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DOS AND WINDOWS OPERATING SYSTEMS

BY

SHARAD KUMAR JAIN
DEEPA CHALISGAONKAR
SONIA BAKSHI

ORGANISED BY:

NATIONAL INSTITUTE OF HYDROLOGY
ROORKEE - 247 667 (U.P.)

DOS & WINDOWS OPERATING SYSTEMS

1.0   INTRODUCTION

A working machine requires an extensive set of instructions to control its operations. These instructions are collectively known as software. The instructions which control what a computer does in response to command of a user are normally handled in two sets. One set of instructions controls the system under which the computer operates fixing the detailed movement and handling of information. This set is called the operating system. The second set, known as the application software, allows the user to call up instructions which support a given tasks rather than to the operation of the computer.

System software is a series of programs written to simplify the interface between the programmer and the computer hardware. System software is generally composed of an operating system (OS), language translators, utilities, data management and data communication systems. The OS functions as an office manager for the computer system.

The overall purpose of the OS is to control the activities of the computer system. It serves as the traffic cop, directing and managing computer events. In addition, the OS provides a useful interface that allows the user to concentrate on what he wants to accomplish, rather than on the details of how the computer internally carries it out. Three of the major functions of an OS are overall master control, resource management, and monitoring activities. The tremendous demand for computing power, the need for increased reliability, and the decreasing price of hardware have led to the design of computer systems that have multiple processors and the OS for these machines.

Some popular operating systems are MS-DOS, OS/2 and UNIX. While there hasn't been any official committee that has specified industry parameters, several de-facto standards for microcomputer OS have developed. A de-facto standard is one that vendors informally accept, generally because it has come to dominate a market segment of the business. For the PCs, it is the DOS operating system. In some computers, OS is being implemented in firmware, as permanently coded instructions within a ROM.

A critical point to understand is that application programs or software packages such as payroll, word processing, and spreadsheet are designed for use with a specific OS. In turn, most OS are designed for use with a particular microprocessor. In general, the application software is not portable. That is, it cannot be used with just any computer system. However, efforts are bring made to develop systems such that the applications can be ported across a range of platforms. In the following, MS-DOS and WINDOWS operating systems shall be discussed in detail.

2.0   MS-DOS

MS-DOS or the Micro Soft Disk Operating System consists of a group of programs which has the following functions:

- to monitor commands given by the user to the computer,
- to load and execute programs specified by the user,
- to manage the devices attached to the computer,
- to manage the files of data and programs that the computer will work with.

The MS-DOS is a single users OS which means that only one user can use the computer at a time. It allows the user to enter the commands in upper case letters, lower case letters or a combination of both. All the DOS commands are terminated by [Enter] key. The important commands of DOS are described below :

ATTRIB Command

This command allows to set the read attributes of a file to read-only or to display the attributes of a file. The syntax is :

[path]ATTRIB [+R ¦ -R] [+A ¦ -A] [+S ¦ -S] [+H ¦ -H] [path]filename.ext /S

where,

[path] before ATTRIB specifies the path of the ATTRIB command file.

+	Sets an attribute.
-	Clears an attribute
R	Read-only file attribute
A	Archive file attribute
S	System file attribute
H	Hidden file attribute
/S	Processes files in all directories in the specified path
filename.ext	File whose attributes are to be modified.

BACKUP Command

This command backs up one or more files from a disk to another disk. The drive specifiers of the disks must be different. The syntax is :

[path]BACKUP d:[path]filename d: [/S][/M][/D:mm-dd-yy]

where,

[path] before BACKUP specifies the path of the BACKUP command file.

d:[path]filename specifies the filenames to be backed up.(Source)

d: specifies the drive that will contain the backed up files.(Destination)

/S is used to backup all the files in all the subdirectories in addition to the files in the specified directory.

/M is used to backup files that have been modified since the last backup.

/D is used to back up files that have been modified on or after the specified date. The format of the date specified will be mm-dd-yy.

CD Command

This command changes the working directory. The syntax is :

CD <directory_name>

e.g.

CD \IRCC

will set the working directory as \IRCC.

