بِسۡمِ اللّٰہِ الرَّحۡمٰنِ الرَّحِیۡمِ

شروع اللہ تعالیٰ کے نام سے جو بڑا مہربان نہایت رحم والا ہے

Practical Notebook

COMPUTER SCIENCE

Grade IX

Punjab Curriculum and Textbook Board, Lahore

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CONTENTS

PREFACE

Computer science curricula have been evolving at a rapid pace to keep up with the developments in the IT field. With the onset of the computer, experts and educators are faced with the challenging task of developing courses to teach emerging computer science concepts in schools and colleges. Such an undertaking requires adequate literature and explanation of key computer concepts at an introductory level. It is the main thrust of this Computer Practical Notebook.

STUDENTS LEARNING OUTCOMES

After the completion of all practical students will be able to:

- Recognize and identify fundamental hardware components of the computer system like Motherboard, Ports, Slots, Cards, etc.

DOS

- Identify various MS-DOS commands knowing the functionality of each along with their syntax.
- Identify various DOS internal/external commands, explaining the difference between the two types.
- Demonstrate proficiency in the use of the command line interface, using the proper syntax, parameters and switches with the various commands.

Windows

- Demonstrate the use of Windows XP operating system.
- Demonstrate best practices in file management procedures.
- Recognize and get familiar with the 'desktop' and its components/icons.
- Open a window/program from different locations.
- Perform mouse actions in Windows.

COMPUTER LAB RULES FOR STUDENTS

To maintain a quiet, clean and comfortable environment in the computer lab, all the students are required to follow the rules as mentioned below:

A. AVOID

- Eating and drinking.
- Making a noise.
- Downloading data without authorization.
- Installing personal software on computers including games.
- Copying or transferring any software/data.
- Plugging a personal USB/Card/CD or any other device into the computers.
- Interfering with or disturbing other students.
- Propagating computer viruses, spamming and offensive material.
- Tampering with, attempting to repair, or misusing the lab equipment.
- Bringing of mobile phones and other multimedia devices.
- Writing on tables/computers.
- Viewing unwanted material, etc.

B. Students are required to bring to the computer lab only the following items.

- Textbooks
- Practical Notebooks
- Class work Notebooks
- Pens

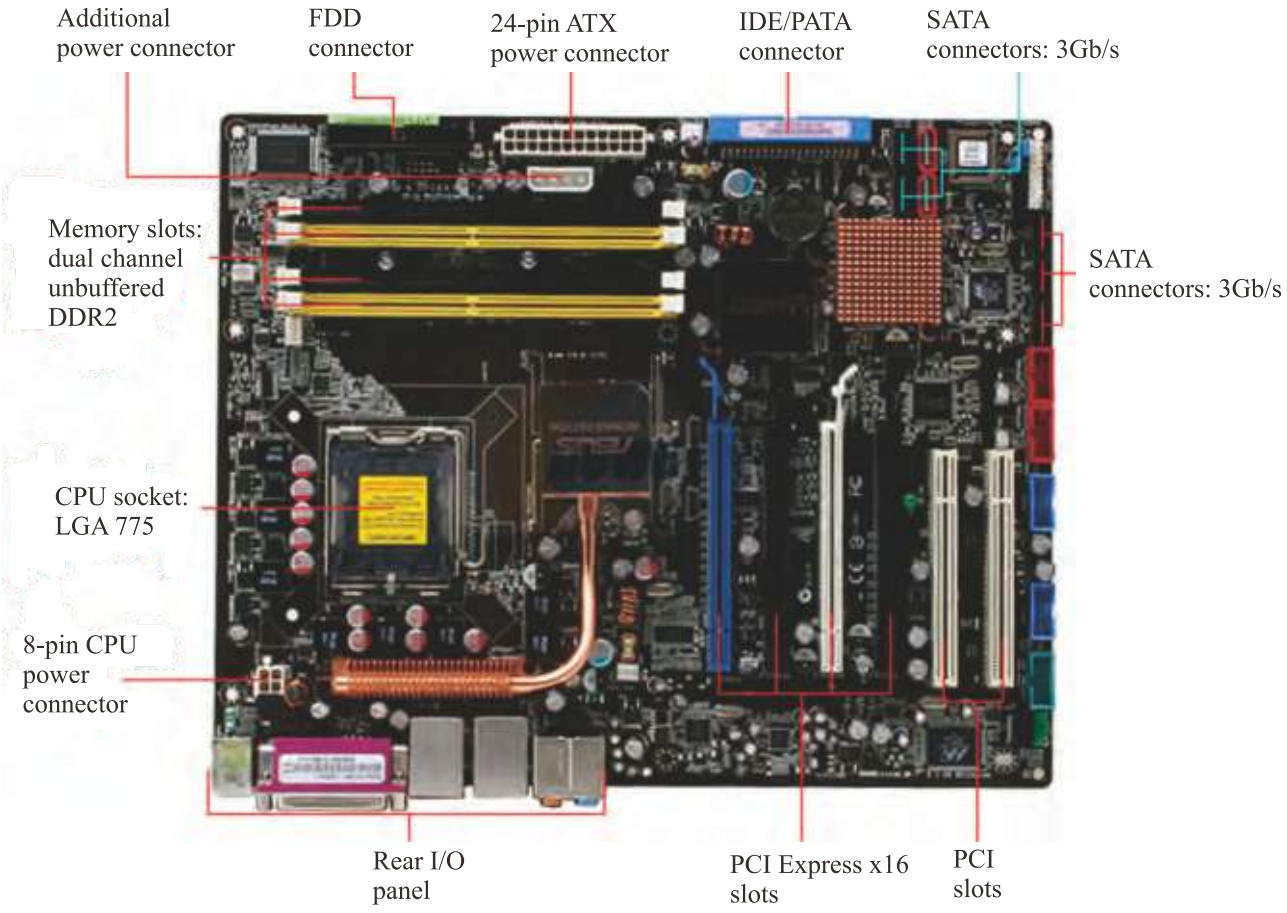
Important: All the students are required to follow the above mentioned rules for computer lab.

Unit 1

DEMONSTRATION OF COMPUTER COMPONENTS

MOTHERBOARD

Components of a computer need to be in communication with one another. *Motherboard or Mainboard* is an important component of the computer. *Motherboard* is an electronic circuit board housed in system unit. It provides a platform for interconnection of hardware. It also connects a CPU and memory. Sometimes there are co-processors that help to share the load of the CPU.



Front side of Motherboard

A motherboard normally has a set of expansion slots allowing it to be expanded; it can be given extra functionality. Smaller boards, called cards, are fixed in these expansion slots, and these cards contain specialized circuits that let the motherboard do more.

Typical motherboards also have a series of sockets allowing communication through peripheral devices.

Expansions Slots

Expansion Slots are connecting points on a motherboard where a circuit board can be inserted to add new capabilities. All personal computers contain expansion slots for adding graphics capabilities and support for special devices; some are more specialized than others.

Expansion Slots

Different cards may be attached to motherboard through expansion slots are given below:

Graphics Card

Graphic Cards convert data into video signals to displayed on the monitor. Graphics cards are also called video cards or sometimes video adapters. They are available in most of PCs. While graphics processors are often built-in to a motherboard and a card isn't needed, graphics cards have stronger and more powerful processing capabilities that allow the display of 3D (3-dimensions) and heavy image.


Graphic card

Graphics cards are designed to offload the burden of making images from the CPU. Graphics cards also include on board memory for efficient rendering. Typical sizes of graphics cards include 128-1024 MB of memory. Today, high end graphics cards have multiple core processors that are largely parallel to increase texture fill and process more than 30 objects in real time.

Sound Card

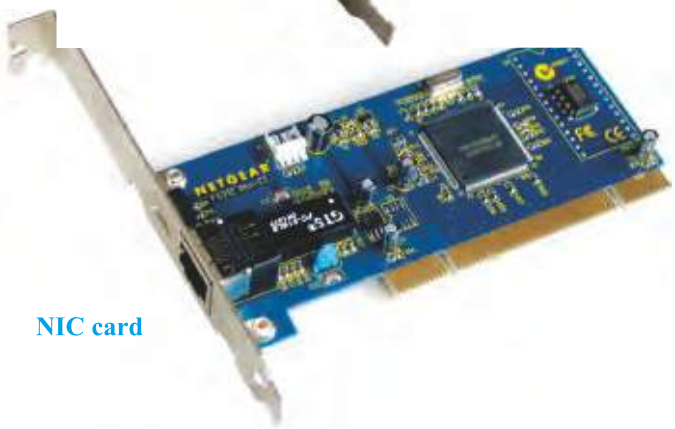
Sound Card also referred to as an *Audio Card,* allows the input and output of audio signals to and from a computer under the control of computer programs. Sound cards for computers were unusual to find until 1988, until then, the single internal PC speaker was the only way early PC software could produce sound and music. Uses of a sound card include the audio components for multimedia

applications such as games, video/ audio editing software and music composition. Now most computers have sound capabilities built-in to the motherboard, while others require additional expansion cards.

Sound card

Network Interface Card (NIC)

Network Interface Card is also called network card, network adapter, LAN adapter or LAN card. NIC is used to allow computers to communicate with other computer over a computer network.



NIC card

Computer Bus

Compute Bus is a set of physical connections used to transfer data among different components of a computer. The purpose of buses is to reduce the number of "pathways" needed for communication among the components, by carrying out all communications over a single data channel.

Types of Computer Buses

There are three types of computer buses.

i. Data Bus

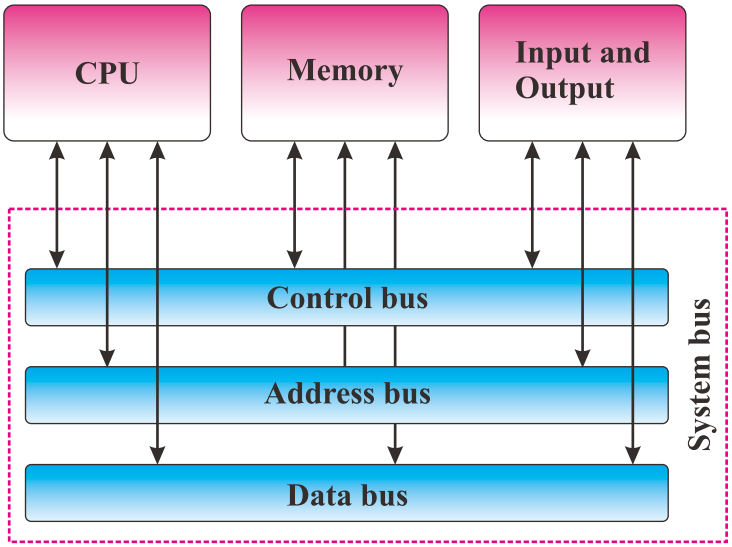
Data Bus is an electrical path that connects the Central Processing Unit (CPU), memory, I/O devices and secondary storage devices. It is the most common bus that carries data. It contains parallel groups of lines. The number of lines in the bus affects the speed at which the data travels among different components like the number of lanes on a motorway affects the amount of traffic. Greater number of lanes on the road allows more cars to pass through it at the same time. If more lines are present in the bus, it can carry more data.

ii. Address Bus

Address Bus is the set of wires that connects CPU and memory. It carries address information. Whenever the processor needs data from the memory, it places the address of data on the address bus. The address is carried to the memory where the data from the requested address is fetched and placed on the data bus. The data bus carries it to the processor.

iii. Control Bus

Control Bus carries control information from the control unit to the other units. The control information is used for directing the activities of control units. The control unit directs the transfer of data to the ALU from the memory. This data is used by ALU for processing. The control unit also controls the functioning of other units.



Computer Ports

Computer Ports are connecting points on the computer allowing the system to communicate with peripheral devices to exchange data.

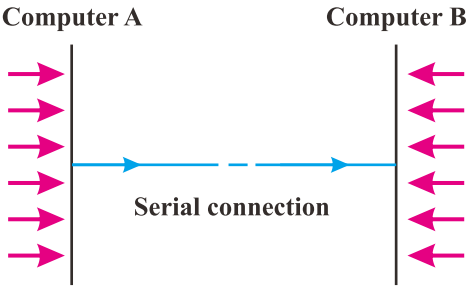
Types of Computer Ports

There are following basic types of computer ports.

i. Serial Port

The term serial refers to data sent via a single wire: the bits are sent one after the other.

Serial Ports are generally built- in to the motherboard, showing connectors behind the casing and connected to the motherboard and peripheral devices. Serial connectors generally have 9 or 25 pins and take the following form (DB9 and DB25 connectors respectively.



Serial Port

ii. Parallel Port

Parallel data transmission involves sending data simultaneously on several channels (wires). *Parallel Ports* on personal computers can be used to send 8 bits (one Byte) simultaneously via 8 wires.

Parallel Port

iii. USB Port

USB (Universal Serial Bus) *Port* is a plug and play hardware interface for peripherals such as keyboard, mouse, joystick, scanner, printer and modem. USB has a maximum bandwidth of 12 Mbits/sec and up to 127 devices can be attached with USB, new devices can be added to the computer without adding an adapter card. It is typically located at the back of PC.

USB Port

INTRODUCTION TO DISK OPERATING SYSTEM (DOS)

Operating System (OS)

Operating System is a set of programs running on a computer system that provides an environment in which other programs can be executed to use computer system effectively.

There are two types of user interface of operating system.

i. Graphical User Interface (GUI) e.g. MS Windows

ii. Command Line Interface (CLI) e.g. DOS

Disk Operating System (DOS)

Disk Operating System is a single user operating system that makes microcomputers useable. It is loaded into the RAM to start computer. It controls the storage of information and detail on disks.

Functions of DOS:

- To control input and output devices.
- To enable user to load and execute program.
- To maintain an orderly system of data on the disk.
- Memory management
- To provide user interface

DOS Commands

There are two types of DOS commands:

- DOS Internal Commands
- DOS External Commands

DOS Internal Commands

DOS Internal Commands are the commands which get loaded automatically during booting process. These commands are present in the computer memory. The DOS internal commands are stored in command.com file. Some DOS internal commands are CLS, VER, DEL and EXIT etc.

DOS External Commands

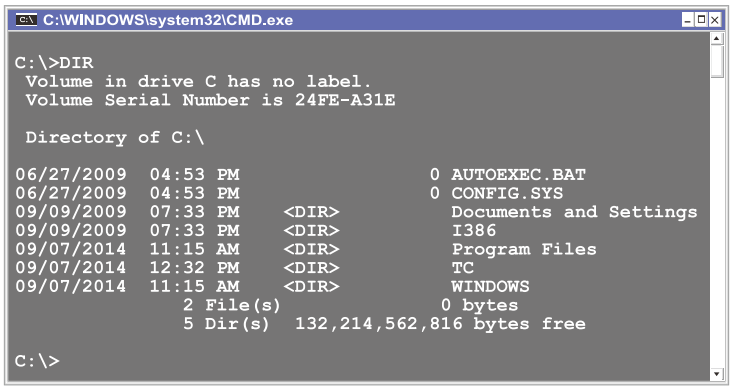
DOS External Commands are not present in the computer memory but these exist as separate files on the disk. Whenever an external command is typed, it is first loaded in the RAM and then executed. Some DOS external commands are CHKDSK, FORMAT and TYPE etc.

DIR COMMAND

DIR Command displays a list of a directory's files and subdirectories. If used without parameters, DIR displays the disk's volume label and serial number, followed by a list of directories and files on the disk. For files, DIR displays the name extension and the size in bytes. DIR also displays the total number of files and directories listed, their cumulative size, and the free space (in bytes) on the disk.

(1) DIR

It is used to display a list of the files and subdirectories that are in the directory.



SYNTAX:

DIR [drive:][path][filename]

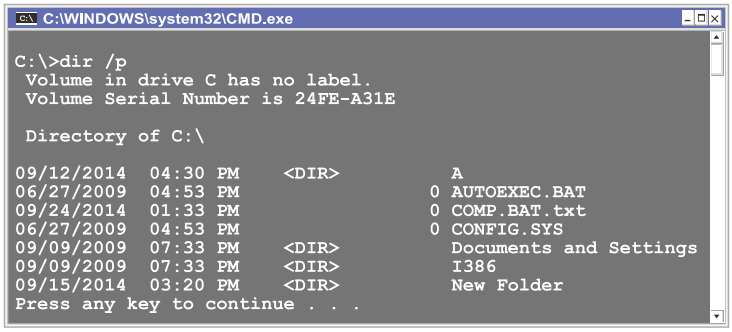
It specifies drive, directory, or files to list.

C:\>DIR

- Press Enter key to execute.
- On execution, the list of all files and directories will be displayed.

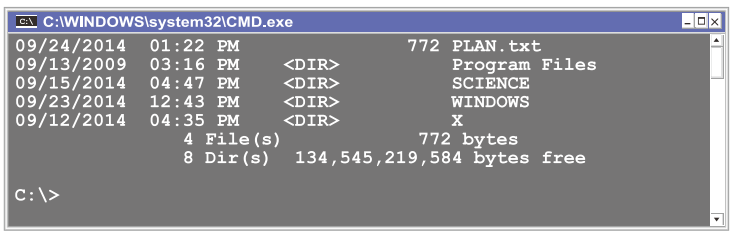
(I) DIR/P

/P is called us a switch and it makes the DIR command to display it's output one screen at a time.



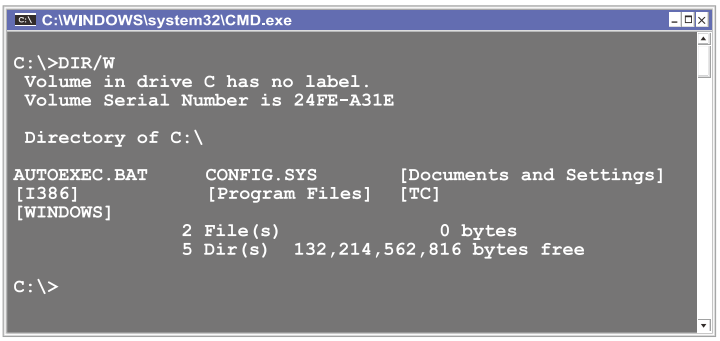
C:\>DIR/P

- Press Enter key to execute.
- On execution display one screen of directory list at a time.



(ii) DIR/W

If the information of date or time and other information on the files are not required, then this command is used to list the files and directories going horizontally taking as little as space needed.

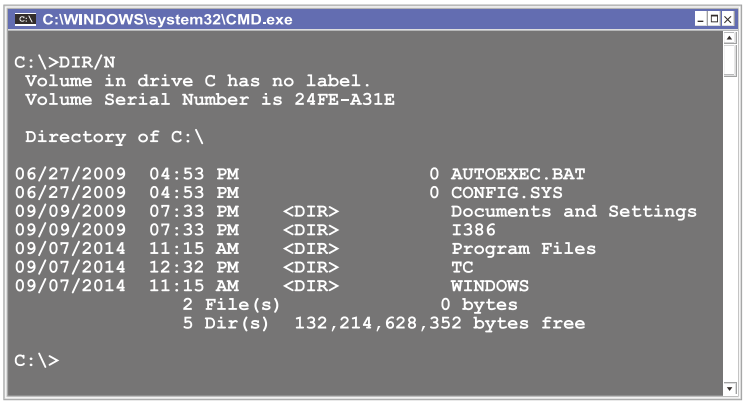


C:\>DIR/W

- Press Enter key to execute.
- On execution, list of all files and directories are displayed horizontally.

(iii) DIR/N

It is a new long list format where file names are on the far right.

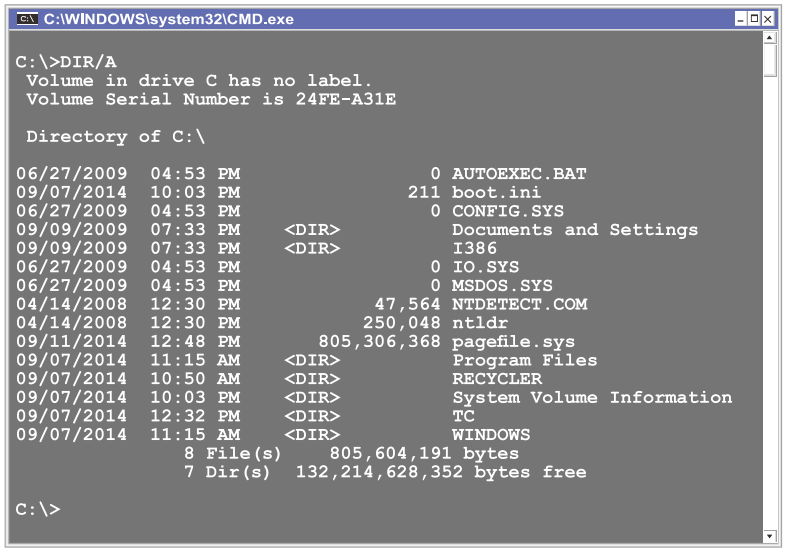


C:\>DIR/N

- Press Enter key to execute.
- On execution, all the files and directories in drive C will be displayed at far right.

(iv) DIR/A [:]

/A [:] switch displays only the names of those directories and files with the attributes specified by the user. If we use switch without specifying any attribute, DIR displays the names of all files, including hidden and system files. More than one attribute can be used simultaneously. The user can specify the following attribute of the file.

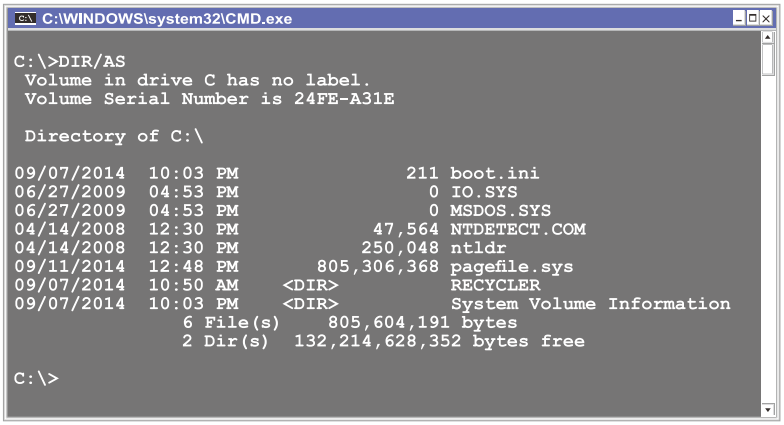


C:\>DIR/A

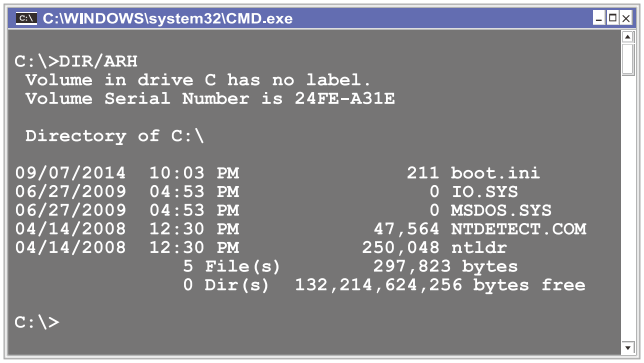
- Press Enter key to execute.
- On execution, the names of all files including hidden and system files will be displayed.

- **DIR/AA** **A** To show files ready for archiving
- **DIR/AH** **H** To display Hidden files.
- **DIR/AR** **R** To show Read Only files.
- **DIR/AS** **S** To show System files.

- **C:\>DIR/AS**
  - Press Enter key to execute.
  - On execution, all the System files and directories on drive C will be displayed.

