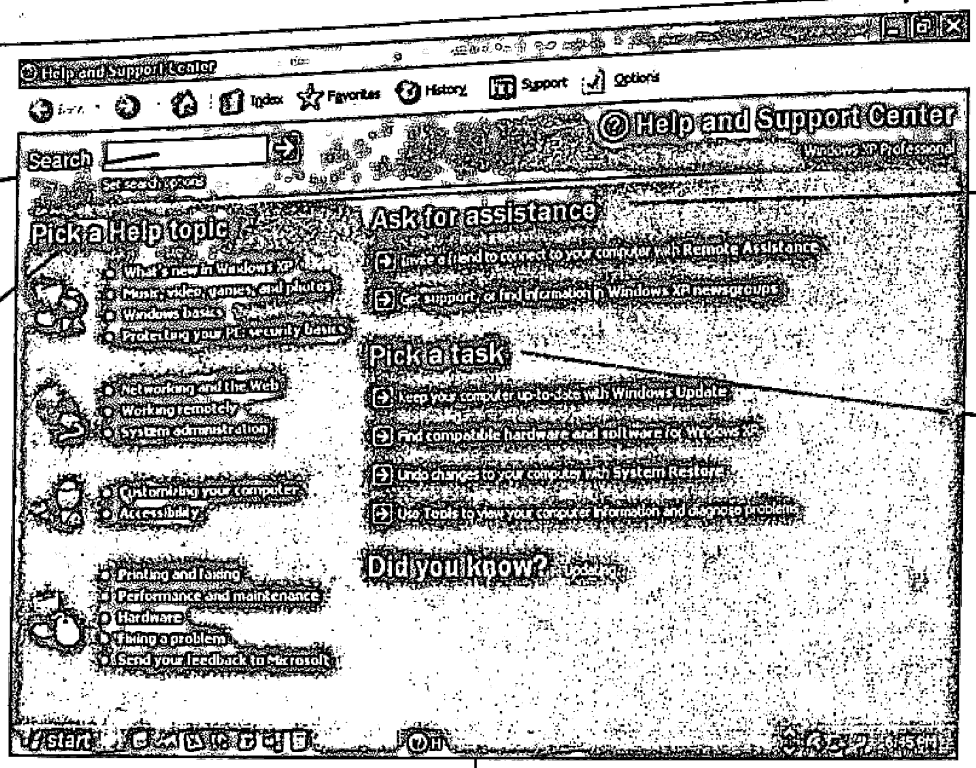
Backup : A backup is a copy of one or more files created as an alternate in case the original data is lost or becomes unusable. For example, you may save several copies of a research paper on your hard drive as backup files in case you decide to use a previous revision. Better yet, you could save the backups to a USB flash disk, which would also protect the files if the hard drive failed.

Help Option : Located in the Start menu is the Windows Help and Support option. If you have any problems with the Windows systems or have questions about how to do something, the Help option may have the answer. If the computer does have the Help option, follow these steps to use it.

1. Select **Help and Support** from the **Start menu.**



2. **Choose to view Help and Support** by one of the following categories: **Index, Support, History, Favorites, or Options.** Select the category that you would like by clicking the appropriate button.
3. Click on the heading of your choice in the list located on the left side of the screen, or if you are in the Index category, click on **Locate in Contents** to type in a keyword.



COMMON DOS AND DON'TS

Computers are powerful machines that can aid us in many of our everyday tasks. Computers are, however, rather fragile and should be treated in a respectful manner. Following is a list of dos and don'ts that will preserve the life of the computer while letting you get the most out of the machine.