CHKDSK Command

It shows the space available on a hard disk or floppy. The syntax is:

CHKDSK

CLS Command

This command clears the screen.

COPY Command

This command copies the contents of one file to the other file. The syntax is:

COPY <file_one> <file_two)

e.g.

COPY ABC.EXT XYZ.EXT

As a result of the above command there will be two files in the directory with same contents but with different names ABC.EXT and XYZ.EXT.

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DATE Command

This command is used to change the date known to the DOS. The syntax is:

DATE [mm-dd-yy]

where,

mm-dd-yy specifies the date in month-day-year format.

DEL or ERASE Command

It deletes selected files. The syntax is:

DEL <filename.ext>

or

ERASE <filename.ext>

e.g.

DEL RAJEN.BAK
will delete the file RAJEN.BAK from the current directory.

DELTREE Command

This command can be used to delete a directory along with all the files and subdirectories. The syntax is :

DELTREE c:\fortran

DIR Command

It gives the information about the file like, file name, extension, size of the file in bytes and date and time the file was last edited. e.g.

DIR
will display all the file in current directory.

DIR/P
will display directory, pausing after every screenful to enable the user to examine the list.

DOSKEY Command

This command loads the DOSKEY (a memory resident program) in the memory. Doskey can be used to recall/ edit the previously used commands by using the arrow keys on the keyboard. To load Doskey, at the DOS prompt type :

[path]DOSKEY

MD Command

This command is used for creating a directory in the current directory. The syntax is:

MD <Directory name>

e.g.

MD IRCC
will create a subdirectory IRCC in the current directory.

PATH Command

This command sets specified directories for commands or batch files that were not found by a search of the current directory. The syntax is :

PATH [path1;path2.......]

A list of drives and path names, separated by semicolons can be specified.

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PRINT Command
This command prints a file. The syntax is :

PRINT <filename >

PROMPT Command
This command is used to set a new DOS prompt. The syntax is :

PROMPT [prompt text]

RD Command
This command is used for deleting a directory or sub directory. The syntax is:

RD <directory name>

The directory being deleted should not contain any file i.e. the directory should be empty.

RENAME Command
It changes the name of selected file. The syntax is:

RENAME <oldfile_name> <newfile_name>

e.g.

RENAME ABCD.FOR KKK.FOR
will rename the file ABCD.FOR to KKK.FOR.

RESTORE Command
This command restores one or more backup files from a disk to another disk. The syntax is :

[path]RESTORE d:[/S]

where,

[path] is the path of the RESTORE command file.
d: is the drive that contains the backup files.
/S is used to restore all files in all the subdirectories in addition to the files in the specifies directory

SYS Command
This command transfers the operating system files from the first drive specified to the second drive specified. The syntax is :

[path]SYS d:

where,

[path] before SYS specifies the path of the SYS command file and
[d:] specifies the disk drive where the operating system files are to be transferred

TIME Command
Whenever any file is created or modified, the time of creation/modification of that file is recorded in the system. This command permits to change the time known to the system. The syntax is :

TIME [hh:mm:ss]

where, hh specifies the hours, mm specifies the minutes and ss specifies the seconds.

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TREE Command

This command displays all of the directory paths found on the specified drive, and optionally lists the files in each subdirectory. The syntax is:

[path]TREE d:][/F]

where,

[path] before TREE specifies the path of the tree command file

[d:] specifies the drive whose directory paths are to be displayed and

[/F] is optionally used to display the names of the files in the subdirectories.

TYPE Command

It displays the contents of an ASCII file on the screen. The syntax is :

TYPE <filename.ext>

e.g.

TYPE RAJEN.DAT

will display the contents of file RAJEN.DAT on screen.

XCOPY Command

This command copies file (except hidden and system files) and directory trees. The syntax is :

XCOPY source   [destination] [/D:date] [/P] [/S [/E]] [/V] [/W]

where,

source	the files to copy
destination	the location of new files.
/D	copies files changed on or after the specified date
/P	prompts before creating each destination file
/S	copies directories and subdirectories except empty one
/E	copies any subdirectories, even if empty
/V	verifies each new file
/W	prompts the user to press a key before copying

Changing the Drive

To change the drive type the drive name followed by colon(:) sign (without any blank). e.g.
A:
The default drive will be A: now.