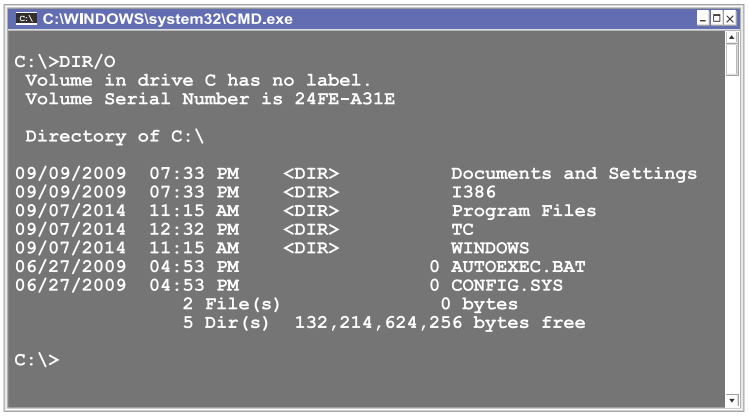


- **C:\> DIR/ARH**
  - Press Enter key to execute.
  - On execution, all the Read Only and Hidden files in drive C will be displayed.



(v) DIR /O [:]

It controls the order in which the DIR sorts and displays directories and file names. The user can specify the following list of choices (attributes) for sorting the output of DIR command.

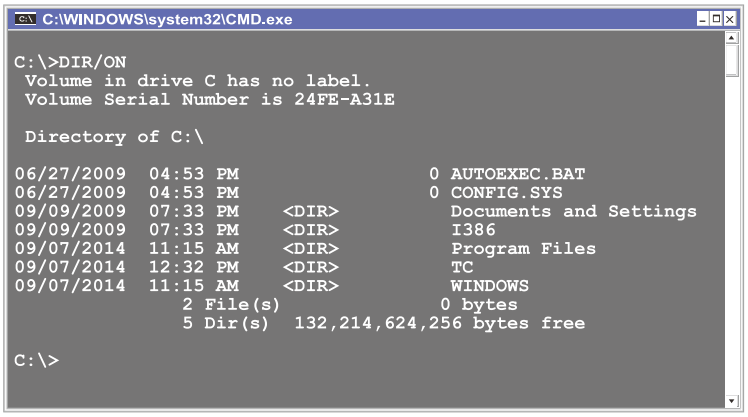


C:\>DIR/O

- Press Enter key to execute.
- On execution, all the files and directories will be displayed in order by name alphabetically (A through Z).

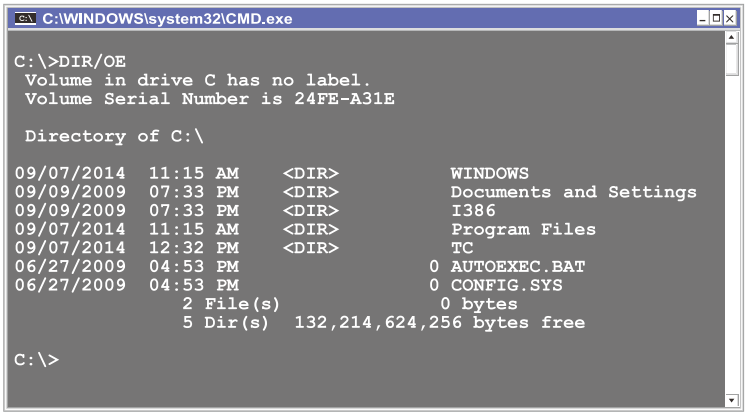
C:\>DIR/ON

- Press Enter key to execute.
- On execution, all the files and directories will be displayed in order by name, alphabetically (A through Z).



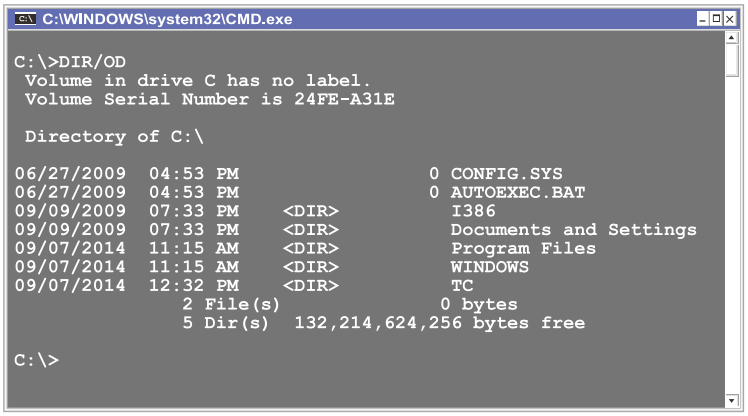
C:\>DIR/OE

- Press Enter key to execute.
- On execution, all the files will be displayed in order by extension, alphabetically (A through Z).



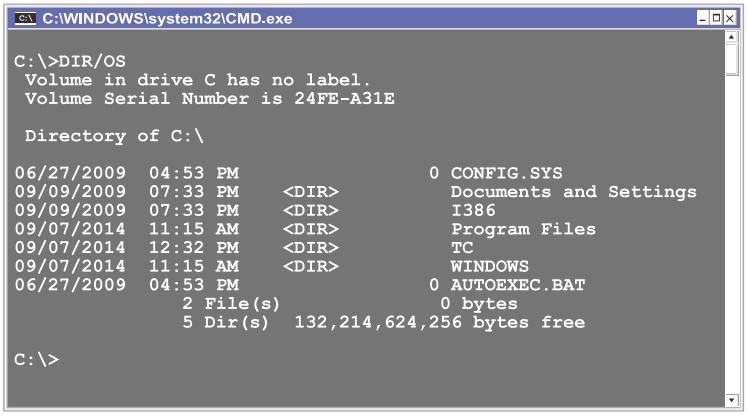
C:\>DIR/OD

- Press Enter key to execute.
- On execution, all the files and directories will be displayed in order by date and time, earliest first.

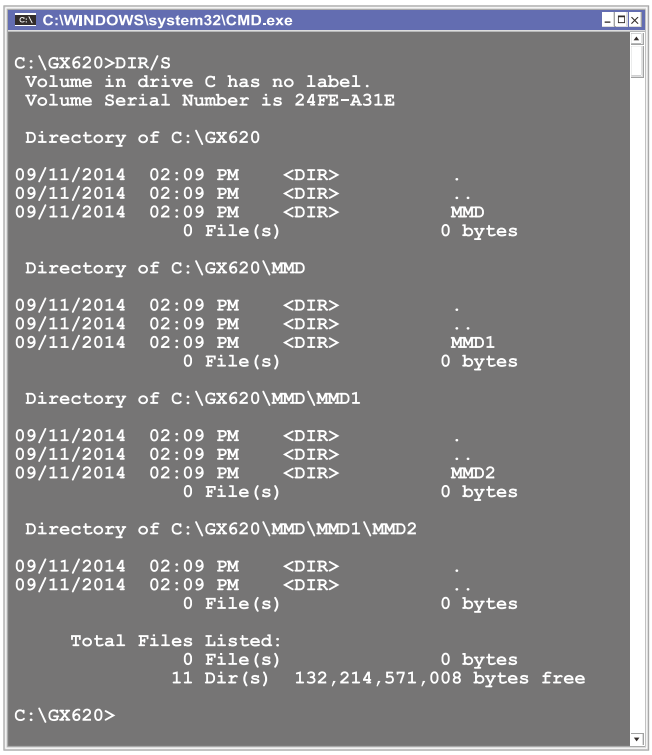


C:\>DIR/OS

- Press Enter key to execute.
- On execution, all the files and directories will be displayed in order by size, smallest first.



Switches	Purpose
N	In alphabetic order by name
-N	In reverse alphabetic order by name (Z through A)
E	In alphabetic order by extension
-E	In reverse alphabetic order by extension (Z through A)
D	By date and time, earliest first
-D	By date and time latest first
S	By size, smallest first
-S	By size, largest first
G	With directories grouped before files
-G	With directories grouped after files

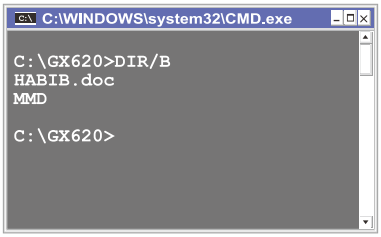


(vi) DIR/S

It lists every occurrence of file or directory in the specified directory and all of its subdirectories. This switch can be used to search a file.

C:\GX620>DIR/S

- Press Enter key to execute.
- On execution, list every occurrence of a file or directory in the directory C:\GX620 will be displayed.

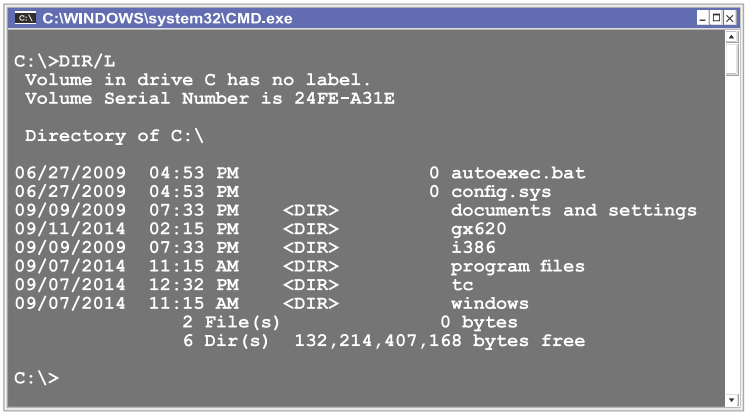


(vii) DIR/B

It lists each directory name or filename, one per line. This switch displays no heading information and no summary.

C:\GX620>DIR/B

- Press Enter key to execute.
- On execution, all the filenames and directories will be displayed one per line.



(viii) DIR/L

Displays unsorted directory names and filenames in lowercase.

C:\>DIR/L

- Press Enter key to execute.
- On execution, all the filenames and directories will be displayed in lowercase.

(2) Wildcard

A wild card character is a keyboard character such as a asterik (*) or question mark (?) that is used to represent one or more characters when you are searching for files, folders, printers, computers or people. There are two characters which are used as wildcard (* and ?)

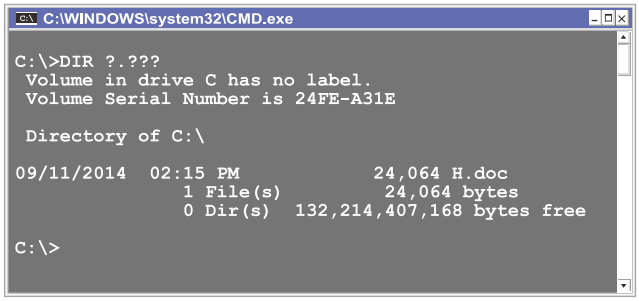
- ? is used to denote exactly one missing character.
- * is used to denote any number of characters.

(i) DIR ?.???

It is used to view all the files in the present working directory which have only one character name and have a three character in its extension.

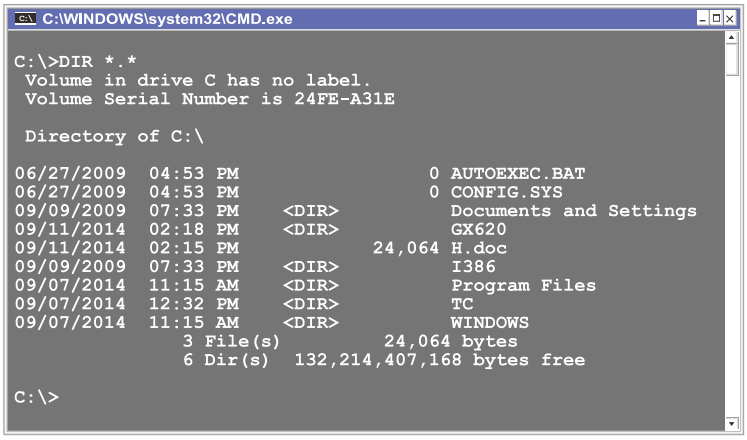
C:\>DIR ?.???

- Press Enter key to execute.
- On execution, all the files with only one character name and three characters in extension will be shown which are present in drive C.



(ii) DIR *.*

It is used to view all the files and directories, in the present working directory which have any number of characters name and have any number of characters in its extension.

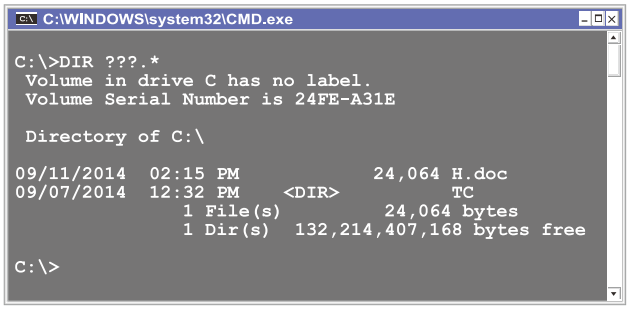


C:\>DIR *.*

- Press Enter key to execute.
- On execution, all the files and directories on drive C will be displayed.

C:\>DIR ???.*

- Press Enter key to execute.
- On execution, all the files and directories on drive C which have three characters names will be displayed.



Practical 2.2

DEMONSTRATION OF CD, MD, RD AND CLS COMMANDS

(I) CD/CHDIR

CD (Change Directory) is a command used to switch between directories in MS DOS and Windows command line. It is an internal DOS command and is available in all versions of DOS, Windows 95, Windows 98,Windows ME ,Windows NT, Windows XP, Windows 2000, Windows Vista, Windows 7 and Windows 8.

Syntax:

CD [/D] [drive:][path]

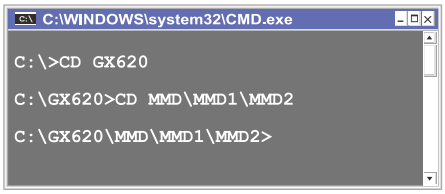
/D Changes current drive in addition to changing current directory for a Drive.

CD Goes to the highest level of the root directory.

CD.. Goes to one step back from the current directory.

C:\>CD GX620

- Press Enter key to execute.
- On execution, if the directory GX620 exist, it will become the present working directory.



C:\GX620>CD MMD\MMD1\MMD2

- Press Enter key to execute.
- On execution, if MMD2 directory exists, it will become present working directory.

(ii) MD/MKDIR

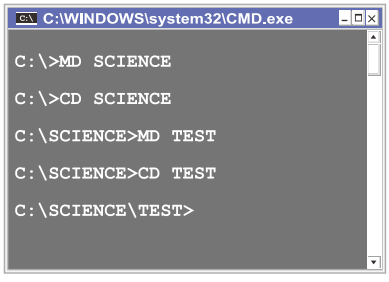
It allows the user to create directories and sub directories in MS DOS. MD/MKDIR is a DOS internal command and is available in all versions of DOS, Windows 95, Windows 98,Windows ME ,Windows NT, Windows XP, Windows 2000, Windows Vista, Windows 7 and Windows 8.

Syntax:

MD [drive:]path

C:\>MD SCIENCE

- Press Enter key to execute.
- On execution, directory SCIENCE will be created in the working directory.



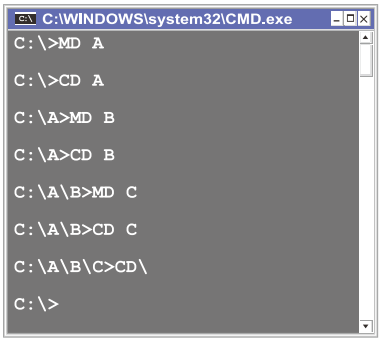
C:\SCIENCE\>MD TEST

- Press Enter key to execute.
- On execution, TEST directory will be created in the current working directory SCIENCE.

To create three directories A, B, C using two different methods.

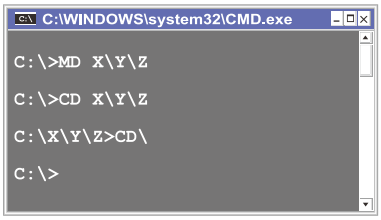
Method 1

C:\>MD A
C:\>CD A
C:\A>MD B
C:\A>CD B
C:\A\B>MD C
C:\A\B\>CD C
C:\A\B\C>CD\



Method 2

C:\>MD X\Y\Z
C:\>CD X\Y\Z
C:\X\Y\Z>CD\



(iii) RD/RMDIR

It removes an empty directory in MS DOS. RD is an internal DOS command and is available in all versions of DOS, Windows 95, Windows 98,Windows ME ,Windows NT, Windows XP, Windows 2000, Windows Vista, Windows 7 and Windows 8.

Syntax:

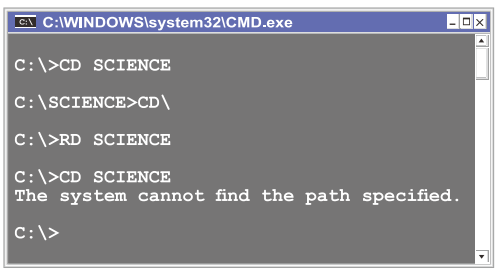
RD [drive:]path or **RMDIR [drive:]path**

/S Removes all directories and files in the specified directory in addition to the directory itself. It is used to remove directory tree.

/Q Quit mode, do not ask if ok to remove directory tree with /S.

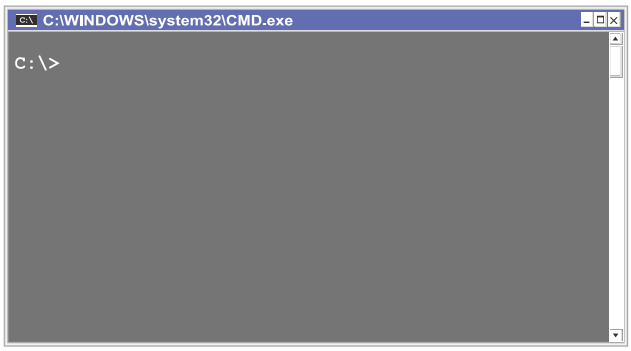
C:\>RD SCIENCE

- Press Enter key to execute.
- On execution, directory SCIENCE is removed from drive C.



(iv) CLS

CLS is a command that allows a user to clear the complete contents of the screen and leave only a prompt on upper left corner. The CLS command is an internal command.



Syntax:

CLS

C:\>CLS

- Press Enter key to execute.
- On execution, screen will be clear.

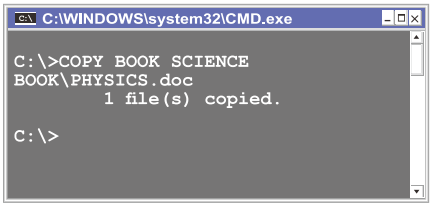
(i) COPY

It allows the users to copy one or more files and directories to alternate location. It is an internal DOS command and is available in all versions of DOS, Windows 95. Windows 98,Windows ME ,Windows NT, Windows XP, Windows 2000, Windows Vista. Windows 7 and Windows 8.

Syntax:

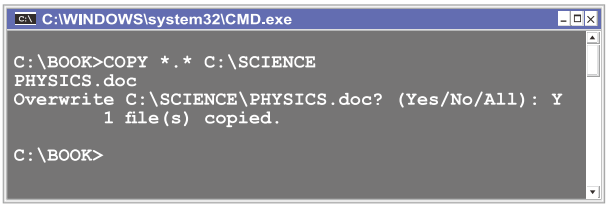
COPY source [destination]

C:\>COPY BOOK SCIENCE



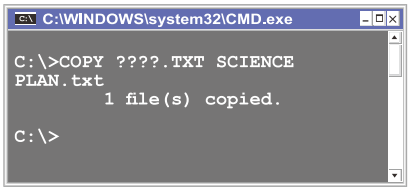
- Press Enter key to execute.
- On execution, all files of directory BOOK will be copied to directory SCIENCE.

C:\BOOK>COPY *.* C:\SCIENCE



- Press Enter key to execute
- On execution, the data will be copied to directory SCIENCE.

C:\>COPY ????.TXT SCIENCE



- To copy all the four character files with extension .txt to the destination directory SCIENCE.
- If the destination directory already contains some files with the same name then DOS will show the following message:
  Overwrite filename (Yes/No/All).
  If user presses Y and enters, then file will be overwritten. Choose N and press Enter key to cancel, choose A and press Enter key to overwrite all files.

(ii) DEL/ERASE

DEL is a command to delete the files from the computer. DEL is an internal DOS command and is available in all versions of DOS, Windows 95, Windows 98,Windows ME ,Windows NT, Windows XP, Windows 2000, Windows Vista, Windows 7 and Windows 8.

Syntax:

DEL [drive:][path][filename]

It specifies a list of one or more files or directories. Wildcards may be used to delete multiple files. If a directory is specified, all files within the directory will be deleted.

/P Prompts for confirmation before deleting each file

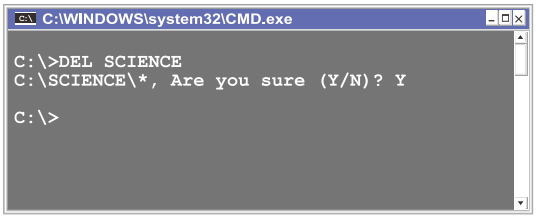
/F Force deleting of read-only files

/S Delete specified files from all subdirectories

/Q Quit mode that does not ask if it is OK to delete on global wildcard

/A Selects files to delete based on attributes.

C:\>DEL SCIENCE



- Press Enter key to execute.
- On execution, all file in the directory SCIENCE will be deleted.

C:\>SCIENCE>DEL *.*

- Press the Enter key to execute.
- On execution, all files in the directory SCIENCE will be deleted, the following message will be displayed:

  "Are you sure (Y/N)?"

  If user chooses Y and presses Enter key, then all files will be deleted in the current working directory. If user chooses N and press Enter key, then the action of deletion is cancelled.

(I) TIME

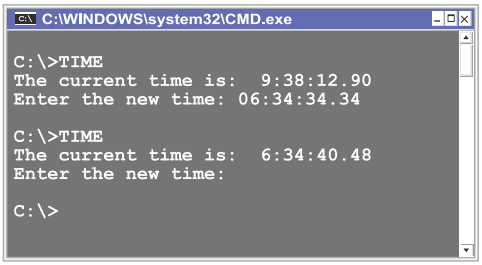
TIME command can be used to view the current time of the computer as well as change the time. TIME is an internal DOS command and is available in all versions of DOS, Windows 95, Windows 98,Windows ME ,Windows NT, Windows XP, Windows 2000, Windows Vista, Windows 7 and Windows 8.

Syntax:

TIME [parameter]

C:\>TIME

- Press Enter key to execute.
- On execution, file, the current time setting and a prompt for new one is displayed.
- Press Enter key to keep the same time.
- Enter new time using same format as shown in screen-shot.



(ii) DATE

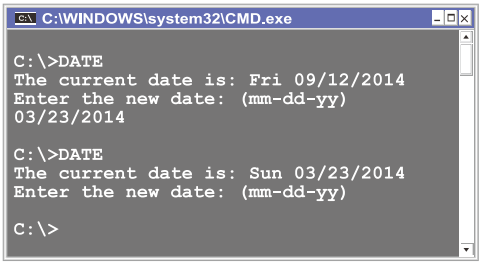
DATE command is used to view the current date of the computer as well as to change the date. DATE is an internal DOS command and is available in all versions of DOS, Windows 95, Windows 98,Windows ME ,Windows NT, Windows XP, Windows 2000, Windows Vista, Windows 7 and Windows 8.

Syntax:

DATE [parameter]

C:\>DATE

- Press Enter key to execute.
- On execution, current date setting and a prompt for a new one will be displayed.
- Press Enter to keep the date same.
- Enter new date using same format as shown in screen-shot.