DO:

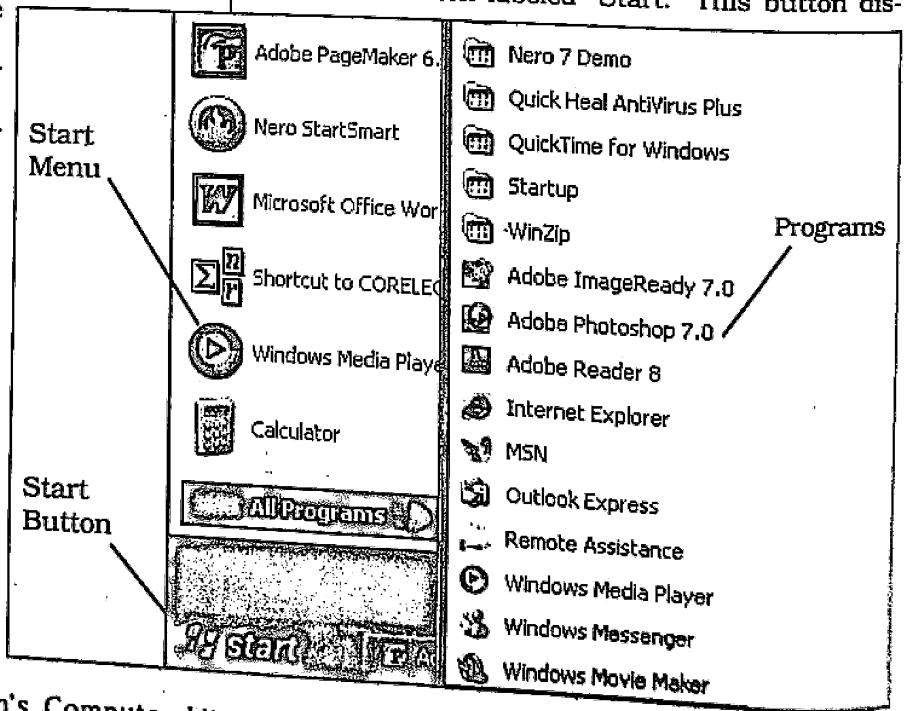
- Save your work often. This prevents the loss of hours of work.
- Back up your work in case of disk malfunction.
- Ask lab staff for help at any time.
- Shut down the computer when you are finished. This means do not press the power button, but go through the shut down procedure under the Start menu.

DON'T:

- Eat or drink around a computer. Spilled drinks and food can harm a computer's hardware. Food and drinks are not allowed in on-campus labs, but if for some reason you do spill something on a computer, report it to the staff on duty immediately.
- Strike the computer or physically abuse it.
- Print more than one copy of your work in the computer labs. The printers are for printing work, and not to do the job of a copy machine.
- Change the settings of on-campus computers. If you are having problems, please ask the lab staff for help.

THE START MENU

In the bottom left-hand corner of the Windows screen is a button labeled "Start." This button dis-



plays a menu that gives you access to many of the computer's features. Once the Start menu is opened, all you have to do is highlight what you want and more options will appear. Here we will discuss the many features and uses of the Start menu from top to bottom.

New Office Document : This feature acts as a shortcut for opening a new document in Microsoft Office. You can choose from a variety of document formats.

Open Office Document : This feature acts as a shortcut for accessing a saved document or file.

Windows Catalog : This item opens Internet Explorer to a site in which you can purchase products built for Windows systems.

Windows Update : This item opens Internet Explorer to a site in which you can download updates for your Windows operating system.

Programs : This prompt will open another menu filled with more options. These options are all programs that the computer can run. To see what the Programs menu has to offer, refer to the Programs page.

Documents : This item allows you to temporarily store saved works.

Settings : This menu contains access to the Control Panel as well as your Network Connections; Printers and Faxes; and Taskbar and Start Menu. Through these options you can customize the appearance and functions of your computer.

Search : This menu allows you to find anything on the computer or on the Internet.

Help and Support : This feature will open the Windows Help and Support Menu. To use this feature, refer to the Help Option section of Level 1.

Run : This item allows you to run programs located on a disk, CD, or on the Internet.

Log Off : This allows you to log off the computer. (It is not important for use in your own home or in a computer lab).

Turn Off Computer : When this phrase is clicked, the Shut Down menu will appear, allowing you to hibernate, shut down, or restart the computer. To use this feature, refer to the Start Up and Shut Down portion of Level 1.