Halting the rushing text

When a program puts out many lines of data in rapid succession the user need a way to stop the flow of text so that it can be read before it rolls off the screen. Press [Ctrl] and [S] keys simultaneously for halting the flow of text. Press any key to restart the flow of text.

Copying file from one floppy to other floppy

When system contains only one floppy drive, floppy swapping is necessary, e.g. if a file is to be copied from 'X' floppy to 'Y' floppy. with floppy "X" is in drive A, type the following :

COPY A:<filename> B:
As a result the file <filename> will be copied from floppy X to floppy Y.

For copying the whole floppy, DISKCOPY command is used which also formats the target floppy. The syntax is:
DISKCOPY A: B:
It will format the target floppy and copy all the files from A drive to B drive.

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Copying file from floppy to directory on hard disk

Insert floppy in drive A and type:

COPY A:<filename> c:<directory name>

e.g.

COPY A:*.* c: IRCC

will copy all the files of floppy to IRCC directory.

The user may note that the exact command syntax and behaviour may slightly change from one version of the DOS to other.

MS-DOS Diagnostics and MS-DOS Antivirus Utilities

MS-DOS Diagnostics (MSD) provides the detailed technical information about the computer. MS-DOS Antivirus (MSAV) can protect the data by detecting more than 800 different viruses and removing them from the system. It also includes VSAFE, a memory resident program that monitors the computer and warns of changes that might have been caused by a virus

Configuring the System

To configure the system, the user sets it up so that MS-DOS, hardware and the applications work in the way required. Most of the system's configuration information is stored in two files :

CONFIG.SYS is a text file that contains commands that configure the computer's hardware components (Memory, keyboard, mouse, printer and so on) so MS-DOS and other applications can use them. When the MS-DOS starts, it carries out the commands in CONFIG.SYS file first.

AUTOEXEC.BAT file is a batch program that MS-DOS runs immediately after carrying out the commands in the CONFIG.SYS. The AUTOEXEC.BAT can contain any DOS command that is to be executed when the system is started e.g. commands that define the path, run your favourite menu program etc.

These two files are typically located in the root directory of the boot disk. The commands of the CONFIG.SYS are as follows :

Command	Purpose
break	Specifies whether MS-DOS should check periodically for the CTRL+C or CTRL+BREAK key combination.
buffers	Specifies how much memory MS-DOS reserves for transferring information to and from disks.
country	Sets the language conventions for your system.
device	Loads an installable device driver program that controls a hardware component, such as a mouse or memory board.
devicehigh	Loads an installable device driver into the upper memory area.
dos	Specifies whether MS-DOS will use the high memory area (HMA) and whether it will provide access to upper memory blocks (UMBs).
files	Specifies how many files can be open at a time.
install	Loads a memory-resident program (also called a terminate-and- stay-resident program, or TSR).
lastdrive	Sets the number of valid drive letters.
numlock	Specifies whether the NUM LOCK setting of the numeric keypad is initially on or off.
rem	Indicates that the text that follows is a descriptive remark, not a command. It can also be used to disable a command.
set	Sets the value of environment variables such as PROMPT or TEMP
shell	Configures COMMAND.COM or specifies that a command interpreter other than COMMAND.COM should be used.

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The following is a typical CONFIG.SYS file for a 80386 computer with 2 or more MB of extended memory :

```
device      = c:\dos\setver.exe
device      = c:\dos\himem.sys
device      = c:\dos\emm386.exe ram
devicehigh  = c:\mouse\mouse.sys
buffers     = 20
files       = 40
break       = on
dos         = high,umb
```

3.0 MS WINDOWS 3.1

3.1 INTRODUCTION

The Windows is a GUI (Graphical User Interface) combined with support of standardized methods. Instead of being a full operating system, Microsoft had originally developed Windows as an add-on over MS-DOS. However, the Windows-95 has been developed as a full fledged OS.