(iii) VOL

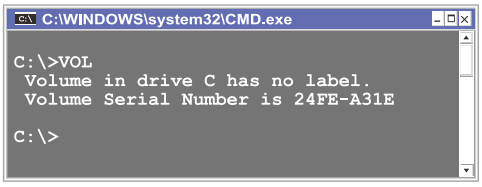
It displays the volume information of designated drive, and is available in all versions of DOS, Windows 95,. Windows 98,Windows ME ,Windows NT, Windows XP, Windows 2000, Windows Vista, Windows 7 and Windows 8.

Syntax:

VOL [drive:]

C:\>VOL

- Press Enter key to execute.
- On execution, disk volume label and serial number will be displayed.



(iv) VER

It displays the version of MS DOS or if running Window 95 or above version of Windows. VER is a DOS internal command and is available in all versions of Windows 95, Windows 98,Windows ME, Windows NT, Windows XP, Windows 2000, Windows Vista, Windows 7 and Windows 8.

Syntax:

VER

C:\> VER

- Press Enter key to execute.
- On execution, working MS DOS version will be displayed.

(i) PATH

This command is used to specify /view the directories in which MS-DOS should search for executable files. By default, the search path is the current directory only. It is a DOS internal command and is available in all versions of DOS, Windows 95, Windows 98,Windows ME ,Windows NT, Windows XP, Windows 2000, Windows Vista, Windows 7 and Windows 8.

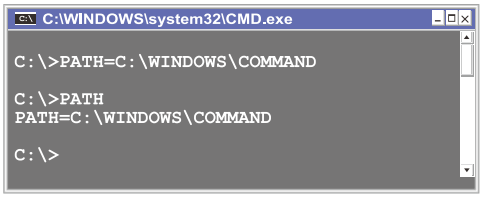
Syntax:

PATH [[drive:]path[;...]]

PATH;

It displays or sets a search path for executable files.

- Type PATH; to clear all search-path settings and direct Windows to search only in the current directory.
- Type PATH without parameters to display the current path.



C:\>PATH=C:\WINDOWS\COMMAND

This is the path where a lot of DOS commands are stored in Window XP.

(ii) TYPE

TYPE is an internal DOS command in DOS 1.0 and above versions.

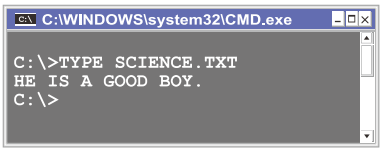
Syntax:

TYPE [drive:] [path] filename

It displays the contents of a text file. By use of TYPE command, the file is displayed with limited on-screen formatting. Tabs are expanded and generally displayed as eight spaces wide. Wild card characters (? and *) cannot be used with this command in either the file name or the extension.

C:\>TYPE SCIENCE.TXT

- Press Enter key to execute.
- On execution, the content of text file SCIENCE will be displayed.



(I) PROMPT

It changes the DOS command prompt.

Syntax:

PROMPT [text]

Text Specifies a new command prompt.

Prompt can be made up of normal characters and the following special codes:

$Q = (equal sign)

$$ $ (dollar sign)

$T Current time

$D Current date

$P Current drive and path

$V DOS version number

$N Current drive

$G > (greater-than sign)

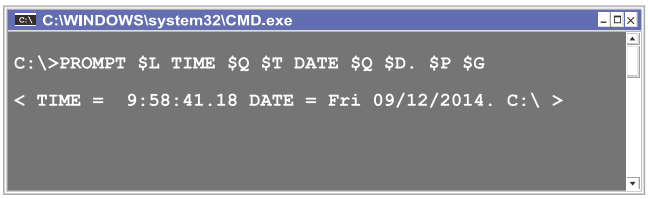
$L < (less-than sign)

$B | (pipe)

$H Backspace (erases previous character)

$E Escape code (ASCII code 27)

$_ Carriage return and linefeed



- To replace the drive with a person name proceed as fallow

  C:\> SALEEM RANA $G

- To include the date and time in prompt, type the following command and press enter to execute

  C:\>PROMPT $L TIME $Q $T DATE $Q $D, $P $G

(ii) EDIT

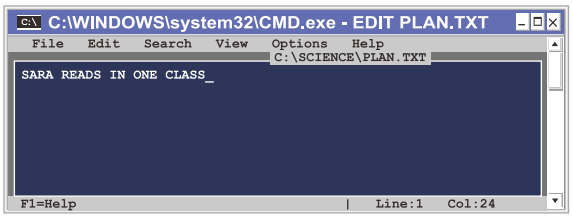
EDIT allows a user to view, create, or modify the computer files.

Syntax:

EDIT [drive:] [path] [filename]

C:\>EDIT C:\SCIENCE\PLAN.TXT

- Press Enter key to execute.
- On execution, the contents of file PLAN.TXT will be displayed.



(iii) EXIT

EXIT is a DOS internal command and is available in DOS 2.0 and above versions.

It is used to close a program e.g., it quits the COMMAND.COM program (Interpreter).

Syntax

EXIT

C:\>EXIT

- Press Enter key to execute.
- On execution, DOS editor will be closed.

Practical 2.7

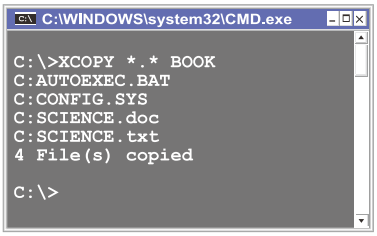
DOS INTERNAL COMMANDS
DEMONSTRATION OF XCOPY COMMAND

XCOPY Command with its many options and ability to copy entire directories, is similar, but much more powerful than the traditional COPY command.

Syntax:

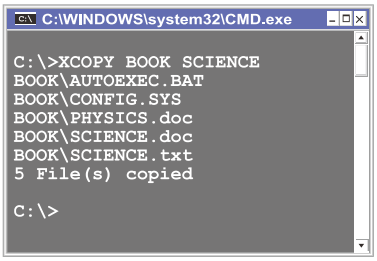
XCOPY source [destination]

C:\>XCOPY *.* BOOK



- Press Enter key to execute.
- On execution, all the files of drive C will be copied to directory BOOK. Only non-empty files of the drive will be copied.

C:\>XCOPY BOOK SCIENCE



- Press Enter key to execute.
- On execution, all the files of directory BOOK will be copied to directory SCIENCE. Only non-empty files of said directories will be copied.

Switches used with XCOPY

/Y Indicates that you want XCOPY to replace existing files with prompting you for confirmation.

/A Used to copy source files that have their archive file attribute.

/M Used to copy source files that have their archive file attribute set. Unlike the /A switch, /M switch turns of archive file attributes in the file specified in source.

/D Date used to copy only those source files modified on or after the specified date.

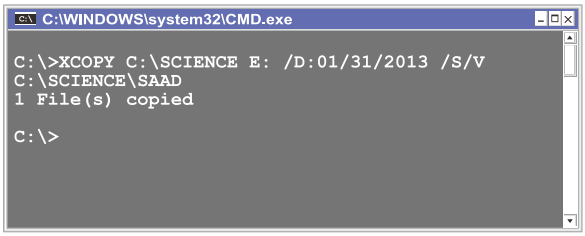
/S Used to copy non-empty directories and subdirectories.

/E Used to copy all directories and subdirectories even if the directories and subdirectories are empty.

/V This switch is used to verify each file as it is written to the destination file to make sure that the destination files are identical to the source file .

C:\>XCOPY C:\SCIENCE E: /D:01/31/2013 /S/V

- Press Enter key to execute.
- On execution, the files of directory C:\SCIENCE will be copied to drive E. Only non-empty files of said directories will be copied on D drive which were written on or after 01/31/2013. After the files are written, the XCOPY command compares the files to the source for confirmation.



Practical 2.8

DEMONSTRATION OF SYS AND TREE COMMANDS

(i) SYS

SYS is used to copy the system files from one drive to another drive allowing that drive to be bootable. SYS is an external command and is available in all versions of MS DOS, Windows 95, Windows 98, and Windows NT.

When running this, following files will be copied:

Command.com, Io.sys, Msdos.sys, Drvspace.sys

Syntax:

SYS [drive 1][path] drive 2 path……

[drive1] Specifies the location of system files.

drive2 Specifies the drive on which files are to be copied.

C:\>SYS A

- Press Enter key to execute.
- On execution, system files and command interpreter will be copied to diskette A.

(ii) TREE

It allows the user to view the listing of files and folders in the current working directory/drive.

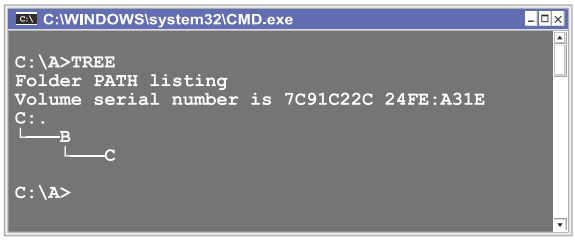
TREE is a DOS external command and is available in all versions of DOS, Windows 95, Windows 98,Windows ME ,Windows NT, Windows XP, Windows 2000, Windows Vista, Windows 7 and Windows 8.

Syntax:

TREE [drive:][path] [/F] [/A]

/F displays the name of files in each folder.

/A Uses ASCII instead of extended characters.



C:\A>TREE

- Press Enter key to execute.
- On execution, structure of the files/directories on C:\A will be displayed.

(I) CHKDSK

CHKDSK is a DOS external command and is available in all versions of DOS, Windows 95, Windows 98, Windows ME ,Windows NT, Windows XP, Windows 2000, Windows Vista, Windows 7 and Windows 8.

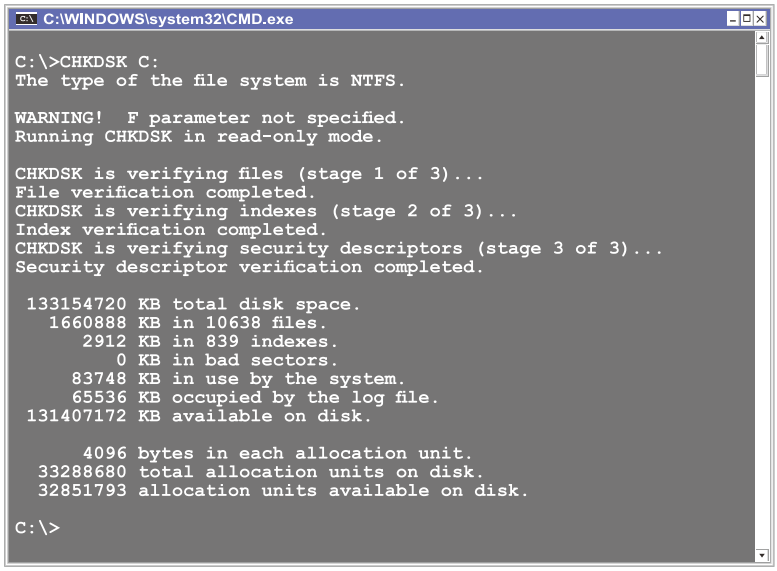
Syntax:

CHKDSK [volume[path]filename]] [/F] [/V]

It checks a disk and provides a file and memory status report. It checks for errors on a disk and displays error messages (if problems are found) and issues a status report.

C:\>CHKDSK C:

- Press enter to execute.
- On execution, memory status and error on the disk will be displayed.



(ii) DISKCOPY

The DISKCOPY command allows the user to copy the complete contents of a diskette to another diskette. It is a DOS external command and is available in all versions of DOS, Windows 95, Windows 98,Windows ME ,Windows NT, Windows XP, Windows 2000, Windows Vista, Windows 7 and Windows 8.

Syntax:

DISKCOPY [drive1: [drive2:]]

This command is used only for copying diskettes not hard disks. The first drive is for the source

diskette. The second drive is for target drive diskette. DISKCOPY checks if the disk in the target drive has been previously formatted. If not, DISKCOPY will format it before it starts copying.

C:\>DISKCOPY A: B:

- Press Enter key to execute.
- On execution, contents of diskette A will be copied on diskette B.

C:\>DISKCOPY A: C:

DISKCOPY stores an image of the source disk and then copies it to the destination disk in the drive.

Practical 2.10

DEMONSTRATION OF ATTRIB COMMAND

ATTRIB

ATTRIB is a DOS external command and is available in DOS 3.0 and later versions.

Syntax:

ATTRIB [drive:] [path] [filename]

ATTRIB command changes or view a file's read/write attribute or sets the archive attribute. If this command is used to specify a file as read only, the file can be accessed, but not altered or deleted. Wildcard characters (? And *) can be used. However, directory name cannot be used instead of filename to change the attributes of all files in a directory.

Attributes:

+R Makes a file read only. Read only files may be read but cannot be changed or deleted.

–R Changes a file protection back to normal. So it can be read changed or deleted.

+A Sets the archive attribute of a file

–A Turns off the archive attribute

+H Sets the hidden attribute of a file so that it will not appear in a directory listing.

–H Turns off the hidden attribute

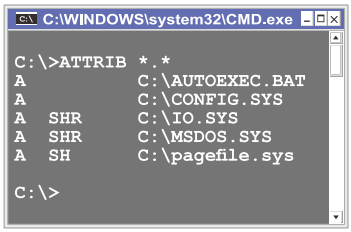
+S Sets system attribute of a file

–S Turns off the system attribute

/S Sets attributes on subdirectories found within the specified path

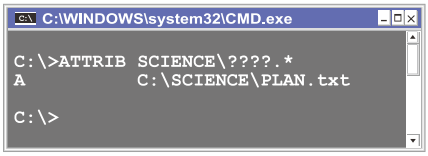
C:\>ATTRIB *.*

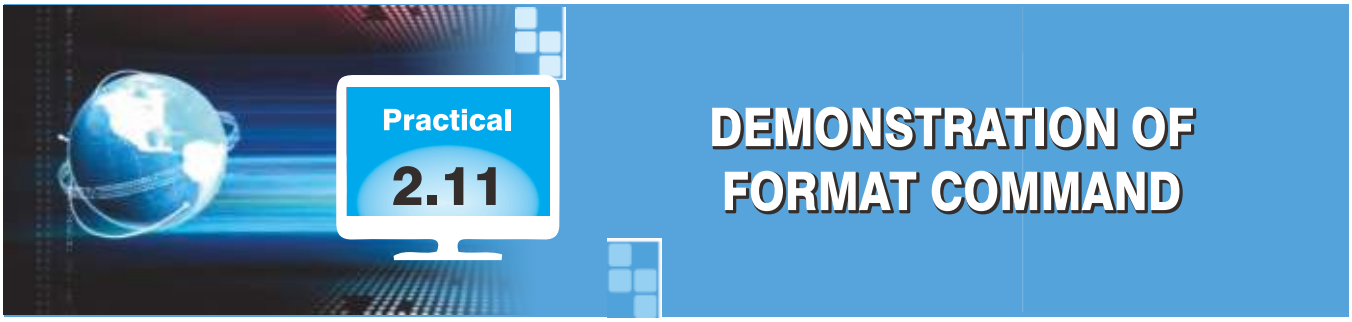
- Press Enter key to execute.
- On execution, attributes of all the files in the current working directory will be displayed.



C:\>ATTRIB SCIENCE\????.*

- Press Enter key to execute.
- On execution, attributes of all the four characters name files in the directory C:\SCIENCE will be displayed.





FORMAT

This command is used for formatting disk. The disk is prepared for storing data. This is necessary so that DOS knows where to put data on a disk. Format command writes over every available sector on the disk, putting place holders where every bit goes. It also sets up the boot sector, root directory and FAT (File Allocation Table). Format also detects bad sectors on disk, so that DOS would not try to use them. Format command is available in all versions of DOS, Windows 95, Windows 98,Windows ME ,Windows NT, Windows XP, Windows 2000, Windows Vista, Windows 7 and Windows 8.

Syntax:

FORMAT drive:[label]

Switches:

/S Copies system files (MS Dos.sys, io.sys, command.com) to disk after it is formatted to make it a bootable disk.

/Q Does a quick format, basically it overwrites FAT and root directory, does not check for bad sectors.

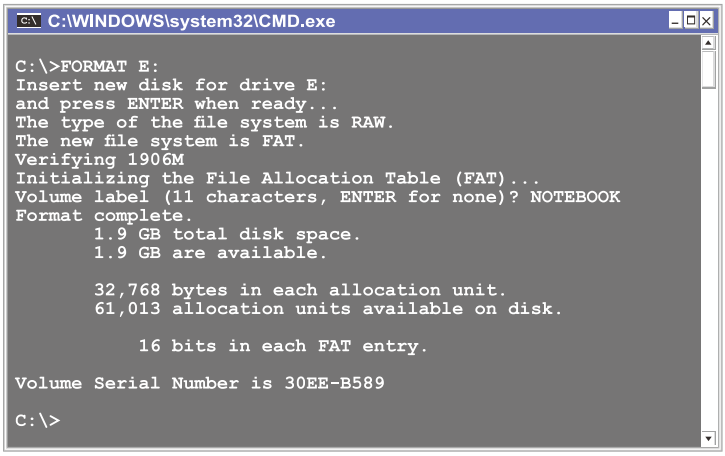
/V Labels the disk with the name specified.

/U Specifies an unconditional format of disk. Unconditional formatting destroys all existing data on a disk and prevents from using the UNFORMAT command.

C:\>FORMAT E:

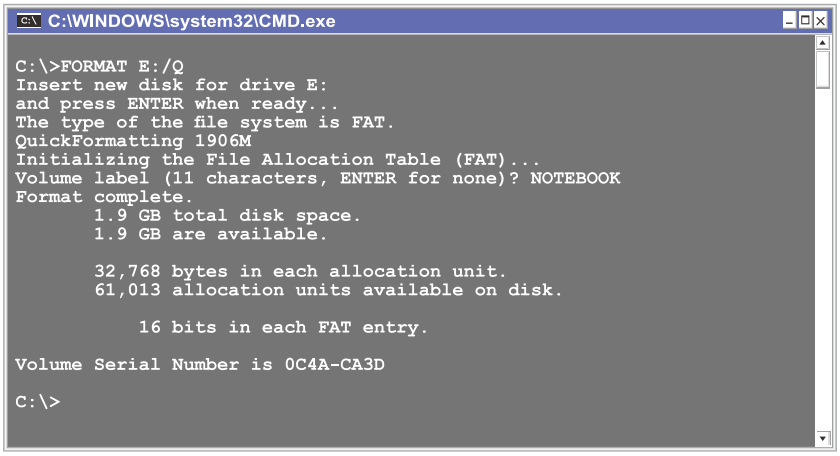
- Press Enter key to execute.
- On execution, erases all the contents of a disk.

  Commonly used for the diskette that has been not formatted.



C:\>FORMAT E:/Q

- Press Enter key to execute.
- On execution, it will quickly erase all contents of drive E:



VIVA VOCE

Question1: Which command of MS-DOS is used to copy only files that have been modified on or after the date you specify?

Answer: XCOPY/D : DATE

Question 2: Which DOS command will format a floppy disk and transfer the system files?

Answer: FORMAT A: /S

Question 3: Which DOS command is used to change the default prompt to provide other information?

Answer: PROMPT

Question 4: Which DOS command is used to delete the empty directory?

Answer: RD

Question 5: Which DOS command is used to make a directory?

Answer: MD

Question 6: What is an operating system?

Answer: An Operating System is a set of programs that controls and coordinates the use of computer hardware among various application programs. It provides an environment in which user can execute programs.

Question 7: What is MS – DOS?

Answer: DOS is an operating system, which makes computer useable, it is a program that has to be loaded to initialize computer. The single user operating system used in microcomputers are called DOS because it controls the storage of information and detail on disks.

Question 8: Enlist types of MS-DOS commands.

Answer: There are two types of MS-DOS commands:

- Internal DOS commands.
- External DOS commands.

Question 9: What are the features of MS-DOS?

Answer:

- It reads only text based commands (CUI).
- Quite small, only uses 60 KB of memory.
- Does not use protected mode, e.g., application can do anything i.e., bypass OS to access disks, reboot the system etc.

Question 10: What is meant by command prompt in MS – DOS?

Answer: Command prompt is a simple term meaning the terminal, in which system command can be entered.

Question 11: List five internal commands.

Answer: PATH, VOL, COPY, PROMPT, VER

Question 12: List five external commands?

Answer: FORMAT, ATTRIB, XCOPY, EDIT, SYS

Question 13: Is MS DOS a multiprocessing system?

Answer: No, not at all.

Question 14: Define ATTRIB command in MS-DOS?

Answer: This command is used to view and change the attribute of the specified file.

Question 15: How do you get the MS-DOS?

Answer: In any window version, click start, then enter 'cmd' to start MS-DOS.

Question 16: What is the file extension in MS-DOS?

Answer: There is no specific file extension in MS-DOS; file can have any three characters extension in DOS.

Question 17: What are the disadvantages of using MS-DOS?

Answer: MS-DOS is very old by computer standards, and is not compatible in most of the applications and programs.

Question 18: What is difference between internal DOS and external DOS commands?

Answer: Internal DOS commands reside in COMMAND.COM and are loaded into the memory when computer is started, while the external DOS command resides on disk.

Question 19: Define byte.

Answer: A collection of eight (8) bits is defined as one byte.

Question 20: Define the parallel ports.

Answer: A parallel port provides a connection for transmitting data eight bits at a time. Printer uses parallel ports.

Question 21: Define an address bus.

Answer: It is used to manage the addresses of memory.

Question 22: Enlist some operating systems.

Answer: DOS, Window 2000, UNIX, LINUX.

Question 23: What is meant by multi user's operating system?

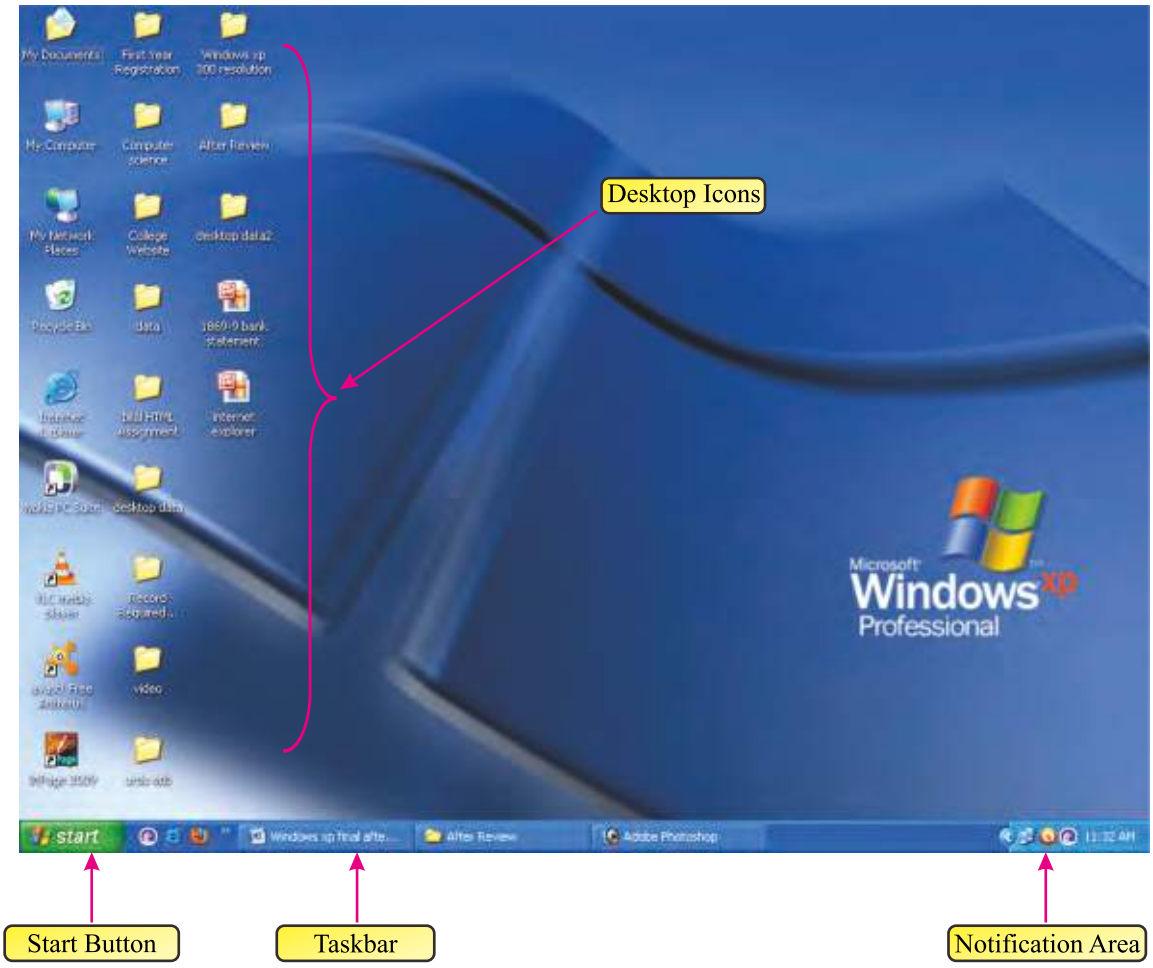
Answer: In a multi user operating system, more than one user can use the operating system and its resources at the same time.