COMPUTER FREEZES

There are often times when you are working on a computer and it "freezes"-that is the mouse and keyboard no longer affect the computer. No matter what you click on, nothing happens. Sometimes the mouse cursor won't even move on the screen. This may happen for a number of reasons including memory fill-up or glitches in the system. This problem, however, can often be fixed. If your screen freezes (this is sometimes referred to as crashing) and nothing seems to be happening, use these steps to unfreeze it. It is important to remember, however, that these steps will not always fix the situation, and sometimes the only thing left to do is turn the computer off by pushing the power button.

1. Press Ctrl+Alt+Del. This will cause the computer to show a dialogue box that lists the current applications that are running on the computer. Most likely, the application you are using will be listed here at the top, often with the phrase "not responding" behind it. This means that the particular application you are running has frozen and you need to shut this application down.
2. Click on the application causing the problem, and then click the End Task button.
3. Another dialogue box will appear and ask you to confirm your decision. Click End Task again. Under normal circumstances this process will shut down the problematic application and the computer will be restored to its previous running state. It will also give you the option to shut the computer down if you choose to do so.
4. Sometimes, however, clicking on a particular task and trying to end it will not always do the trick. The only option left is to press Ctrl+Alt+Del again, which will cause the computer to restart. Any unsaved work will be lost in this instance, so make sure you save often to avoid redoing work.

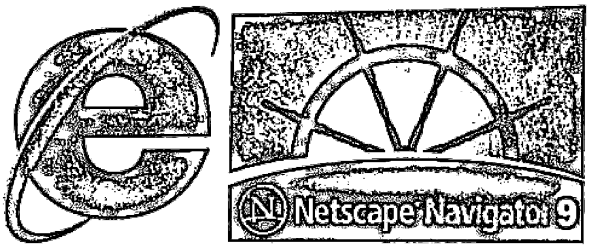
There are a number of things you can do to prevent and avoid freezes and crashes.

Only open the applications you will be using-extra applications take up more memory and can cause freeze-ups. When you sit down at the computer, check to see that no applications were left running by the previous user. These running applications will often be minimized at the bottom of the screen. If you are using an application that requires a lot of memory, such as PowerPoint or PhotoShop, do not attempt to open other programs, as a freeze-up may occur when memory fills up.

INTERNET ACCESS

To access the Internet from a computer, you need to open a web browser. A web browser is a program such as Netscape Communicator or Internet Explorer that allows you to surf the net. Computers normally have both web browsers, and you may use either on a PC. Web browsers function similar to most other applications, so they are opened and closed in the same general manner as regular applications. If you are interested in acquiring the latest version of Netscape or Internet Explorer, download them free of charge at Download.com, or check out the CD Rom at the Library Circulation Desk. There are basically three ways to access the Internet from a PC.

1. Double-click the web browser icon on the desktop.
2. Click Start Menu —> Programs —>Internet, and then click on the web browser of your choice.
3. Click the web browser shortcut on the task bar located at the bottom of the screen.



COMMON APPLICATIONS

Each computer is preloaded with various applications that you may use during your stay. Although each computer contains different software, most of them contain the same basic applications that you will use frequently. We list some of the most widely used applications here.

Microsoft Word : Use to type a paper. Microsoft Word is a word processing application that allows you to format your text as well as add graphics, tables and charts. Found in **Start menu > Programs > Microsoft Word.**

Netscape or Internet Explorer Use to access the Internet. Found in Start menu > Programs > Internet Explorer (or Netscape Communicator.

Windows Media Player : Use to listen to a CD. This program allows you to listen to your favorite CDs while you work. It includes programming features and volume controls. Found in Start menu > Programs > Accessories > Entertainment -> Windows Media Player.

Calculator : Use to do math on the computer. The Windows Calculator can be used by pointing and clicking the calculator on the screen, or by typing in the numbers on the keyboard. Found in Start Menu > Programs > Accessories > Calculator.

WINDOWS KEYBOARD SHORTCUTS

Keyboard shortcuts are key commands that allow you to accomplish various tasks. Instead of using your mouse to go through menus and sub-menus, you can use keyboard shortcuts to do common tasks like saving, copying, or pasting. Most people find using key shortcuts to be a faster and easier way to type. Listed below are some of ical order.

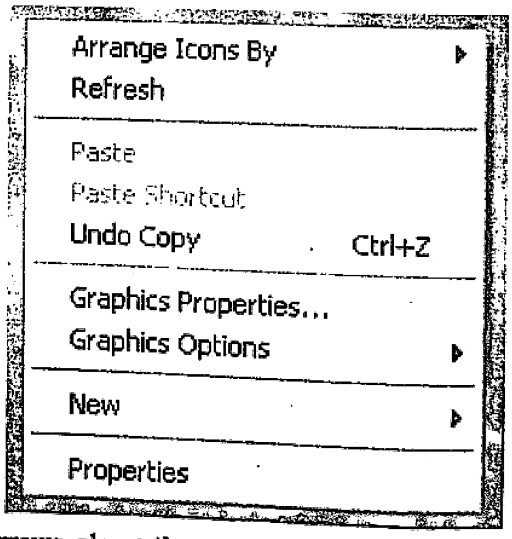
The most common keyboard shortcuts in alphabetical order.

Close	CTRL + W
Copy	CTRL + C
Cut	CTRL + X
Delete DEL	Exit ESC
Find	CTRL + F3
Help	F1
Minimize Window	Windows Key* + M
Move to Recycling	CTRL + DEL
New Folder/Document	CTRL + N
Open	CTRL + O
Open Start Menu Windows Key*	
Paste	CTRL + V
Page Up/Down	Page Up/Down Keys
Print	CTRL + P
Print Screen	ALT + Print Screen Key
Quit	ALT + F4
Reboot/Restart	**CTRL + ALT + DEL**
Save	CTRL + S
Select All	CTRL + A
Undo	CTRL + Z

* Not all keyboards have the Windows key. CTRL is the abbreviation for the Control key. DEL is the abbreviation for the Delete key.

THE RIGHT CLICK MENU

When you right-click your mouse, a small menu will appear. This is the right-click menu, and it contains a list of the common tasks for whatever program you're currently using. If you use the right-click menu you can leave your cursor in roughly the same spot, which makes resuming your task easier. Each program's right-click menu will be unique and look slightly different from others, but most follow the same general format. As an example, the following picture is what a menu would look like if you right-clicked on the desktop.



Arrows along the right side of the menu signal that there is a sub-menu for that particular item. These sub-menus contain even more shortcuts that are grouped together in a category.