Unit

3

INTRODUCTION TO WINDOWS

An operating system (OS) is a set of programs installed or running on a computer system to provide an environment for execution of other programs. Common operating systems include Windows, Mac OS x Linux and UNIX. Windows operating system is designed and produced by Microsoft Corporation. It is similar to other operating systems. Windows makes a computer system user-friendly by providing a graphical display and organizing information so that it can easily be accessed. The operating system utilizes icons and tools that simplify the complex operations performed by the computers. Estimates suggest that 90% of personal computers use the Windows operating system. Microsoft introduced the operating system in 1985 and it has continued to be widely used all over the world.



Desktop and its components

Graphical User Interface

GUI is defined as an acronym for graphical user interface, a process that allows you to point your mouse or cursor to a particular icon and click on it, causing a hidden list of commands to be automatically created for your computer to follow.

Desktop

The *Desktop* is the main workable screen that appears when the computer is turned on. A desktop consists of graphical symbols or icons, that show files, folders, and various types of documents (e.g. letters, reports, pictures etc.).

Components of the Desktop

Detail of desktop components are given below:

Icons

A computer icon is a graphical symbol that represents a program, a command, a document, etc. In computer applications, icons are used to quickly execute/run commands or open programs and documents by clicking or double-clicking on them.

Start Button and Start Menu

Start Button provides access to Windows XP 'Start menu' that enlists different Windows applications and programs such as Documents, Settings, Search, Help, etc. Generally, it is located in the lower left corner of the desktop. Start menu can be opened by moving the mouse pointer to the start button and pressing the left mouse button.

Start Button and Start Menu

Taskbar

Taskbar is a desktop toolbar application that lets a user perform tasks such as switching between open windows and starting new applications. It contains buttons that give quick access to common tools and the programs currently running.

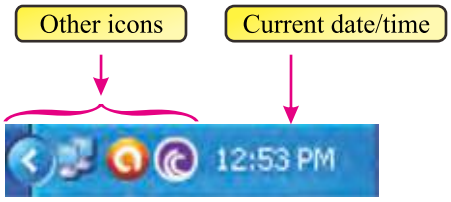
Window Tabs

Windows Tabs are used to switch between any open windows (programs, folders, documents, etc). They are located on the taskbar.

Taskbar

System Tray

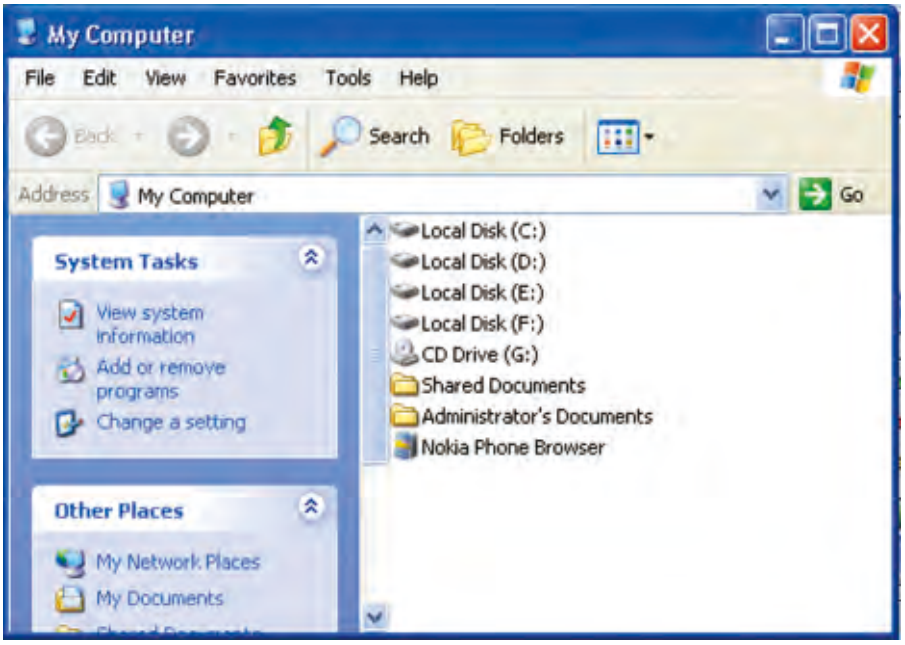
It is also called notification area that displays icons for programs that are loaded into memory, although not all programs place an icon in this tray. It shows the current date/time and the clock. It also displays icons corresponding to services running in the background, such as an Internet connection, anti-virus, etc.



Notification Area

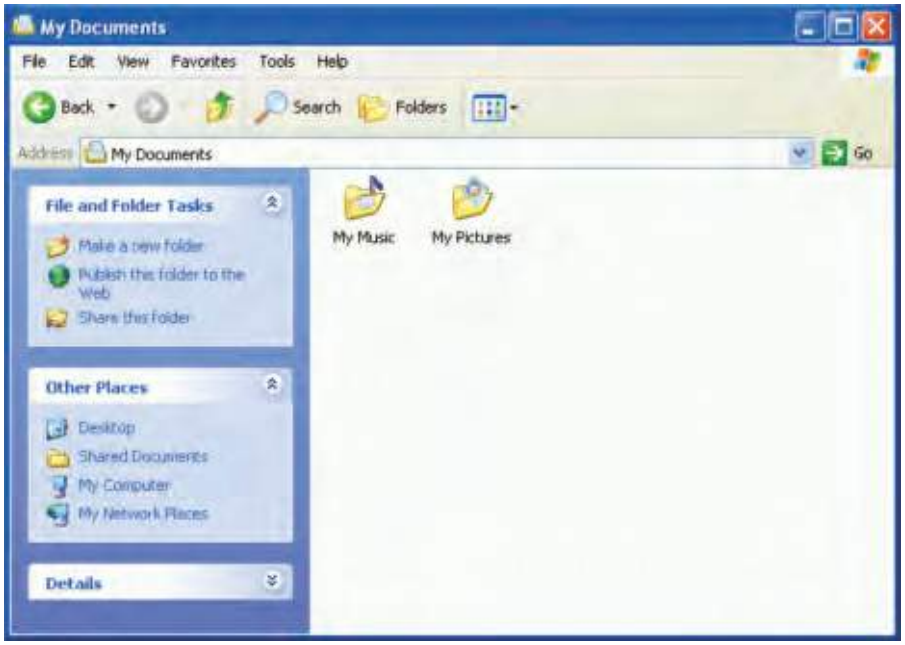
My Computer

It is used to access all resources in the computer including drives, control panel and document. It can be accessed by double clicking the left mouse button on its icon.



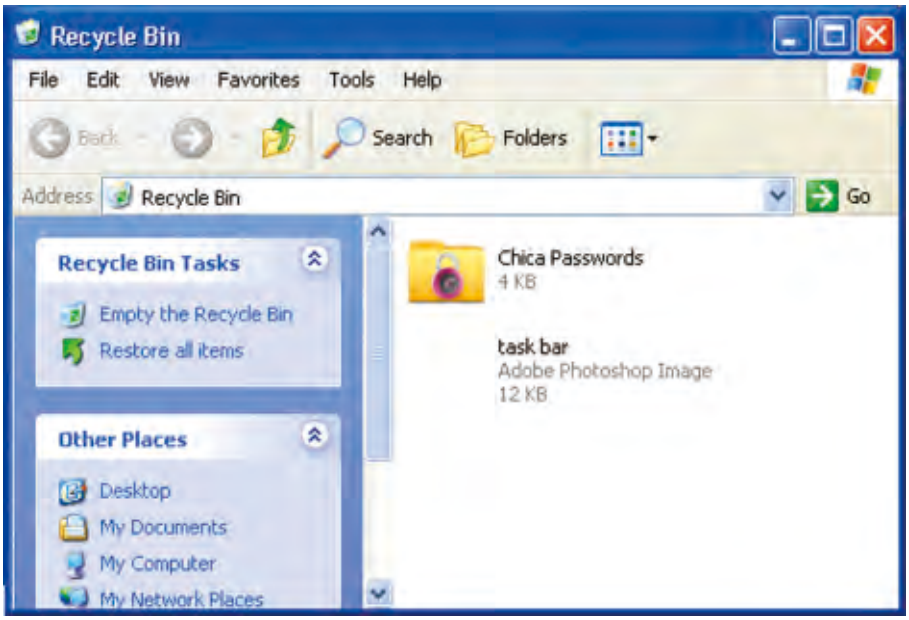
My Documents

It is the default personal folder for storing data. My Music, My Pictures and other subfolders are located in My Documents. It can be accessed by double-clicking the left mouse button on its icon.



Recycle Bin

It keeps the files that have been deleted, whether accidentally or intentionally. Users can restore the deleted contents before deleting them permanently. It can be accessed by double-clicking the left mouse button on its icon.



Internet Explorer

Internet Explorer is a program used to explore the Internet. It can be accessed by double-clicking the left mouse button on its icon. It is commonly abbreviated as IE.

Familiarization with a window and its components

Window is a rectangular area of the screen in which user can view program files, folders or icons. The main characteristics of a window is the same for all windows in Windows XP and its applications and makes it easy for users to manage their work.

Title bar contains the application/document name and basic window control buttons such as minimize/close. These buttons are located at the top right corner of the window.

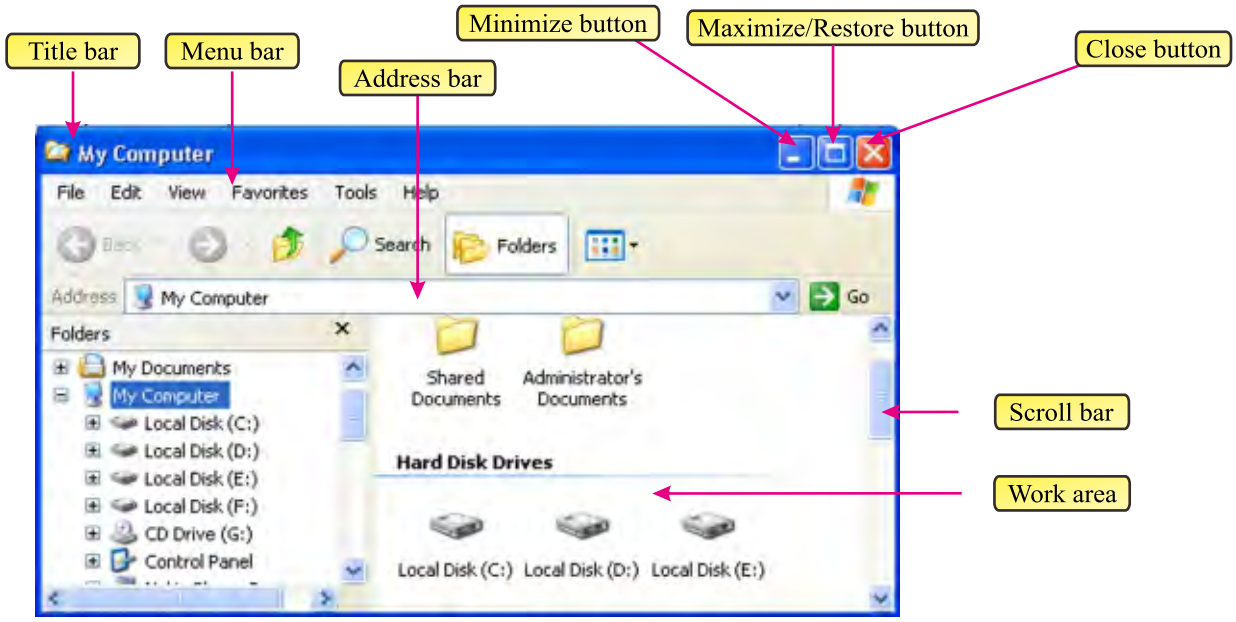
Close button is located on the far right corner of the title bar and is used to close the active window.

Maximize / Restore button is used to enlarge the window to its maximum size or to restore the window to the size before it was maximized. It is located on left side of close button at Title bar.

Minimize button is used to reduce the window to a tab on the taskbar. It is located on the left side of Maximize/Restore button .

Menu bar enlists different menus such as File, Edit, and Help, etc. It is located along the top of the window under the title bar.

Vertical and Horizontal Scroll Bars enable us to move up, down and across the window respectively, by dragging the icon located on the scroll bar.



A window and its components

Managing Files and Folders

File

File is a collection of data or information that has a name. It can be stored on storage device like a hard disk. There are many different types of files, data files, program files etc.

Folder

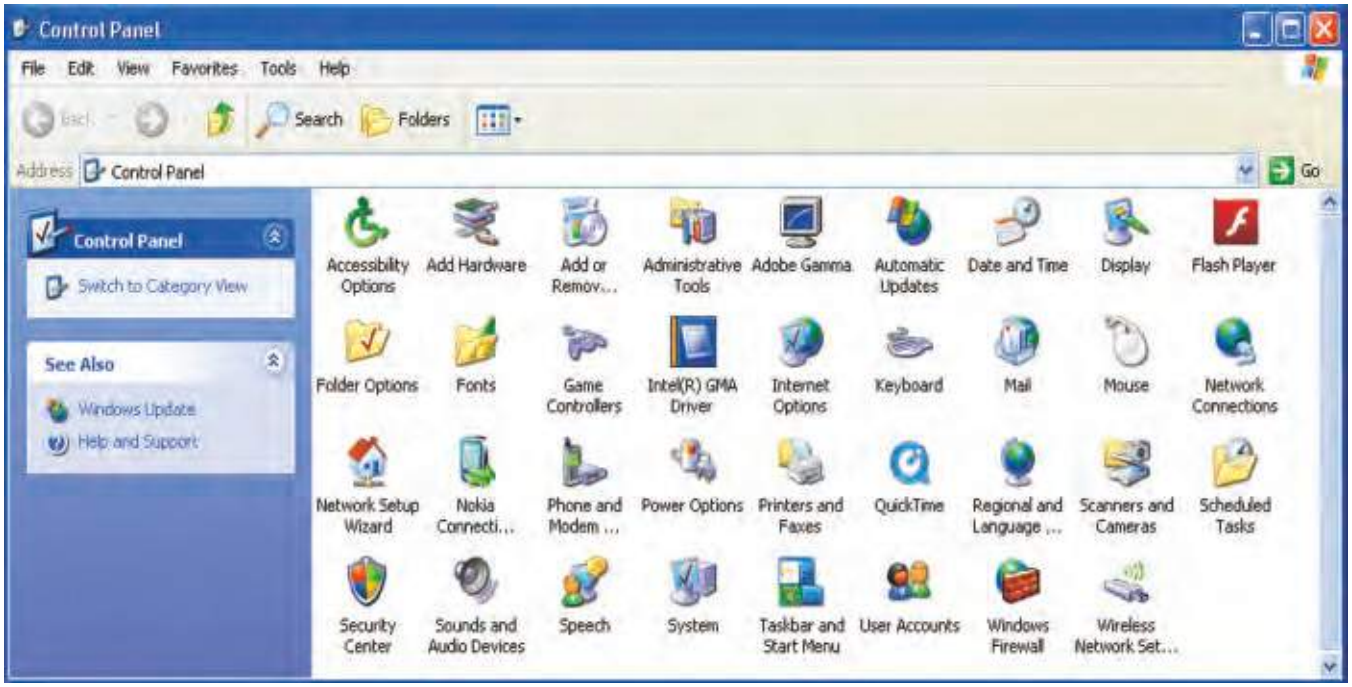
Folder is a name given to a reserved location in computer storage. A folder is used to store and manage files or sub-folders. For example, a folder in a hard disk can store documents or files. A folder within a folder is called a sub-folder. The subfolders may further contain subfolders.

Drive

Drive or disk drive is a storage device to store and retrieve data and information. There are different types of drives such as hard disk drives, removable drives etc. Drives are given names such as A, B, C, D, etc.

Using Control Panel

Control panel allows us to customize windows environment by doing some settings like adjustment screen display and its color settings, increasing/ decreasing the speed of mouse, and their size etc. Control Panel contains specialized tools that are used to change the way Windows looks and works.



Now we will go over some of the important functions of the Control Panel icons so you can get an idea of what is their purpose and how you can use them to improve your Windows experience.

Accessibility Options

Allow users to configure the accessibility of their PC. It comprises various settings primarily aimed at users with disabilities or hardware problems.

Add Hardware

Allow users to install new hardware devices to the system which are attached to it. This can be done by selecting from a list of devices or by specifying the location of the driver installation files.

Add or Remove Programs

Allow users to install or uninstall any program on the computer. We should always uninstall software rather than delete it from our hard drive.

Administrative Tools

Allow users to manage the computer, monitor its performance, edit the security policy and administer the computer's services.

Display

The display settings allow users to change the way things appear on the screen. We can adjust items like the screen resolution and color quality and change desktop background.

Fonts

Displays all fonts installed on the computer. Users can remove fonts, install new fonts or search for fonts using font characteristics.

Game Controllers

Allow users to add, display, troubleshoot, and use advanced settings on joysticks and game controllers.

Internet Options

Allow users manages Internet connections and browser settings for Internet Explorer.

Keyboard

Allows users to adjust settings such as how fast the keyboard will repeat a character when a key is held down and the cursor blink rate.

Mouse

Allows users to adjust the mouse setting for features such as double click speed, button assignment and scrolling. We can also change our mouse pointers and effects as well as view details about mouse.

Scanners and Cameras

Allow users to manage attached scanners/cameras and adjust their settings.

Scheduled Tasks

This option provides the ability to schedule running of certain programs at certain times of the day.

Sounds and Devices

Here we can adjust sound and speaker settings.

Automatic Updates

Here we tell Windows how and when to update itself. We can control whether or not it downloads updates automatically.

Date and Time

We can set our computer's date, time and regional settings.

Folder Options

Allow users to adjust the way they view their files and folders from within My Computer or Windows Explorer.

Network Connections

This item allows checking and adjusting your network connection settings. It will take you to the same place as if you were to right click My Network Places and choose properties.

Phone and Modem Options

The Phone and Modem Options allows you to add, remove and change the properties for modems.

Power Options

Are used to adjust the power settings of the computer. Windows has built in power schemes for different settings such as when to turn off the monitor or hard drives and when to go into standby mode.

Regional and Language Options

If you need to have multiple languages or formats for currency, date and time you can manage them using this option.

Security Center

The Windows Security Center checks the status of our computer for the status of firewall, virus protection and automatic updates.

System

This option provides the information about computer's configuration, name and network status.

Taskbar and Start Menu

Allow users to change the setting for taskbar and Start menu.

User Accounts

We can add remove users and change the account types for users who log into your system and can also change the password.

Printer and Faxes

The Printers and Faxes is used to add, remove, and manage printers and fax devices.

Practical 3.1

DEMONSTRATION OF INSTALLATION OF WINDOWS

The process by which programs and data are copied and installed to the hard disk of a computer system is called system installation.

Installing Windows XP has been broken up into the following parts.

Part 1: Begin the installation

Part 2: Continue the installation

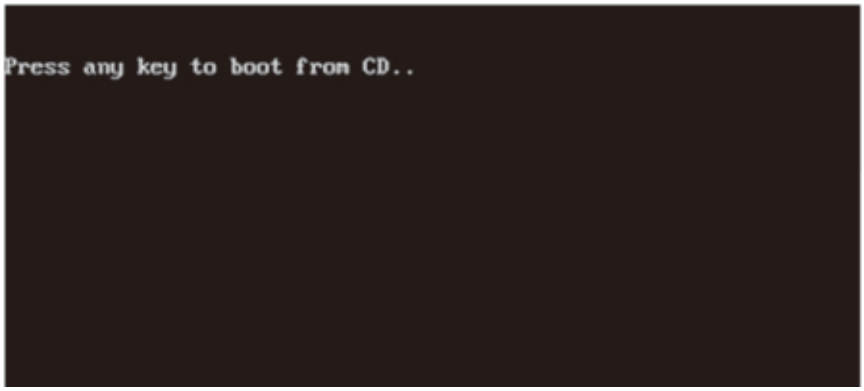
Part 3: Complete the installation

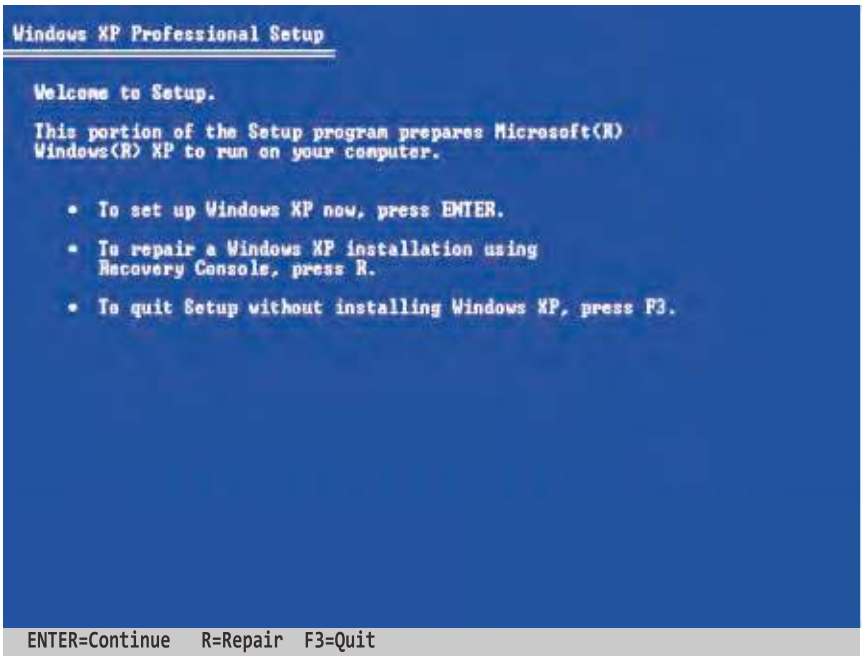
Part 1
Begin the Installation

1. Insert the Windows XP CD into CD-ROM/DVD-ROM drive immediately after starting.

2. If prompted to start from the CD, press any key within 5 second. If prompt does not appear change the boot sequence from computer setup and restart your computer.