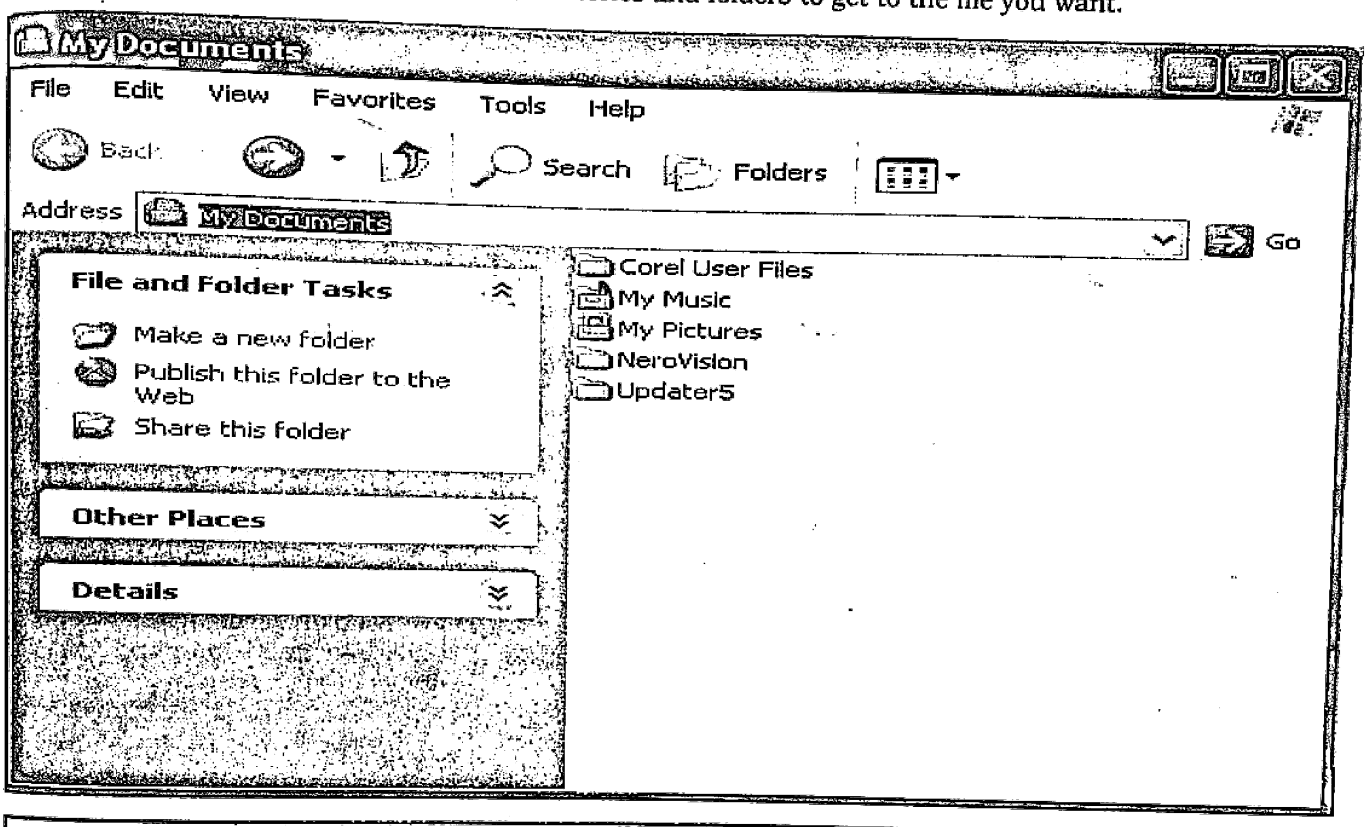
To exit the right-click menu, left-click on any part of the screen besides the menu.

WINDOWS EXPLORER

If you are familiar with Internet Explorer, you know that it helps you find web pages and information on the Internet. There is another kind of explorer on your computer: Windows Explorer. The basic idea behind Windows Explorer is very similar to Internet Explorer. The program lets you look through all of the files and folders on your computer. You can even open, copy, cut, and paste your files from inside Windows Explorer.

The frame on the left shows the contents of your entire computer. To see what's inside of a particular directory, click on the plus (+) sign. To hide what's inside of a directory, click the minus (-) sign that replaced the plus sign.

The frame on the right side shows you only the contents of the folder or directory that you've selected. Sometimes you must go through several directories and folders to get to the file you want.



OBJECTIVE QUESTIONS

1. The PC (personal computer) and the Apple Macintosh are examples of two different:
(1) platforms (2) applications.
(3) programs.
(4) storage devices.
(5) None of these

2. Apple Macintoshes (Macs) and PCs use different _____ to process data and different operating systems.
(1) languages (2) methods
(3) CPUs
(4) storage devices
(5) None of these

3. _____ controls the way in which the computer system functions and provides a means by which users can interact with the computer.
(1) The platform
(2) The operating system
(3) Application software
(4) The motherboard
(5) None of these

4. File extensions are used in order to.
(1) Name the file
(2) Ensure the filename is not lost
(3) Identify the file
(4) Identify the file type
(5) None of these

5. The processes of starting or restarting a computer system by loading instructions from a secondary storage device into the computer memory is called
(1) Duping (2) Booting
(3) Padding (4) All of above
(5) None of these

6. A name or number used to identify a storage location devices?
(1) A byte
(2) A record
(3) An address
(4) All of above
(5) None of these

7. Which is of the following is NOT a famous operating system?
(1) Windows Vista
(2) Mac OS X (3) Linux
(4) Sun OS (5) Virtual Box

Bank of Baroda Clerk Exam, 30.11.2008

8. What happens when you boot up a PC ?
(1) Portions of the operating system are copied from disk into memory
(2) Portions of the operating system are copied from memory onto disk
(3) Portions of the operating system are compiled
(4) Portions of the operating system are emulated
(5) None of these
SBI PO Tier-2 Exam, 13.10.2008

9. The operating system is the most common type of _____ software.
(1) communication
(2) application (3) systems
(4) word – processing
(5) None of these
Allahabad Bank Clerk Exam, 31.08.2008

10. In DOS, which of the following command is used to delete all the files as well as sub-directories of a directory?
(1) Delete (2) Del
(3) Deltree (4) Move
(5) None of these

11. _____ is when the computer is turned on and the operating system is loading.
(1) Booting (2) Flashing
(3) Tracking (4) Taping
(5) None of these

12. The_____ allows you to access object and start programme.
(1) Default menu
(2) XP menu (3) Start menu
(4) Stop menu
(5) None of these

13. _____ controls the way in which the computer system functions and provides a means by which users can interact with the computer.
(1) The platform
(2) The operating system
(3) Application software
(4) The motherboard
(5) None of these
SBI PO Tier-I Exam, 27.07.2008

14. The _____ of software contains lists of commands and options.
(1) title bar (2) menu bar
(3) formula bar (4) tool bar
(5) None of these
SBI Clerk Exam, Second Sitting, 13.07.2008

15. What menu is selected to cut, copy, and paste ?
(1) File (2) Tools
(3) Special (4) Edit
(5) None of these

16. The ability to find an individual item in a file immediately ____ is used.
(1) file allocation table
(2) directory
(3) sequential access
(4) direct access
(5) None of these
SBI Clerk Exam, 06.07.2008

17. To move to the beginning of a line of text, press the _____ key.
(1) home (2) a
(3) page up (4) enter
(5) None of these

18. The _____ tells the computer how to use its components.
(1) utility (2) network
(3) operating system
(4) application program
(5) None of these

19. A collection of programs that controls how your computer system runs and processes information is called
(1) operating system
(2) computer (3) office
(4) compiler (5) interpreter

20. Which of the following can handle most system functions that aren't handled directly by the operating system?
(1) Vertical market applications
(2) Utilities (3) Algorithms
(4) Integrated software
(5) Compilers
SBI Clerk Exam, 06.07.2008

21. Dos and windows 3.x support file names upto _____ characters in length.
(1) Two (2) Four
(3) Six (4) Eight
(5) None of these

22. In Dos, the "Label" command is used to
(1) create the label of disk
(2) change the label of disk
(3) remove the label of disk
(4) Both (1) and (2)
(5) All of the above
SBI Clerk Exam, 25.11.2007

23. Which command is used to delete file from a directory in DOS.
(1) REN (2) DEL
(3) CD (4) MD
(5) None of these
SBI Clerk Exam, 25.11.2007

24. Which process checks to ensure the components of the computer are operating and connected properly ?
(1) Booting (2) Processing
(3) Saving (4) Editing
(5) None of these
SBI Clerk Exam, 19.08.2007

25. What is backup ?
(1) Adding more components to your network
(2) Protecting data by copying it from the original source to a different destination
(3) Filtering old data from the new data
(4) Accessing data on tape
(5) None of these
SBI PO Tier-I Exam, 13.10.2008

26. What is the main folder on a storage device called ?
(1) Platform (2) Interface
(3) Root directory
(4) device driver
(5) None of these
SBI PO Tier-I Exam, 13.10.2008

27. The device that assembles groups of characters into complete messages prior to their entering the CPU is called
(1) An Interpreter
(2) A Compiler
(3) A Communication processor
(4) An Editor
(5) A Translator
SBI Clerk Exam, 10.02.2008

28. The subsystem of the kernel and hardware that cooperates to translate virtual to physical addresses comprises
(1) Process Management Subsystem
(2) Memory Management Subsystem
(3) Input/Output Management Subsystem
(4) All of the above
(5) None of these
SBI Clerk Exam, 25.11.2007