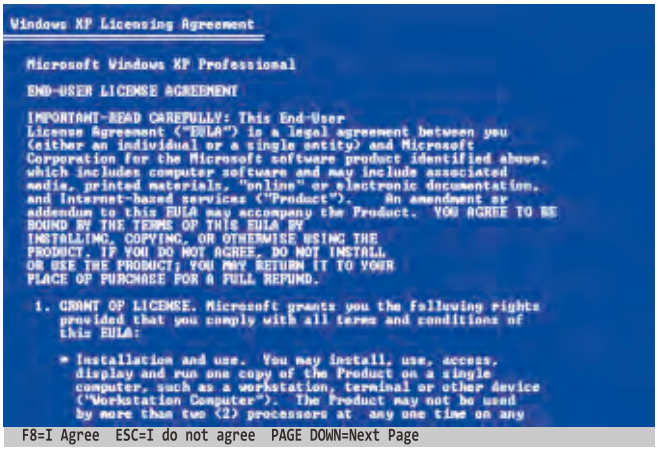
3. Windows XP Setup begins. During this portion of setup, the mouse is not needed. On the **Welcome to Setup** page, press ENTER to continue and F3 to exit.

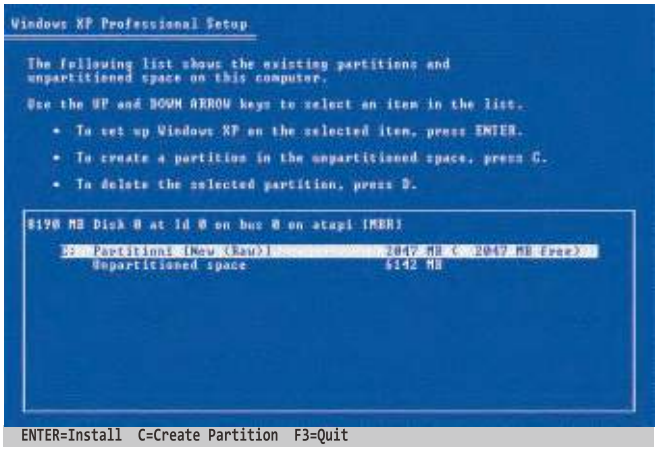




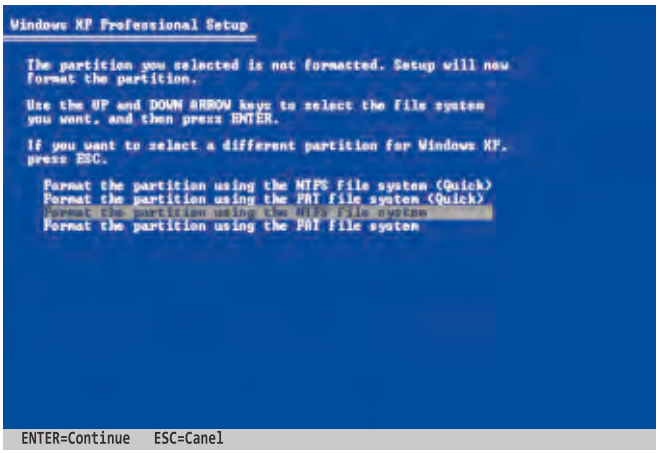
4. On the **Windows XP Licensing Agreement** page, read the licensing agreement. Press the **PAGE DOWN** key to scroll to the bottom of the agreement. Press **F8** if you agree to press these terms and conditions and press '**ESC**' in case of disagreement.

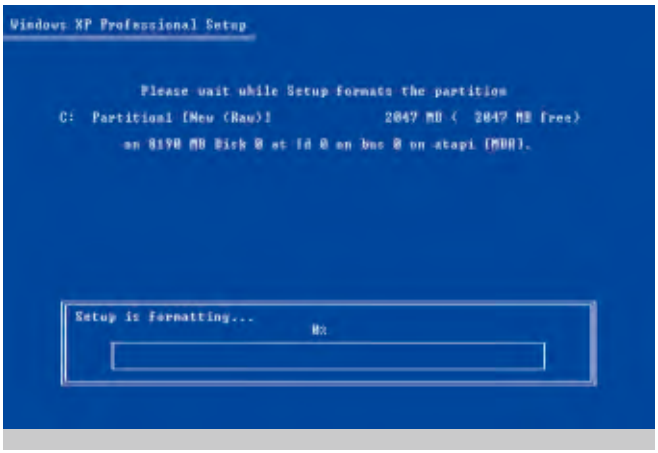
5. On the **Windows XP Professional Setup** page, select the partition on which Windows XP will be installed. Once you complete this step, you will be prompted if you want to erase all data present on the selected drive.





6. On the **Windows XP Professional Setup** page as shown below on left side, press Enter key again to select Format the partition using your required format type. NTFS (New Technology File System) offers many security features, supports larger drive size, and bigger size files.
7. On the **Windows XP Professional Setup** page as shown below on right side, Windows XP erases data from the selected partition and then copies the setup file.



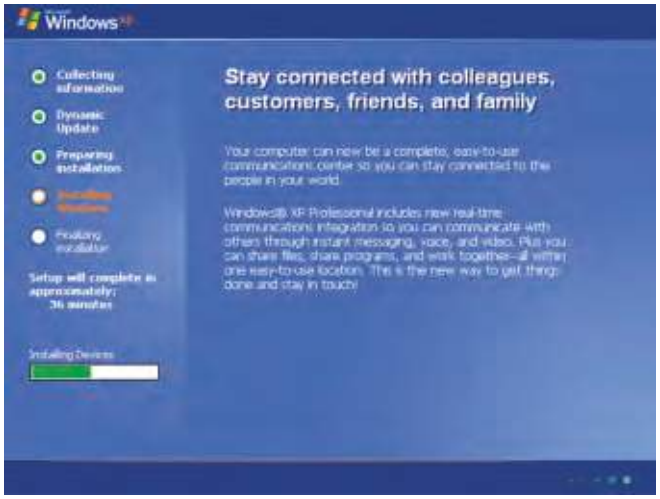


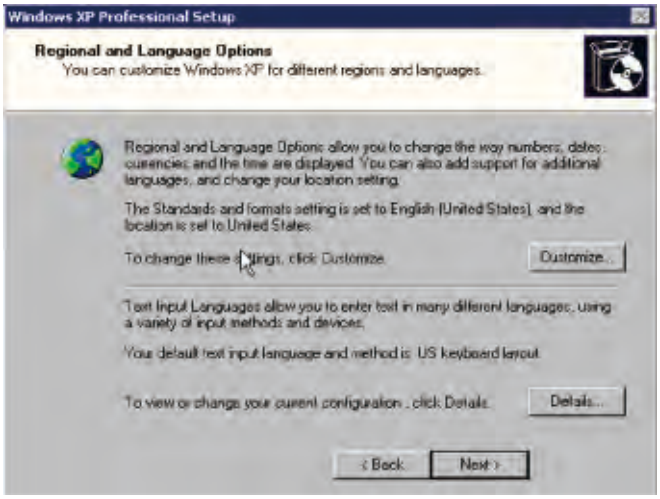
Part 2: Continue the Installation

8. After the setup has completed copying the files the computer will restart. Leave the XP CD in the drive but this time DO NOT press any key when the message "Press any key to boot from CD" is displayed. In

few seconds setup will continue. From this point forward, you can use your mouse. **Windows XP Setup wizard** page will guide you through the setup process of gathering information about your computer.

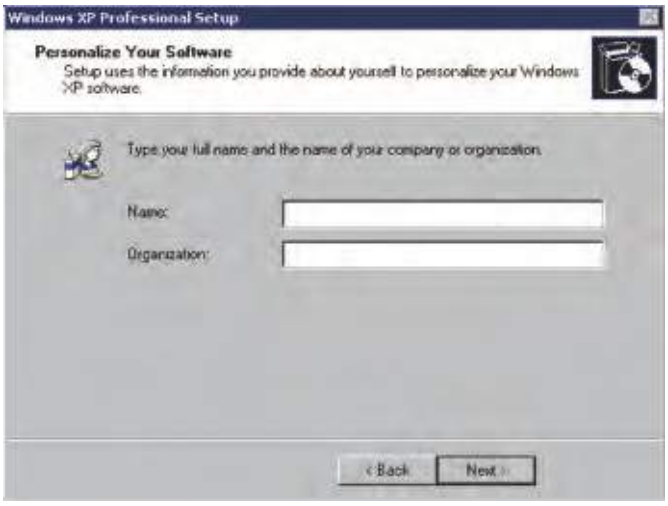
9. On the **Regional and Language Options** page click **Next** button to accept the default settings. If you are multilingual or prefer a language other than English, you can change language settings by clicking "details" button.

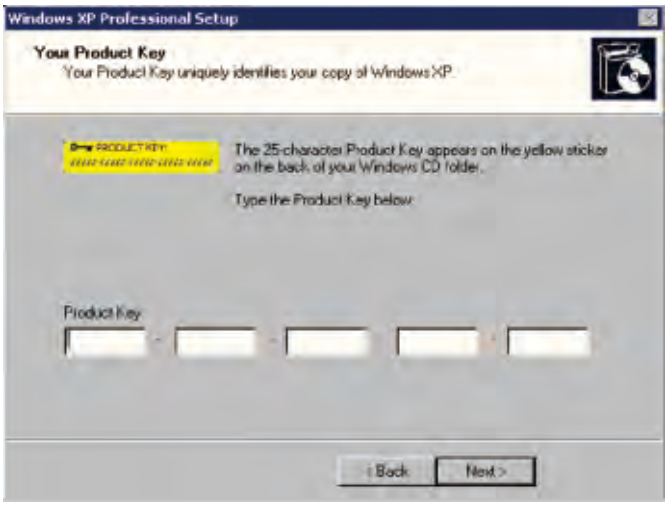




10. On the **Personalize Your Software** page, type your name and your organization name. Some programs use this information to automatically fill in your name when required. Then, click **Next** button.

11. On the **Your Product Key** page, type your product key as it is printed on your Windows XP CD case. The product key is unique for every Windows XP installation. Then, click **Next** button.

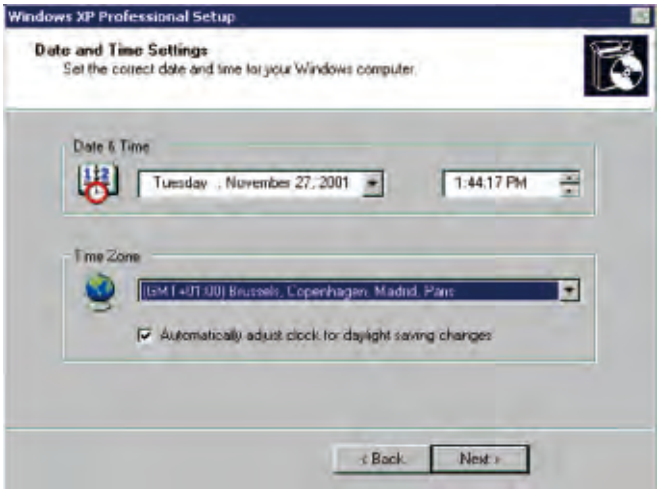




12. On the **Computer Name and Administrator Password** page, in the Computer name box, type a name that uniquely identifies your computer at your work place. If you connect your computer to a network,

you will use this computer name to find shared files and printers. Type a strong password that you can remember in the Administrator password box, and then retype it in the Confirm password box. Now click **Next** button.

13. On **Date and Time Settings** page, set your computer's current time. Then, click the Time Zone drop Menu, and select your time zone. Click **Next** button.



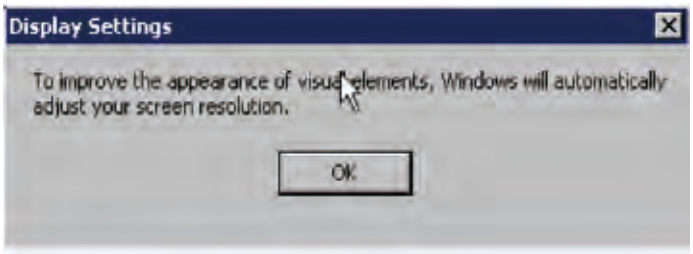
14. Windows XP will spend same time configuring your computer. On the **Networking Settings** page, click **Next** button.

15. On **Workgroup or Computer Domain** page, type your working group or simply press next to select default setting.

Part 3: Complete the Installation

16. Windows XP will spend some time configuring your computer and will automatically restart when finished. When the **Display Settings** dialog appears, click **OK**. To automatically configure your screen settings.

17. When the **Monitor Settings** dialog box appears, click **OK**. To automatically configure your monitor settings or connect to set them manually afterwards.

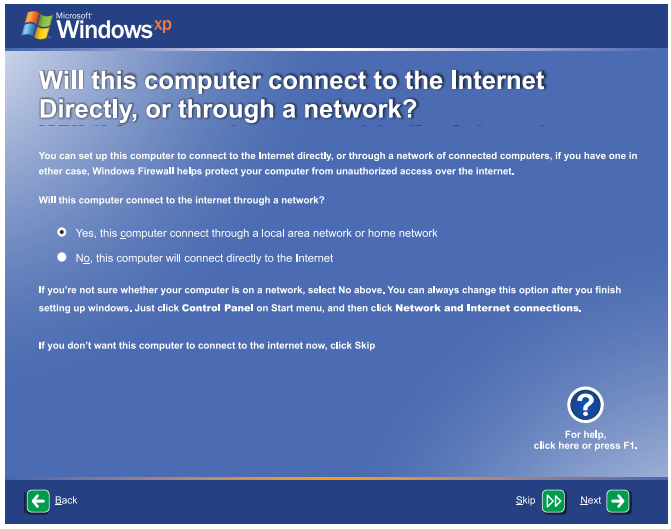


18. The final stage of setup begins. On the **Welcome to Microsoft Windows** page, click **Next** button to continue

19. On the **Help protect your PC** page, click Help protect my PC by turning on Automatic Updates now. Then, click **Next** button to let the computer update itself when the updates are available.

20. Windows XP will then check if you are connected to the Internet:

    a. If you are connected to the Internet, select the choice that describes your network connection on the **Will this computer connect to the Internet directly, or through a network?** page. If you're not sure, accept the default selection, and click **Next** button.

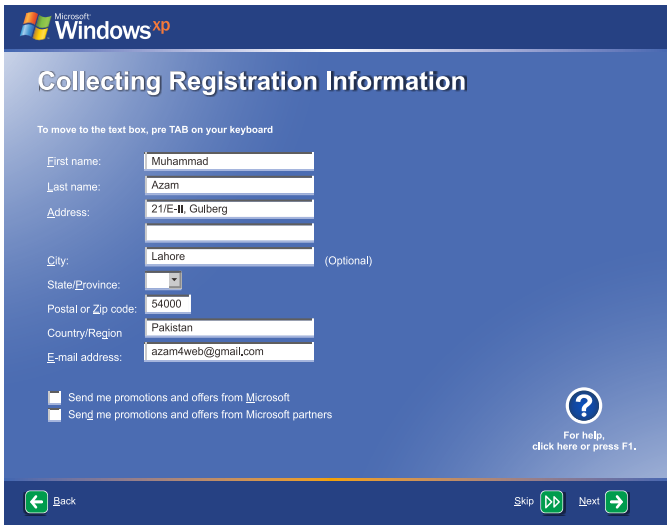


b. If you use dial-up Internet access, or if Windows XP cannot connect to the Internet, you can connect to the Internet after setup is complete. On the **How will this computer connect to the Internet?** page, click **Skip**.

21. Windows XP Setup displays the **Ready to activate Windows?** page. If you are connected to the Internet, click **Yes**, and then click **Next** button. If you are not yet connected to the Internet, click **No**, click **Next** button, and then skip to step 24. After setup is complete, Windows XP will automatically remind you to activate and register your copy of Windows XP to register your Windows.

22. On the **Ready to register with Microsoft?** page, click Yes to validate your copy of Windows, and then click **Next** button.

23. On the **Collecting Registration Information** page, complete the form. Then, click **Next** button.



24. On the **Who will use this computer?** page, type the name of each person who will use the computer. You can use any names. Then click **Next** button. To add users after setup is complete or to specify a password to keep your account private, go to Control Panel / User Accounts.

25. On the **Thank you!** page, click **Finish**.

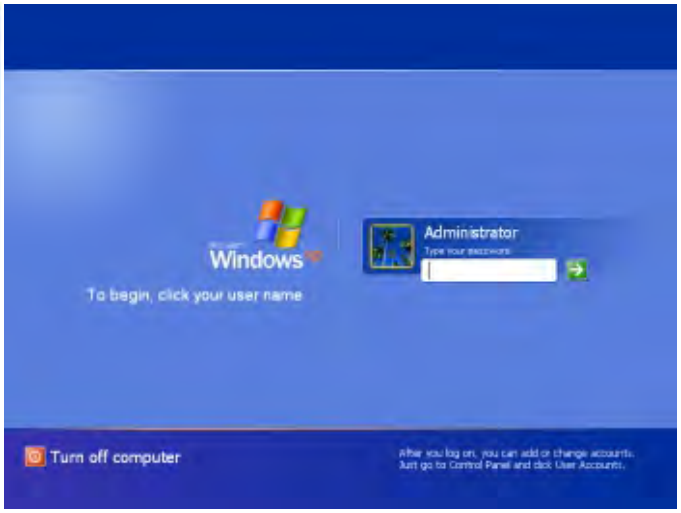
Congratulations! Windows XP setup is complete. You can log on by clicking your name on the logon screen. After logon, take a few minutes to validate your copy of Windows. Validation gives you access to hundreds of free downloads from the Microsoft Download Center. To learn about the new features Windows XP provides, click the Start button, click All Programs, click Accessories, and then click Tour Windows XP.

Practical 3.2

STARTUP PROCEDURE OF WINDOWS

Following are the steps to start up Windows:

- Turn on the computer (by pressing power button)
- Windows XP starts loading its files from Hard Disk to RAM.
- After successful loading, Windows log on welcome screen appears.
- Type password against username in the assigned text box and press **Enter** key.



Windows desktop screen will appear as shown in screenshot on right side.

Practical 3.3

LAUNCHING THE START MENU AND OPENING PROGRAMS/ PROGRAMS SUBMENU

Introduction

Windows Start button is on the left corner of Taskbar. It is used to open the Start Menu. The Start Menu is the main gateway to computer's programs, folders, and settings. It is called a Menu because it provides a list of choices.

Use the Start Menu to do these common activities:

- Start programs
- Open commonly used folders
- Search for files, folders, and programs
- Adjust computer settings
- Get help with the Windows operating system
- Turn off the computer
- Log off from Windows or switch to a different user account

To Launch Start Menu

- A single left-click on the **Start** button opens the Start Menu. OR Press Windows key on the keyboard to open the Start Menu.

- If we right-click on the Start button, a local menu appears. Click on **Open** to open the Start Menu folder as a window on the desktop. OR
- Click on Start button with Left mouse button. A menu popping up appears as shown in figure on previous page.

The left side of the Start Menu contains the programs list, which is divided into two given sections. The two sections are separated by a line.

- "Pinned list" (at the top).
- Frequently Used list.

To access Programs/programs submenu

- The desktop can be used to launch programs. Another way to launch the programs is through the Start Menu at the bottom of the Desktop.
- Point the mouse pointer on the Programs submenu. It will display list of installed programs.
- Select the desired program from the list and click to open it. Program will open.

Practical 3.4

HOW THE TASKBAR IS CUSTOMIZED?

Introduction

Taskbar is the long horizontal bar at the bottom of desktop. 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:

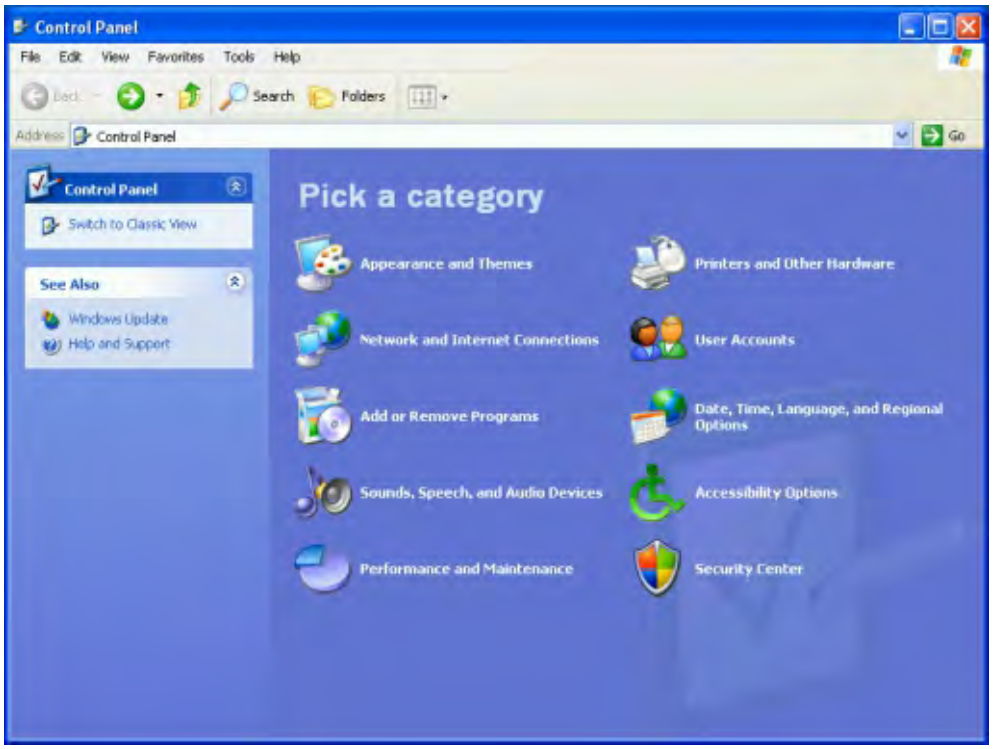
- Start button 

, which opens the Start menu.
- Quick Launch toolbar, which lets you start programs with single click.
- Middle section shows the opened programs and documents and allows to quickly switch between them.
- Notification area includes a clock and icons of different applications.

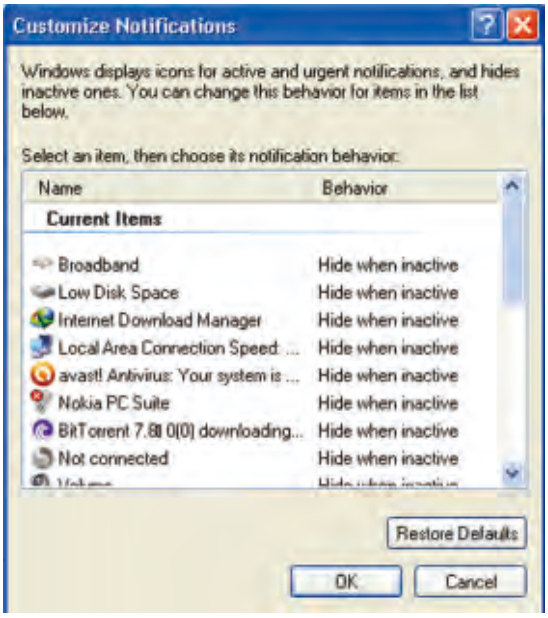
To customize the Taskbar and Start menu:

There are many ways to customize the taskbar and Start Menu. For example, you can move the entire taskbar to the left, right, or top edge of the screen. You can lock the taskbar, make the taskbar auto-hide, keep the taskbar on top of other Windows, hide inactive icons, show/hide quick launch and show/hide the clock.

- Open the Control Panel (located in Start Menu).
- Under **Pick a Category**, click **Appearance and Themes**.



- Under **Pick a Control Panel icon**, click **Taskbar and Start Menu**.
- **Taskbar and Start Menu Properties** dialog box opens with the **Taskbar** tab displayed.
- Use the check boxes as shown in screenshot given below to customize the appearance of taskbar and click **OK**.
- If we select the checkbox of Hide inactive icons, the Customize button becomes active. If we click on customize button the Customize Notifications dialog box appears as shown in screenshot given below on right side.



Introduction

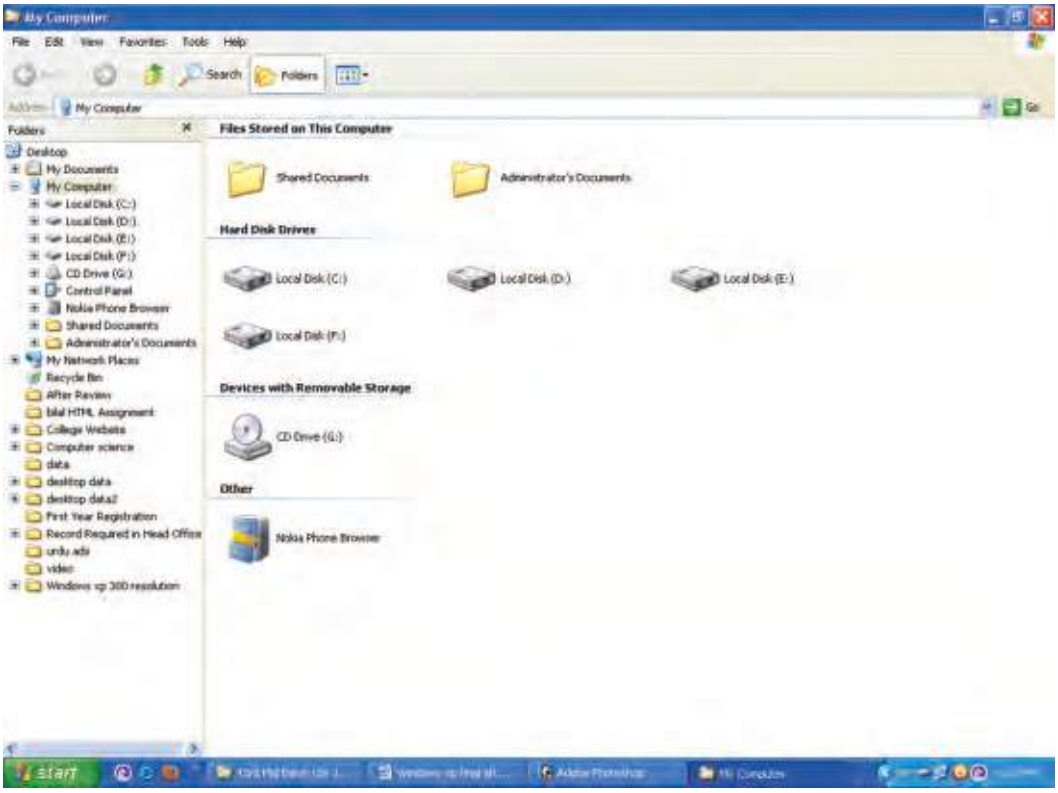
A program used to explore the contents of computer is called windows explorer. It offers a fast, easy way to view, copy, delete, move, etc., the folders and files found on all disk drives. Think of it as one really big filing cabinet. It is important to note that the Windows Explorer application is different from Internet Explorer. Windows Explorer lets you explore/view files on your computer, while Internet Explorer allows you to connect to other computers via the World Wide Web.

To open Windows Explorer, do the following:

- Click the Windows **Start button**, and then select **All Programs** button.
- Select the **Accessories** button.
- Click on **Windows Explorer**.

Other ways to open Windows Explorer, most of them much easier than that:

- If your keyboard has a "Windows Key", then **Windows key+E** opens up Windows Explorer. OR



- Right click on **My Computer**, and click on **Explore**. OR
- Click on **Start**, then **Run**, and enter a folder name in text box, like "C:\", and click OK - this will open up Windows Explorer. OR
- Simply open any/required window and click Folder button in the toolbar.

Practical 3.6

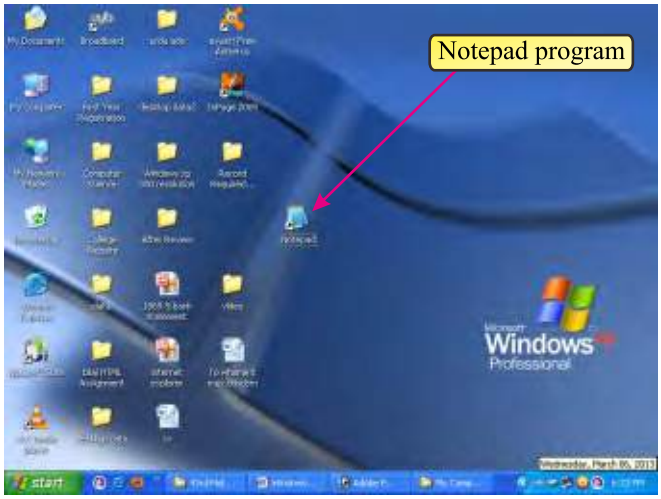
OPENING A WINDOW/PROGRAM FROM DIFFERNT LOCATIONS

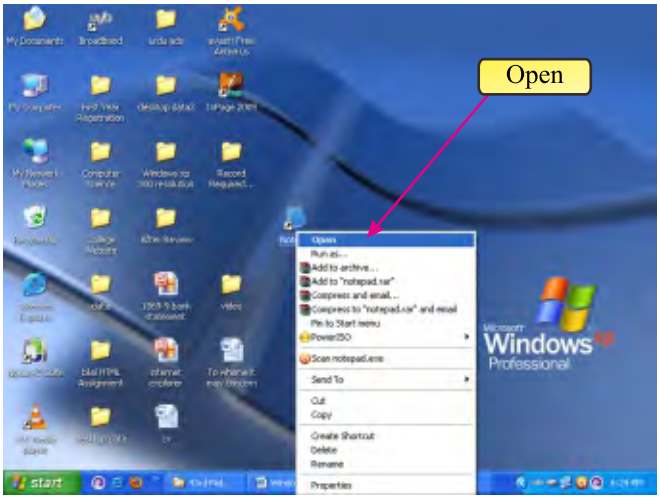
Opening a program from the Desktop

For example, to open a Notepad, follow these steps:

Method 1: Double-click the program icon as shown in left screenshot.

Method 2: Right-click on the program icon and select Open as shown in right hand side screenshot.

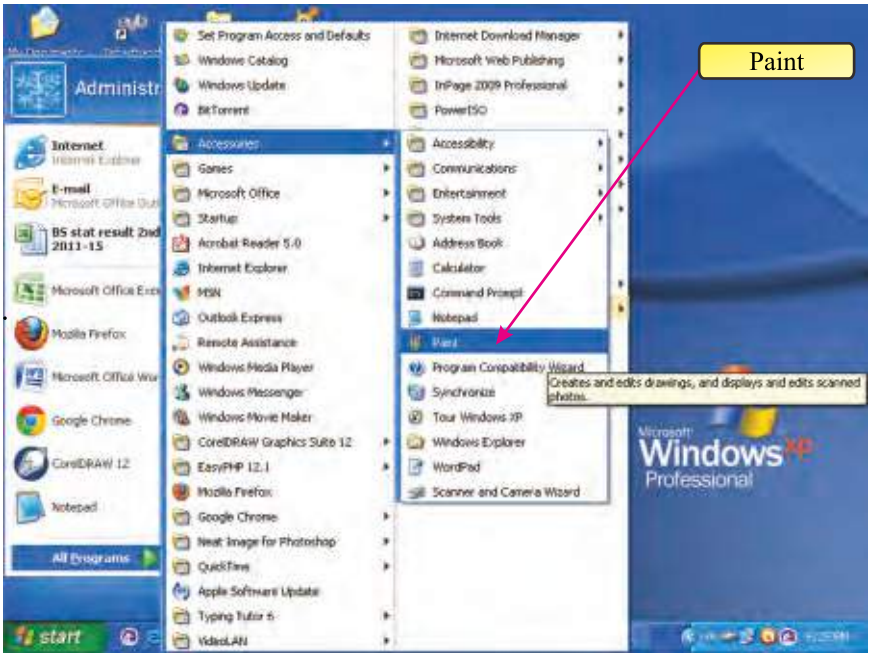




Opening a program from the Start menu

For example, to open Paint program follows these steps:

- Click **Start** button.
- Select **All Programs** option.
- From Program Menu select **Accessories**.
- Select **Paint** from Accessories.

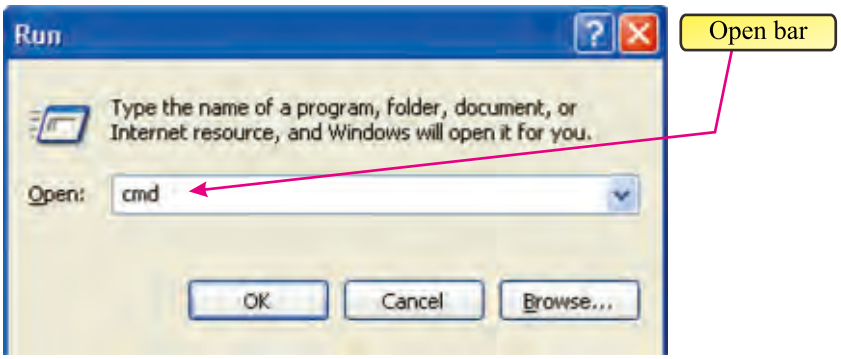


Opening a program from the RUN Command in Start Menu

For example, to open Command Prompt follows these steps.

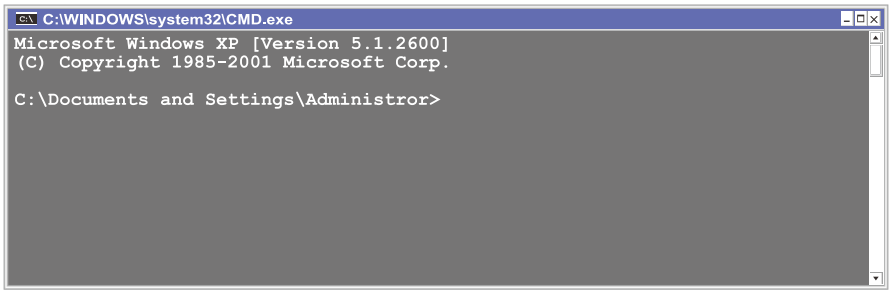
- Select the RUN Command from Start menu.

- Write the name of program (e.g., cmd) in the Run window Open bar.



Run window

- Command Prompt will open as shown below.



Practical 3.7

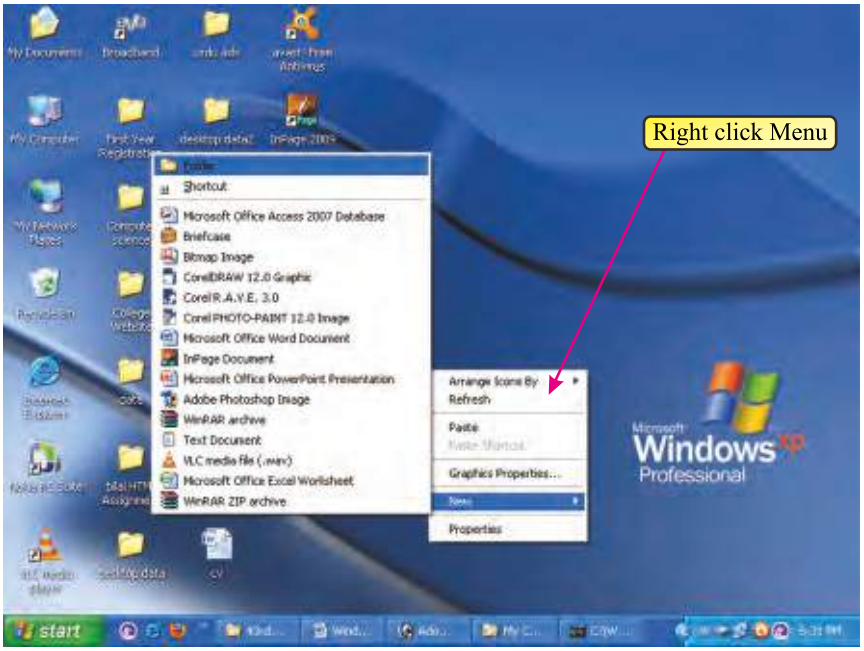
CREATING A NEW FOLDER

Creating a folder using right click

You can easily create a Folder ABC on the desktop by right click. The steps are given below:

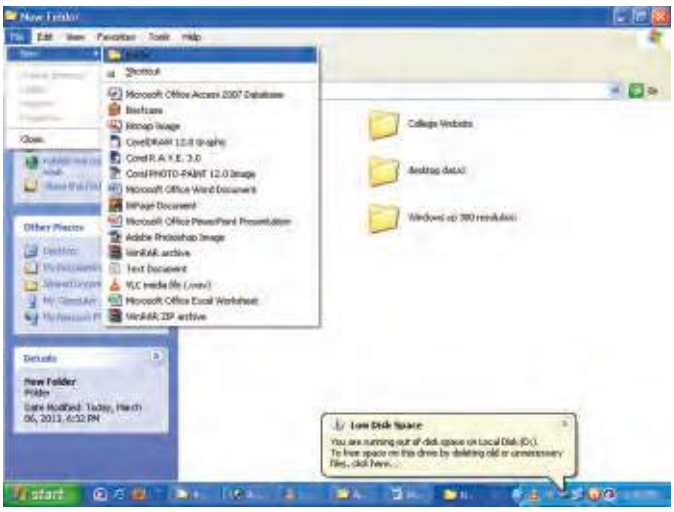
- Right click anywhere on the desktop (A pop-up menu will appear).
- Select **New** option from the Menu.
- Click **Folder** option from the New submenu, a folder will be created with 'New Folder' name option.
- Give 'ABC' name to the folder.

  Press **Enter** key. The new folder gets created with the desired name.

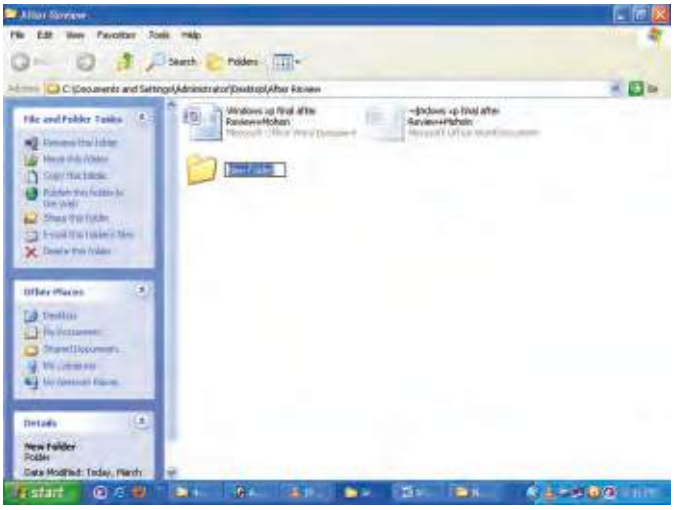


Creating a folder using Windows Explorer

You can create a new folder from Windows Explorer easily. Follow these steps:



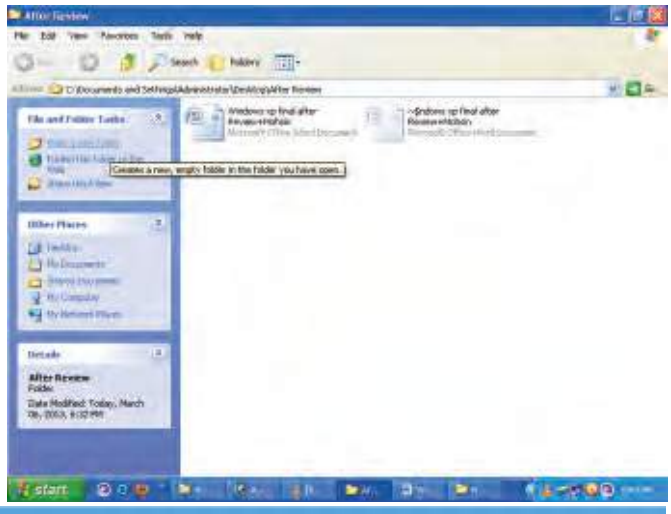
- At first, open Windows Explorer. To open Windows Explorer use shortcut key **(Windows + E)** or follow the path **Start > All Programs > Accessories > Windows Explorer**.
- Now, navigate to the place where you want to create new folder.
- Then click on File Menu in the Menu Bar, you will see a drop down menu.
- From the drop down menu, click on **New** and then click **Folder** as shown in screenshot.



- A folder appears which is highlighted as **New Folder**. Now type your desired folder name as shown in screenshot.
- After finishing to type your folder name, press **Enter** key on your keyboard or simply click the blank area.

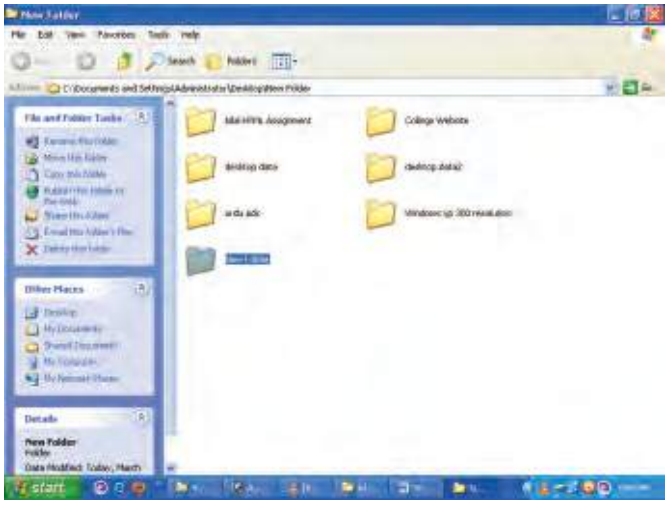
Creating a Folder using Navigation Tab

You can create New Folder through this method to Windows operating systems. Follow these instructions:



- At first, open **My Computer** and navigate the location where you want to create New Folder.

- Now, left click on **New Folder** option from the File and Folder Tasks menu in your Common Tasks toolbar (it's located on the left side of your screen).
- Then, you will see there is a new folder of your desired location which is highlighted as **New Folder**. Now type your own desired folder name.
- After finishing, press **Enter** key on your keyboard.

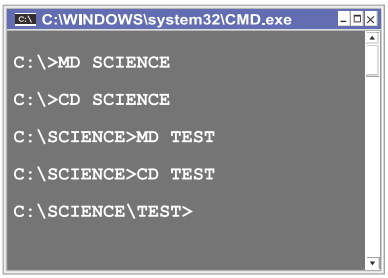


Creating a folder using command prompt

To create a folder (directory) from the command prompt follow these steps:

- Click Start then Run and type cmd. Now press Enter key to open command prompt.
- Now, type the command "MD Folder Name" in the command prompt:

  Here, Folder Name will be our own desired folder name.



HOW TO SEARCH FOR A FILE OR FOLDER

Introduction

Sometimes, we have created a file or a folder and just can't remember where it is. There are a lot of places to look for a single file. You may never find it, even with the help of Windows Explorer. One thing you can do to track down a missing file or folder is to use the Windows Search tool.

To search for a file or folder follow these steps:

- Click **Start** button on the taskbar.
- From the menu that pops up, locate the **Search** option and Click on it.
- When you click on Search, you'll get the window as shown in Fig3.8.1.
- Under "**What do you want to search for"** click the option "**All files and folders**".

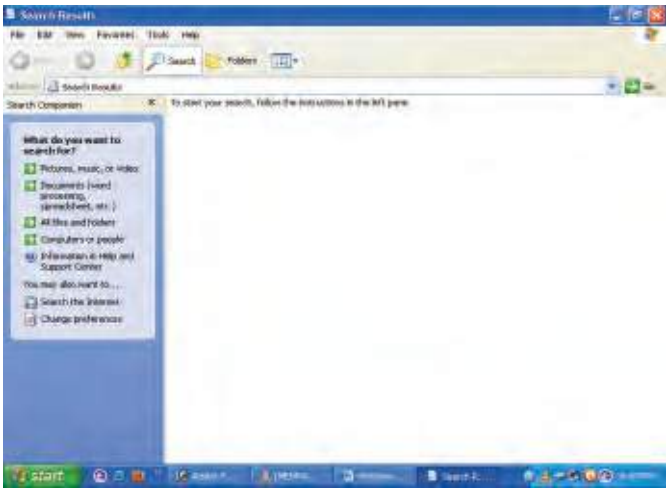


Fig. 3.8.1

- Type part of or the entire name of the file or folder, or type a word or phrase that is in the file.
- In the **Look in** box (Fig 3.8.2), click the drive or drives, folder, or network location that you want to search.

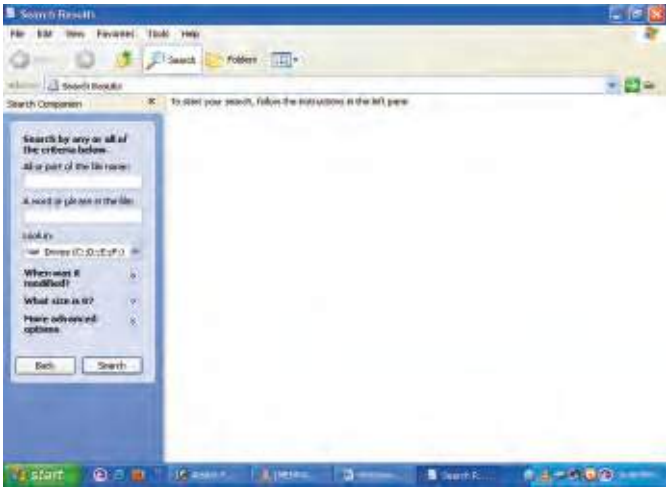


Fig. 3.8.2

- Choose one of the following options:

a) Click **When was it modified?** to look for files that were created or modified on or between specific dates.

b) Click **What size is it?** to look for files that are of a specific size.

c) Click **More advanced options** to specify additional search criteria.

- Click **Search**. Windows XP will start the search, and you'll see files and folders as shown in Fig 3.8.3.
- In Fig 3.8.3 we're searching for a file. Windows finds any files or folders with our search term in it, it will display them to the window on the right.

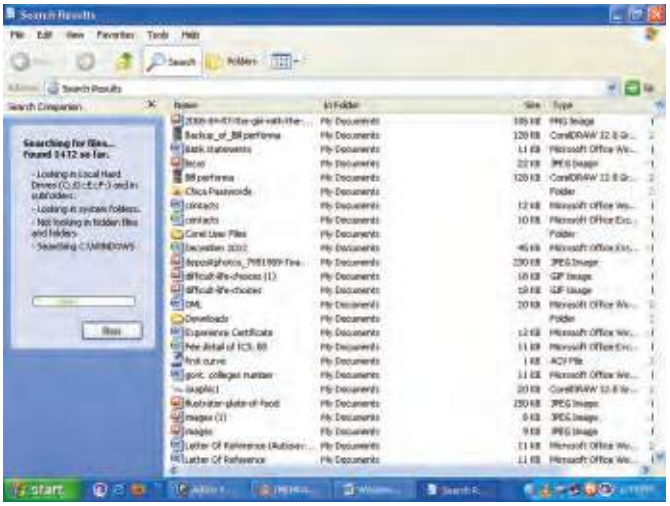


Fig. 3.8.3

- In Fig. 3.8.4 XP has found files/folders with our search term in the name.
- Even though we typed all our letters in lowercase, the folders found have capital letters in them. In others words, the search is not case sensitive.