29. A (n)_____ is a program that makes the computer easier to use.
(1) Operating system
(2) Application
(3) Utility (4) Network
(5) None of these

SBI Clerk Exam, Second Sitting, 13.07.2007

30. You organize files by storing them in.
(1) Archives (2) Folders
(3) Indexes (4) Lists
(5) None of these

31. The name that the user gives to a document is referred to as.
(1) Name given
(2) Document given
(3) File name
(4) Document identify
(5) None of these

32. How many different documents can you have opened at any one time?
(1) No more than three
(2) Only one
(3) As many as you computer memory will hold
(4) No more than your taskbar can display
(5) None of these

33. Editing document consist of testing through the document you've created them.
(1) Correcting you errors
(2) Printing it
(3) Saving it (4) Deleting it
(5) None of these

34. Hackers
(1) All have the same motive
(2) Break into other people's computers
(3) May legally break into computers as long as they do not do any damage
(4) Are people who are allergic to computers
(5) none of these

35. One or more defects or problems that prevent the software from working as intended or working at all is a(n).
(1) Bug
(2) Boot
(3) Programming language
(4) Fuzzy logic
(5) None of these

ANSWERS

1. (1)	2. (3)	3. (2)	4. (4)
5. (2)	6. (3)	7. (5)	8. (1)
9. (3)	10. (3)	11. (1)	12. (3)
13. (2)	14. (2)	15. (4)	16. (4)
17. (1)	18. (3)	19. (1)	20. (2)
21. (4)	22. (5)	23. (2)	24. (1)
25. (2)	26. (3)	27. (3)	28. (2)
29. (3)	30. (2)	31. (3)	32. (3)
33. (1)	34. (2)	35. (1)	

EXPLANATIONS

11. (1) PC stands for Personal Computer and refers to any *IBM-compatible* computer. The term PC comes from the first personal computer made by IBM. A computer that is IBM-compatible means that its architecture is based on the IBM microprocessor. A number of different operating systems are compatible with PCs, the most popular of which is Microsoft Windows. Some others are the UNIX variants, such as Linux, FreeBSD and Solaris.
Mac is short for Macintosh and refers to any computer produced by Apple Computer. Macs are traditionally classified separately from PCs because they are based on the PowerPC architecture from Apple/IBM/Motorola instead of the traditional Intel based microprocessors that have powered PCs for decades.

5. (2) Process that start up the computer called booting. After we switch ON the power it checks the proper functioning of all the peripheral devices attached with computer. Load the Operating system in main memory.

9. (3) System software is computer software designed to operate the computer hardware and to provide a platform for running application software. System software is composed of operating system and system utilities.

12. (3)The Start menu is the main gateway to your computer's programs, folders, and settings. It's called a menu because it provides a list of choices, just as a restaurant menu does. And as "Start" implies, it's often the place that you'll go to start or open things. To open the Start menu, click the Start button in the lower-left corner of your screen. Or, press the Windows logo key on your keyboard. The Start menu appears.

14. (2) A menu bar is a horizontal strip that contains lists of available menus for a certain program. In Windows programs, the menu bar resides at the top of each open window. Most menu bars have the standard File, Edit, and View menus listed first. The File menu includes options such as Save and Open File..., the Edit menu has items such as Undo, Copy, Paste, and Select All, while in the View menu you'll find viewing options such as changing the layout of open windows.

15. (4) menu bars have the Edit menu has items such as Undo, Copy, Paste, and Select All.

16. (4) Direct access is a storage method that allows the computer to locate and read a particular record without having to search through an entire file. The computer is able to access data independent of its location. Magnetic disks, diskettes, and drums are considered direct access devices.

20. (1) Utility programs, commonly referred to as just "utilities," are software programs that add functionality to your computer or help your computer perform better. These include antivirus, backup, disk repair, file management, security, and networking programs. Utilities can also be applications such as screensavers, font and icon tools, and desktop enhancements. Utility software, which helps to analyse, configure, optimize and maintain the computer.