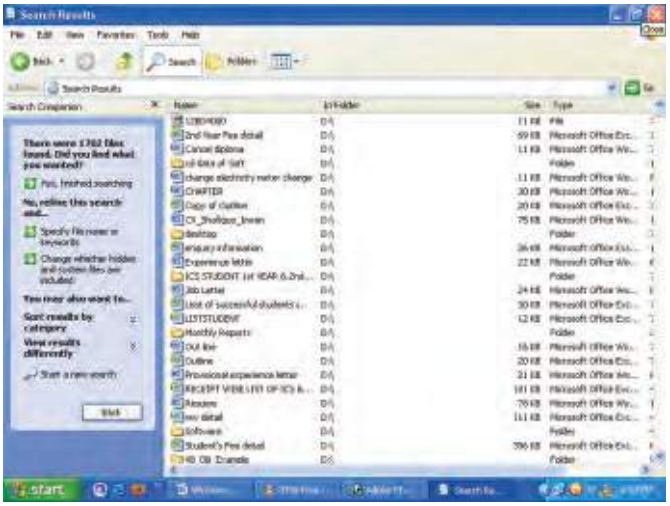


Fig. 3.8.4

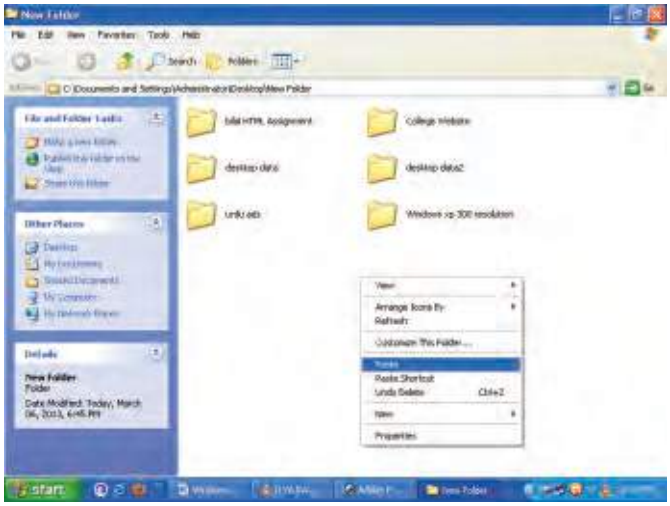
Practical 3.9

TO CUT/COPY AND PASTE A FILE/FOLDER FROM ONE LOCATION TO ANOTHER

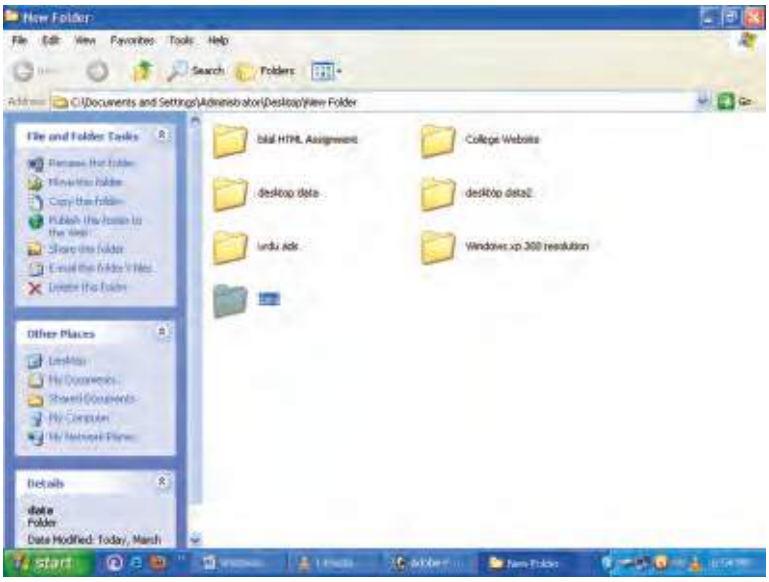
To copy and paste a file / folder from one location to another, do the following steps:

- Select the file/folder to be copied and right click it.
- Select the Copy command from the drop down menu. The folder will be copied.
- Move the mouse pointer to the destination folder/location and right click it.
- Select the Paste command from the drop down menu.
- The folder will be pasted.

Copying a folder



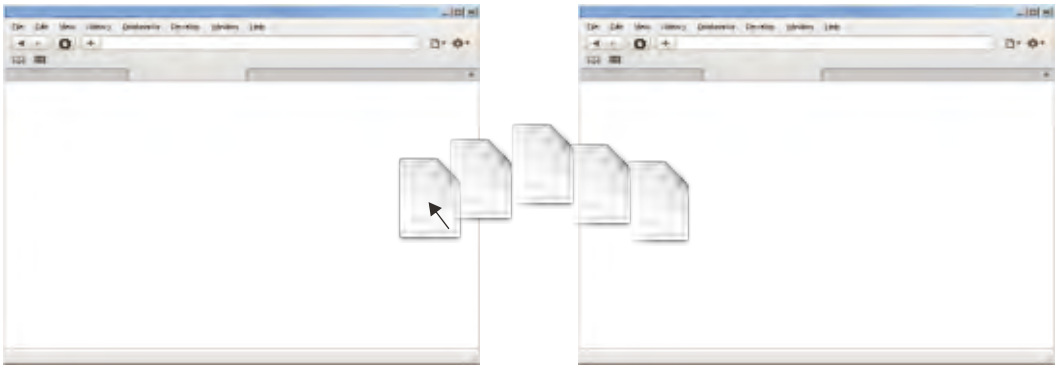
Pasting a folder



A pasted folder

To copy a file/folder to another folder/ location by Dragging and dropping, do the following steps:

- Move the mouse pointer to the file to be copied and keep on pressing the left mouse button on it.
- Drag the file/folder by moving the mouse, while the left mouse button is still pressed, to the destination window.



Dragging and dropping a file

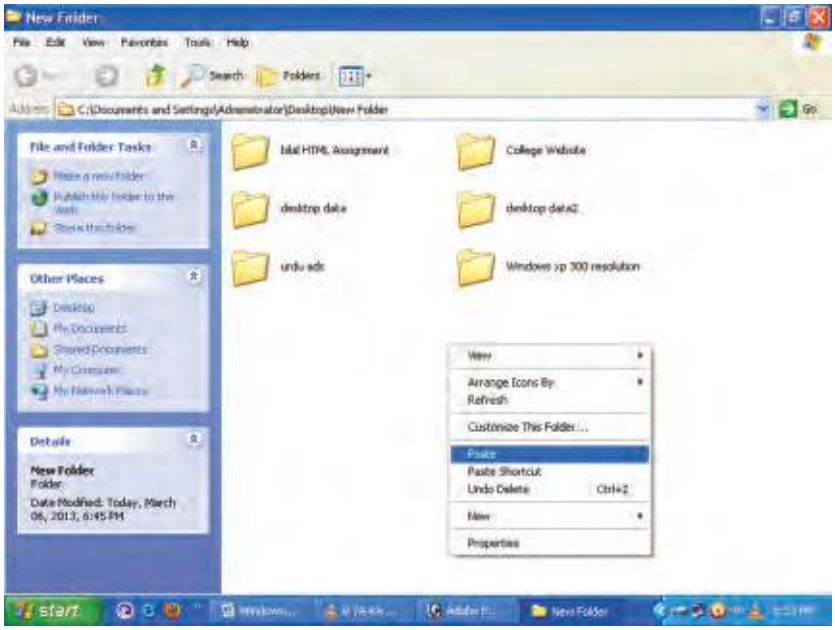
- Release the button.
- The file/folder is dropped and copied to the new folder/location.

For Cutting/Moving a file/folder and pasting it to another folder/location, do the following steps:

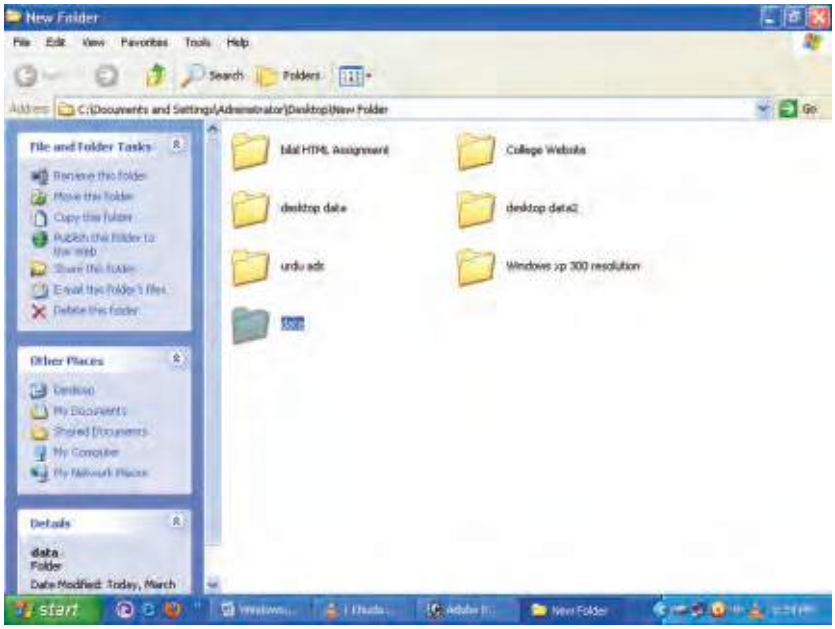
- Select the file/folder to be cut and right click on it.
- Select the **Cut** command from the menu.

Cutting a folder

- Go to the destination folder/location and right click on it.
- Select the Paste command from the menu. The folder will be pasted.



Pasting a folder



A pasted folder

Note:

Following keyboard shortcuts may be used while cutting, copying and pasting files/folders.

To Copy Ctrl+C

To Cut Ctrl+X

To Paste Ctrl+V

Practical 3.10

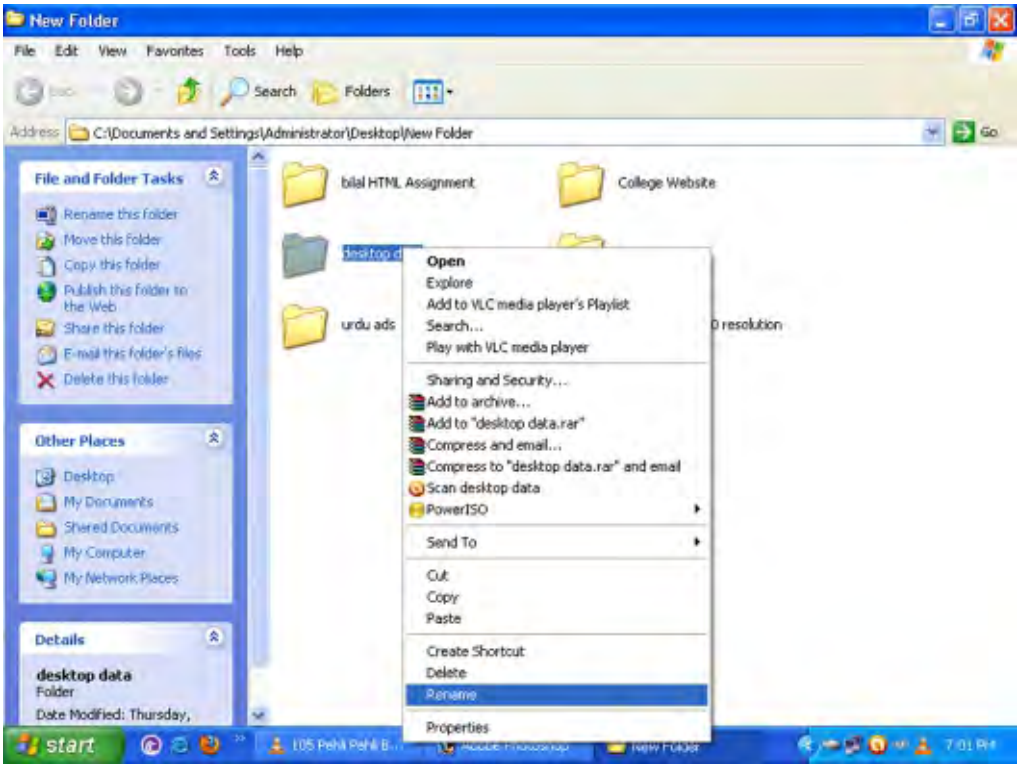
RENAMING A FILE OR FOLDER

Introduction

Windows users can rename their files and folders by using one of the follwing methods.

Method No 1:

1. Select the file or folder you want to rename.
2. Right-click the file and click **Rename** from the menu that appears.
3. Type in the new name and press **Enter** key.



Method No 2:

1. Select the file or folder you want to rename.
2. Press the F2 key on the keyboard.
3. Type in the new name and press **Enter** key.

Method No 3:

1. Select the file or folder you want to rename.
2. Click **File** at the top of the Window and select Rename from the list of available options.
3. Type in the new name and press **Enter** key.

Method No 4:

1. Select the file or folder you want to rename by clicking on the file.
2. Once highlighted, wait a few seconds and click the file again. The name of file/folder will be highlighted.
3. Type in the new name and press **Enter** key.

Note:

If user don't wait long enough and click the file or folder quickly it will open the file or folder.

Practical 3.11

HOW TO USE RECYCLE BIN

Introduction

The Recycle Bin is a folder that stores deleted files and folders. We can restore the files and folders from the Recycle Bin which have been deleted accidently or intentionally.

- Find the file you want to delete.
- Highlight the file clicking on the file or folder.
- Press the "**Delete**" key. A confirmation dialogue box will open.
- Confirm by clicking "**Yes**" will automatically send the file to the Recycle Bin. Press "No" if you've made a mistake.

OR

- Find the file you want to delete.
- Right click on it.
- A pop-up menu will appear. Simply click the "**Delete**" option from the menu.
- A confirmation dialogue box will open.
- Confirm selection by clicking "**Yes**" will automatically send the file to the Recycle Bin. Press "**No**" if you've made a mistake.
- Right-click on the Recycle Bin, from desktop. Open or Explore the Recycle Bin to see the contents.
- Click "**Empty Recycle Bin**" permanently delete all files .

Restore Deleted Files / Folders

If user accidentally deleted the file, user can recover it through steps as below:

- Double-click on the Recycle Bin in Windows.
- Right click the file.
- Select **restore** option to put the files on their original location.

Practical 3.12

HOW TO SHUT DOWN AND RESTART THE COMPUTER

NOTE:- Never switch off the computer, you may lose unsaved information and damage computer's hard disk drive.

To shut down the computer properly, follow these steps:

- To shut down the computer click on the **Start** button (start). The Start Menu appears as shown below.

- On the Start Menu, click on the red power button as shown in the picture. This will open up the power options dialog box.

- To shut down the computer, click on the **Turn Off** button and to restart the computer click on the **Restart** button.

Practical 3.13

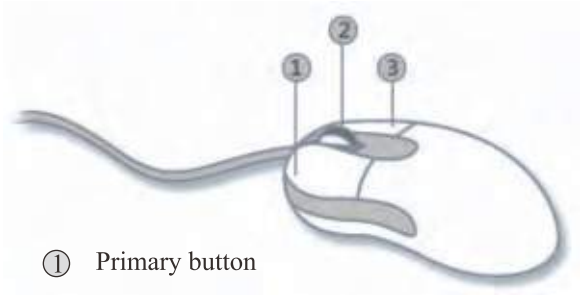
HOW TO USE A COMPUTER MOUSE

Holding and moving mouse properly can help to avoid soreness or injury to your wrists, hands, and arms, particularly if we use computer for long period of time. Here are some tips to help avoid problems:

- Place your mouse leveled with the elbow. Your upper arms should fall relaxed at your sides.
- Don't squeeze or grip mouse tightly. Hold it lightly.
- Move the mouse by pivoting arm at elbow. Avoid bending your wrist up, down, or to the sides.
- Use a light touch when clicking a mouse button.
- Keep your fingers relaxed. Don't allow them to float just above the buttons.
- When you don't need to use the mouse, don't hold it.
- Take short breaks from computer use in every 15 to 20 minutes.

Using mouse

Mouse is used to interact with items on computer screen. We can move objects, open them, change them, delete them and perform other actions, all by pointing and clicking with mouse.



① Primary button

② Scroll wheel

③ Secondary button

Basic parts

A mouse has two buttons: a primary button (usually the left button) and a secondary button (usually the right button). The primary button is the one you use most often. Most mice also include a scroll wheel between the buttons to help scroll up and down through documents and web pages more easily.

Holding and moving the mouse

Place the mouse beside keyboard on a clean, smooth surface, such as a mouse pad. Hold the mouse gently with your index finger resting on

the primary button and your thumb resting on the side. To move the mouse, slide it slowly in any direction. Don't twist it—keep the front of the mouse aimed away from you. As you move the mouse, a pointer on your screen moves in the same direction. If you run out of room to move your mouse on your desk or mouse pad, just pick up the mouse and bring it back closer to you.

Pointing, clicking, and dragging

Pointing on an item on the screen means moving the mouse so that the pointer appears to be touching the Icon. When the user points on something, a small box often appears that describes the item.

Most mouse actions combine pointing with pressing one of the mouse buttons. There are four basic ways to use your mouse buttons: click, double-click, right-click, and drag.

Click (single-click)

To click an item, point to the item on the screen, and then press and release the primary button. Click is most often used to select an item or open a menu. This is sometimes called single-click or left-click.

Double-click

To double-click an item, point to the item on the screen, and then click twice quickly. Double-click is most often used to open items on your desktop. For example, you can start a program or open a folder by double-clicking its icon on the desktop.

Right-click

To right-click an item, point to the item on the screen, and then press and release the secondary button. Right-clicking an item usually displays a list of things you can do with the item.

Drag

User can move items around screen by dragging them. To drag an object, point to the object on the screen, press and hold the primary button, move the object to the desired location, and then release the primary button.

Using the scroll wheel

If mouse has a scroll wheel, user can use it to scroll through documents and web pages. To scroll down, roll the wheel backward. To scroll up, roll the wheel forward.

Customizing mouse

User can change the mouse settings to suit his/her personal preferences. For example, user can change how fast the mouse pointer moves around the screen, or change the pointer's appearance. If user is left-

handed, he/she can switch the primary button to be the secondary button.

To change mouse properties:

- Click on the **Start** button.
- Click on the **Control Panel**.
- In control panel options double click on **Mouse**. The mouse properties dialog box appears as shown below.
- Customize the mouse according to your needs using **Button, Pointers, Pointer Options, Wheel** and **hardware** tabs.

Practical

3.14

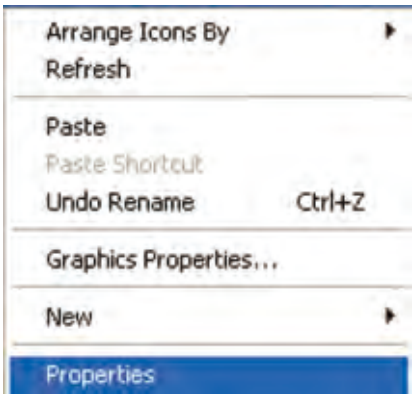
CHANGING DESKTOP BACKGROUND

Introduction

Wallpapers are images that appear in the background on Desktop, behind all icons.

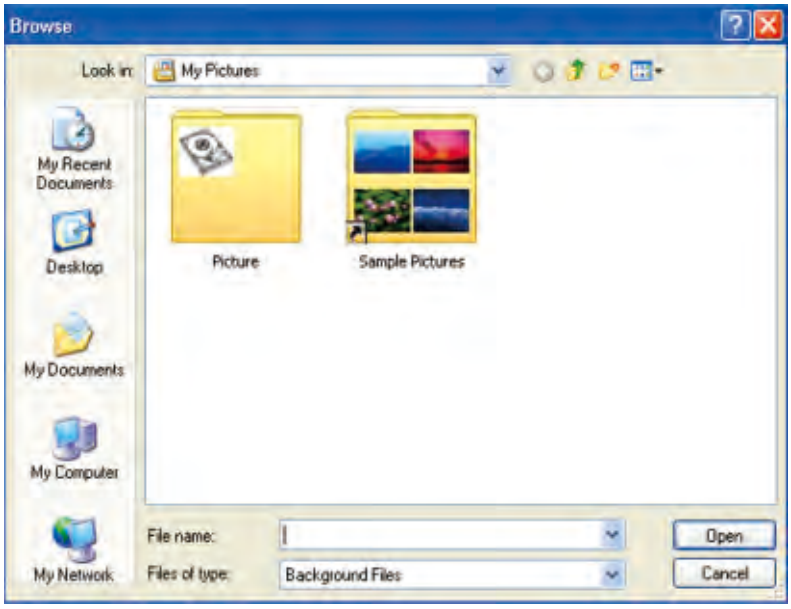
To change your Desktop background, do the following:

- Right click anywhere on the Desktop that is not an icon.
- A pop-up menu appears as shown on the right side.
- Click on **Properties**, with Left mouse button.



- The Display Properties dialogue box appears. There are tabs for **Themes**, **Desktop**, **Screensaver**, **Appearance**, and **Settings**. Click on the **Desktop** tab and the dialogue box will change as shown in screenshot right side.
- There is a list of wallpapers user can use. Click on one to get a preview of what it will look like Scroll up and down to see more wallpapers. If you are satisfied, click the **OK** button to set wallpaper as desktop background.

- User can use his/her own images as desktop background. Users are not limited to the ones on the list. If users have an image somewhere on the computer, and want to use that instead of the ones on the list, they can click the **Browse** button. Doing so will bring up the Browse Dialogue box as shown below.
- Find the background image. The name of the file you have selected will then appear in the File name text box.
- Select the file then click the "**Open**" button to return to the **Display Properties** dialogue box. Click the "**Apply**" button to preview the wall paper on the desktop button then click **OK** button. Your desktop wallpaper will be changed to your selected image.



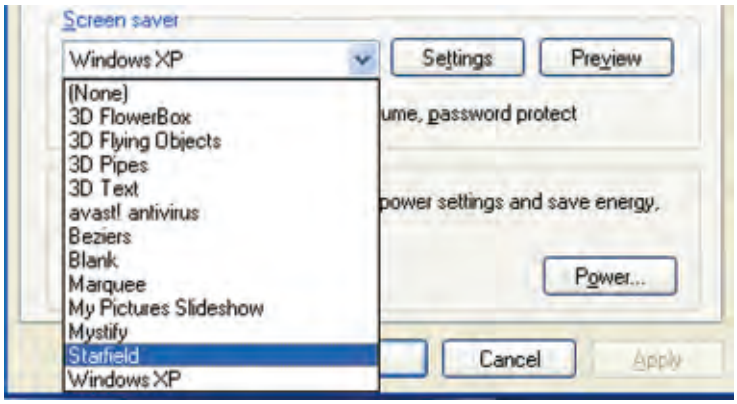
Practical 3.15

USING A SCREEN SAVER

Introduction

A Screen Saver is something that starts when computer has been idle for a set period of time. They are usually some form of animation, or moving imagery.

- Right click anywhere on the Desktop that is not an icon.
- A pop-up menu appears.
- Click on **Properties** with Left mouse button.
- The **Display Properties** dialogue box appears. There are tabs for **Themes, Desktop, Screen saver, Appearance** and **Settings**.
- To pick a Screen Saver for computer, select the **Screen Saver** tab by clicking on the tab **"Screen Saver"** with left mouse button.
- Click on the drop down menu to see a list of available Screen Savers. The one in the screenshot is set to the **Starfield** Screen Saver.



We can see that it also says "Wait 1 minutes". This means that the Screen Saver will start if the mouse/keyboard has not been moved for 1 minutes. You can change this value. The values go from 1 minute to 60 minutes. Click **OK.**

Practical 3.16

TO DISPLAY MY RECENT DOCUMENTS FOLDER ON START MENU AND OPEN RECENTLY USED DOCUMENTS

Introduction

You can quickly open recently used documents in Windows, and can access all of recently used documents in one place, regardless of the application you used to create them. Finding recently used items through Recent Items in Windows XP is the quickest way to open those files.

To Display My Recent Documents Folder, follow these steps:

- Right-click **Start** button and then click **Properties**. Or in the Start Menu right-click on blank area of the Start menu, and then click Properties.
- Click **Customize**.

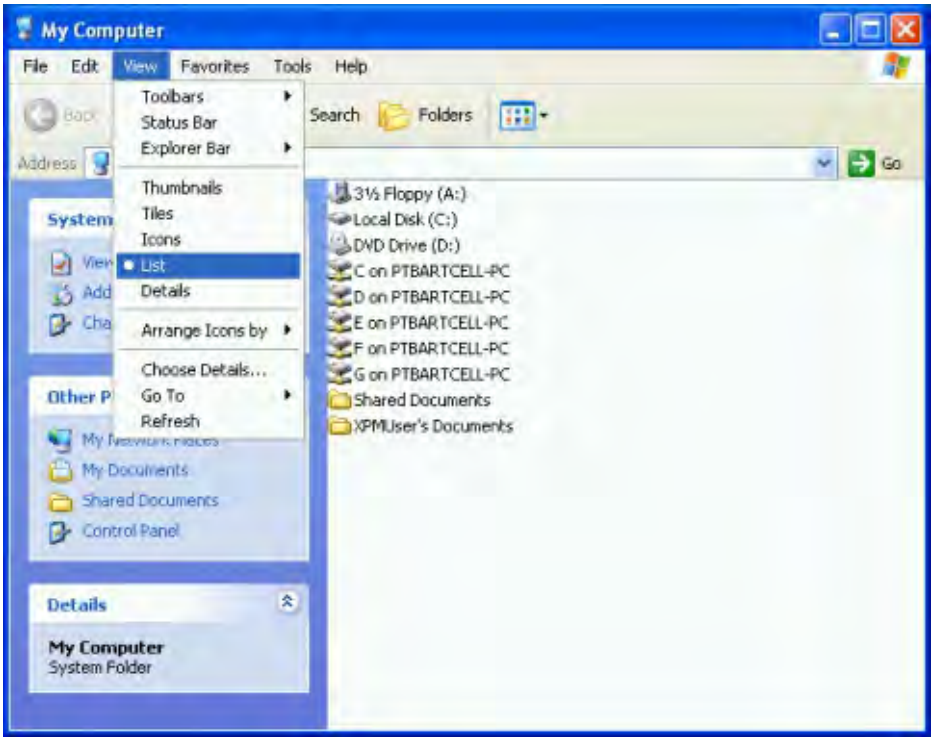
- Click the **Advanced** tab in the new dialog box.
- Under **Recent documents**, click to select the **List my most recently opened documents** check box, click **OK**, and then again click **OK** on previous window. The next time you click Start, the My Recent Documents option is displayed on the Start menu.

To Open Recently Used Documents, follow these steps:

- Click on the **Start** button to open the start menu.
- Point to **My Recent Documents**.
- A drop down menu is displayed.
- Click on the item that you want to open.

HOW TO OPEN AND MAKE SELECTION FROM A MENU

- On the desktop, double click the **My Computer** icon. The My Computer window opens.
- In the My Computer Window, click **Edit** on the menu bar. The Edit menu appears. Some commands are dimmed. This means these commands are not available. This is because these commands are not applicable to the current selection or option.
- Click the **Edit** menu name to close the menu. The menu closes.
- Click **View** on the menu bar to open the View menu.
- On the **View** menu click **List**.
- The items in the My Computer window now appear in a list, rather than icons.
- On the **View** menu, point to **Arrange Icons By**.
- A cascading menu appears listing additional menu choice. When a right-pointing arrow appears after a command name, it indicates that additional commands are available.
- Click anywhere outside the menu to close it.
- Click the close button in the upper right corner of My Computer window to close the window.



Practical 3.18

HOW TO ACCESS CONTROL PANEL AND SET THE TIME AND DATE

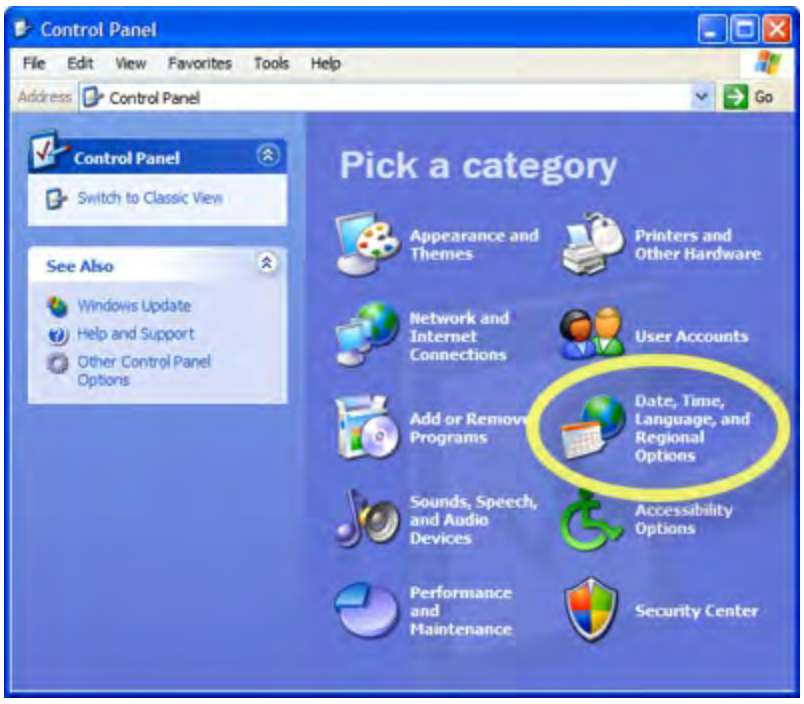
To access the Control Panel, follow these steps:

- Click **Start** button.
- Click **Control Panel**.

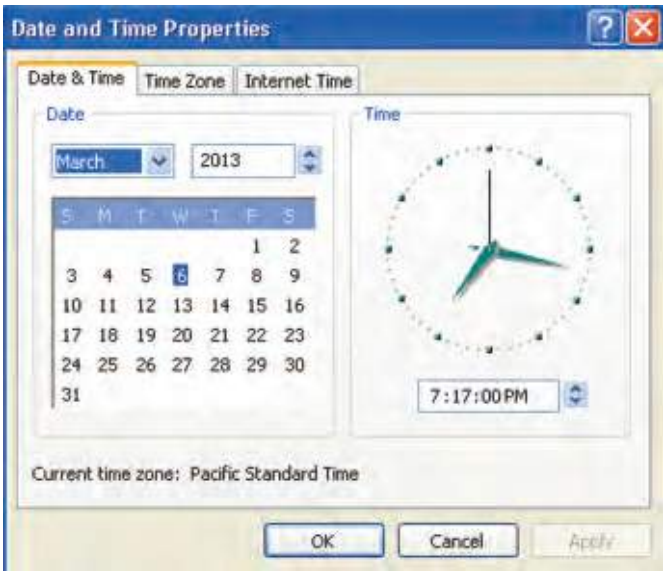
  If your computer is set up in Classic view using the more familiar Start menu:
- Click **Start** button.
- Point to **Settings**.
- Click **Control Panel**. **OR**
- Type Control Panel in the Address dialog box found on any Windows XP window. **OR**
- Use many folders feature a link to the Control Panel in the See Also dialog box (only in XP view).

To change the time and date, follow these steps:

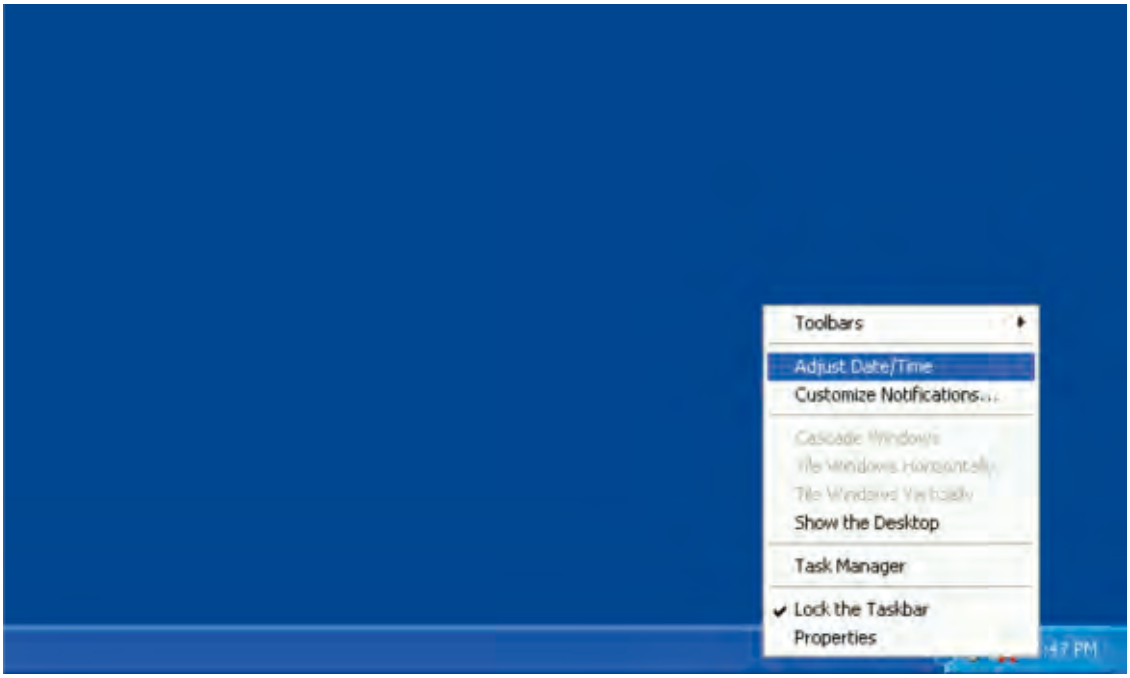
- Open the Control Panel.
- Under **Pick a Category**, click **Date Time**, **Language**, and **Regional Options**.
- Under **Pick a Task**, click **Change the date and time**.



- The **Date and Time Properties** dialog box opens.
- Use the drop down box to set the month and year.
- Click the correct date on the calendar.
- Click and select the current time to make a change.
- If necessary, click the **Time Zone** tab and use the drop down box to change the time zone.
- Click **OK** to accept setting and close the dialog box. **OR Follow these steps**



- Right-click the time in the lower right corner on the desktop.
- Choose **Adjust Date/Time** in the pop-up menu.
- The **Date and Time** Properties dialog box opens.
- Use the drop down box to set the month and year.
- Click the correct date on the calendar.
- Click and select the current time to make a change.
- If necessary, click the **Time Zone** tab and use the drop down box to change the time zone.
- Click **OK** to accept the setting and close the dialog box.



To arrange icons by name, type, date, or size follow these steps:

- Right-click on a blank area on the current window.
- Choose **Arrange Icons** option.
- Click the command that indicates how you want to arrange the icons (by Name, Type, and etc.).
- If you want the icons to be automatically arranged, you have to click **Auto Arrange**.
- If you want to arrange the icons by yourself, you have to click **Auto Arrange** to remove the check mark.
- You can rearrange the icons by dragging them wherever you want.

Some icons are shortcuts to programs on computer. Shortcut icons usually have an arrow in the bottom-left corner.

To delete an icon from the open window, do the following:

- Click the icon, and then drag it to the **Recycle Bin**.
- This action only removes the shortcut, not the program that it is pointing to.
- User can also right-click the icon, and then click **Delete** to remove an icon from your desktop.

Commands in the pop-up menu, are explained as follows:

Name

Arrange icons in alphabetical order by the icon name.

Size

Arrange icons in order of file size. If the icon is a shortcut to a program, the size refers to the size of the shortcut file.

Type

Arrange icons in order of type. For example, if you have shortcuts to several PowerPoint presentations on your desktop, these will be arranged next to each other.

Modified

Arrange icons in the order that the icon was last modified.

Auto Arrange

Automatically arrange the icons whenever dis-assembled in the last user selected order.

Align to Grid

Snap icons into place as designated by an invisible grid on your screen. The invisible grid keeps the icons aligned with each other.

Show Desktop Icons

Hide or show all desktop icons. When this command is checked, desktop icons are displayed on your desktop.

Practical
3.20

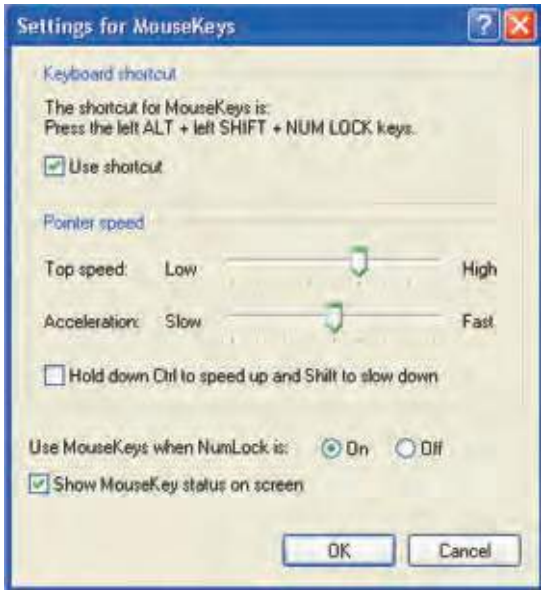
HOW TO USE A MOUSE USING KEYBOARD

Introduction

If you feel difficulties using a mouse or other pointing device, you can control the mouse pointer using the numeric keypad on keyboard. This feature is called mouse keys.

If you find it difficult to move the mouse or wish to have an alternative way to the mouse using the arrow keys on the numeric keypad follow the below steps.

- Click **Start → Settings → Control Panel**.
- Within the **Control Panel** open **Accessibility Options** or **Ease of Access** as shown below in screenshot on left side.
- Click the **Mouse** tab.
- Check the "**Use Mouse Keys**" check box.
- If user wishes to increase the speed or change any other settings of the pointer, click on the **Settings** button.
- **Settings for Mouse keys** dialogue box appears as shown below in screenshot on right side. Set the required options and click **OK**.



- Then activate **Number Lock** (by pressing the NumLock key).
- User should hear a beep sound.

Now user can control the mouse pointer using the arrow keys on the numeric keypad.

After performing the above steps user will be able to use the numeric keypad as a mouse moving up, down, left, right, and along the diagonals. In addition, user may also use the center "5" key as a left click.

Note: User must have the Number lock on for this feature to work by default. This can be changed through the settings.

Practical 3.21

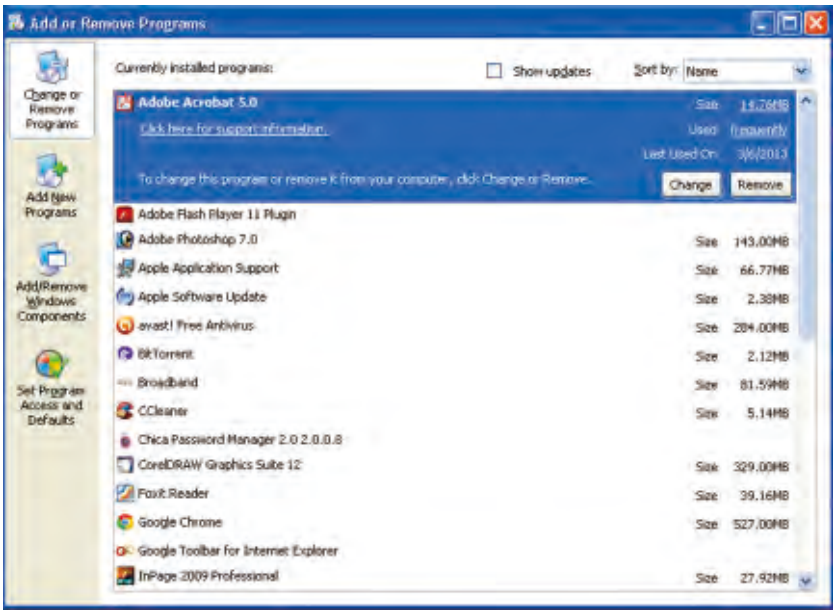
HOW TO ADD/REMOVE PROGRAMS AND WINDOWS COMPONENTS

Introduction

Adding software is usually done with the installation disk or executable files, adding Windows components can be done within the "**Add and Remove Programs**" utility. In order to change or remove a program in Windows XP, user must either use the "uninstall" utility bundled with the program if he/she wishes to remove the program, or more often, use the "**Add and Remove Programs**" option in the Windows XP control panel.

To Remove Programs do the following:

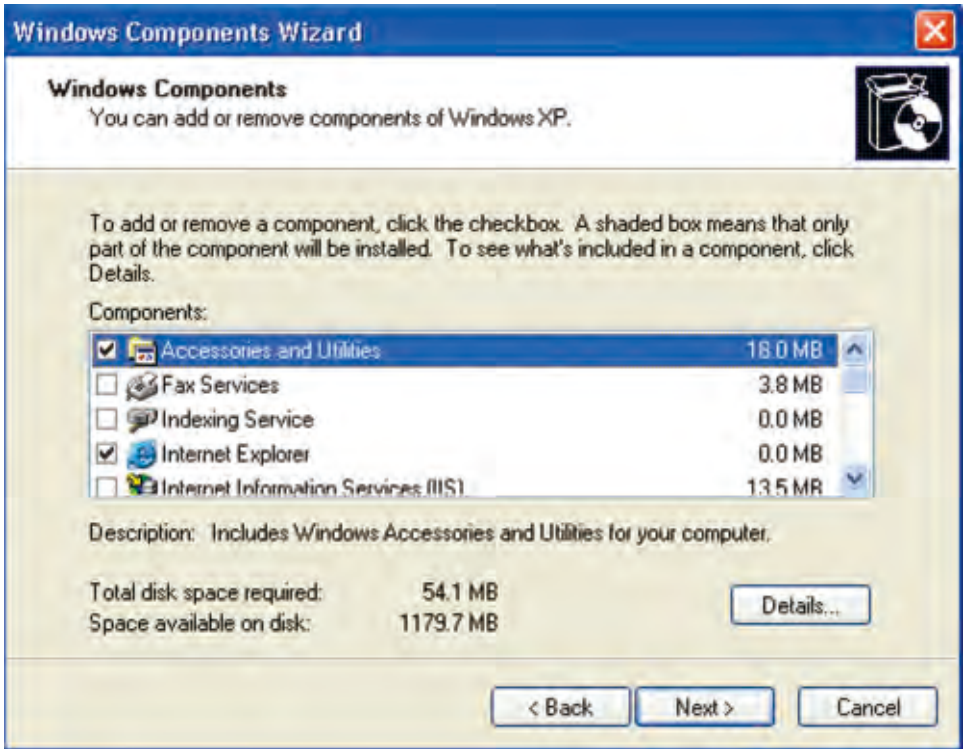
- Click on the "**Start**" button, located in the lower left corner of your screen.
- Click on "**Control Panel**" to access control panel options.
- Open the "**Add or Remove Programs**" utility. After a moment a list of programs will be displayed.
- Locate the program you wish to remove.
- At this point, user can either change the program or remove it. To change the program, click **Change**. To entirely remove it, click **Remove**.
- It is possible that user will receive no further notification of the action from Windows, or it may start a third-party program to assist with removal developed by the software manufacturer.



How to Add/Remove Windows Components

In order to add or remove Windows components, you must be an administrator on your computer.

- Click on the "**Start**" button.
- Click on "**Control Panel**" to access control panel options.
- Open the "**Add or Remove Programs**" utility. After a moment a list of programs will be displayed.
- Click **Add/Remove** Windows Components.
- Follow the instructions in the Windows Components Wizard:



VIVA VOCE

Question 1: What is Windows Operating System?

Answer: Windows Operating System makes a computer system user-friendly by providing a graphical display and organizing information so that it can be easily accessed.

Question 2: Define GUI.

Answer: A GUI is a type of human-computer interface that uses windows, icons, pull-down menus and a pointer and that can be manipulated by a mouse.

Question 3: What is meant by Desktop?

Answer: The Desktop is the first workable screen that appears when the computer is turned on.

Question 4: Define Icon.

Answer: A computer icon is a graphical symbol that represents a program, a command, a document, etc.

Question 5: Define Taskbar.

Answer: The taskbar is a desktop toolbar application that lets a user perform tasks such as switching between open windows and starting new applications.

Question 6: What is purpose of Notification Area?

Answer: Notification area shows the current date/time and the clock. It also displays icons corresponding to services running in the background, such as an Internet connection, anti-virus, etc.

Question 7: What does My Computer folder contain?

Answer: My Computer is the source of all resources in the computer including drives, control panel and data

Question 8: What is purpose of My Documents?

Answer: My Documents is the default personal folder for storing data.

Question 9: How Recycle Bin helps users?

Answer: Recycle Bin keeps files that have been deleted, whether accidentally or intentionally.

Question 10: What is use of Microsoft Internet Explorer?

Answer: Microsoft Internet Explorer commonly abbreviated to IE, is a program used to view Internet sites/pages.

Question 11: Define Window.

Answer: A window is a rectangular area of the screen in which user can view program folders, files, or icons.

Question 12: What does Title bar contain?

Answer: Title bar contains the application/document name and basic window control buttons. It is located at the top of the window.

Question 13: What is menu bar?

Answer: Menu bar enlists different menus such as File, Edit, and Help, etc. It is located along the top of the window under the title bar.

Question 14: What is use of horizontal and vertical Scroll Bars?

Answer: The horizontal and vertical scroll bars enable a user to move up, down, and across your window simply by dragging the scroll box located on the scroll bar.

Question 15: Define a file.

Answer: A file is a collection of data or information that has a name.

Question 16: Define a folder.

Answer: A folder is a name given to a reserved location in computer storage. A folder is used to store and manage files or sub-folders.

Question 17: Define a drive.

Answer: A drive or disk drive is a storage device to store and retrieve data and information.

Question18: Describe control panel.

Answer: Control panel allows us to customize windows environment by doing some settings like adjustment screen display and its color settings, increasing/ decreasing the speed of mouse, and their size etc.

Question 19: Define system installation.

Answer: The process by which programs and data are copied and installed to the hard disk of a computer system is called system installation.

Question 20: What is windows explorer?

Answer: Windows Explorer is a program that allows you to explore the contents of your own

computer. It offers you a fast, easy way to view, copy, delete, move, etc., the folders and files found on all of your disk drives.

Question 21: What are uses of Mouse?

Answer: Mouse is used to interact with items on computer screen. We can move objects, open them, change them, throw them away, and perform other actions, all by pointing and clicking with mouse.

Question 22: Define Wallpaper.

Answer: Wallpapers are images that appear in the background on your Desktop, behind all your icons.

Question 23: Define Screen Saver.

Answer: A Screen Saver is something that is displayed when your computer has been idle for a set period of time.