3.1.1 What is WINDOWS?

Windows is an operating environment. It can be called user interface methodology where user need not concern himself with how windows work, because the goal of windows application developers is to use the windows environment with more visible continuity. The user can do most of the usual chores by making selections from the menus and need not remember or type the various commands. Extensive on-line help is available to guide him at the various stages.

3.1.2 Why Use WINDOWS?

Some reasons why windows is becoming popular around the world, are:

- It is an easy-to-use, consistent GUI for virtually all programs.
- It is capable of multitasking (running several programs simultaneously). Graphics programs and character based programs can be run concurrently.
- Program Manager can be used to switch easily between multiple program.
- With windows, user can communicate and exchange data between programs without transferring or copying files.
- As file and disk-management are simple and readily available, a user need not close and open programs or use DOS commands to do standard file and disk-maintenance chores.
- Windows can run applications that offer high quality output.
- Many specific purpose and utility programs are bundled with windows. For example, a word processor (Write), a drawing program (Paintbrush), a scheduler (Calendar) etc.

3.1.3 Requirements to Run WINDOWS

Windows runs on two operating modes depending upon hardware configuration.

(i) **For PC 386 enhanced mode:**
A personal computer with a 386 processor or higher having:
  - 640 K conventional memory,
  - 1024 K extended memory,
  - 8-MB of free disk space, 10 MB recommended,
  - One floppy disk drive.

(ii)   **For Standard mode:**
A personal computer with a 286 processor or higher or 386 that has less than 2-MB of free Memory having :

- ○ 640 K of conventional memory,
- ○ 256 K of extended memory,
- ○ 6- MB of free disk space,
- ○ One floppy disk drive,
- ○ A display adapter that is supported by windows,
- ○ A printer that is supported by windows,
- ○ A mouse that is supported by windows,
- ○ A modem if terminal is to be used for windows application.

3.1.4   Running Programs Simultaneously

Depending on available hardware, doing several tasks simultaneously is made easy through windows. For example, when the user switches from painting program to word processor he has to exit the painting program, go to MS-DOS and then start the word processor. Leaving programs can be slow; starting programs usually is even slower. With windows, switching between programs takes small time.

3.1.5   Communication Among WINDOWS Programs

Two major methods for passing information are clipboard and OLE (Object Linking and Embedding). Most of interprogram communication is done through the clipboard.

(i) Clipboard
Clipboard is a buffer or holding area in system memory that contains one piece of data at any one time. Read and write is done through standard commands.

(ii) OLE (Object Linking & Embedding)
OLE is a method for passing data directly between programs without having to use the clipboard. It can be thought of as a telephone network on which one program can dial another program and pass on certain types of information.

3.1.6   Starting and Leaving Windows

(i) Starting windows:
Start the windows with WIN command from the appropriate directory at the MS-DOS prompt:

C> WIN
It automatically runs Program Manager.

(ii) Running programs as you start windows:
If the user provides the name of program on MS-DOS command line, WINDOWS starts that program rather than the Program Manager:

C : > WIN \WORD5\WORD
This will start the windows and then the word program from the WORD5 directory.

(iii) Leaving Windows:
As windows is an operating environment and is not a single program, it requires a DOS shell to run:

○   When user exits from other windows programs, control returns to program manager. When the program manager is in the front window, give the Exit command in the file menu or press Alt-F4.

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○ When user closes Program Manager he is presented with a dialog box confirming that he wants to leave windows. Press OK to leave windows. To resume working in windows press Cancel or Esc key.

3.1.7 Menus and Commands

The most common way to tell windows what user wants to do is by choosing a command from a menu. Every windows program has at least one menu and most have four or more. The menu bar is at the top of the program window. The Program Manager menu bar has the following pull down menus :

```
┌─────────────────┐
│  ○ File         │
│  ○ Options      │
│  ○ Window       │
│  ○ Help         │
└─────────────────┘
```

Elipses and Check Marks

In some commands, elipses (_ _) follows the command name. In file menu the commands such as New, Move, Copy etc. have eclipses but others like Open and Delete do not. An elipse indicates that the command does not execute directly. Some more information is needed for its execution. The command displays a dialog box through the user can make additional choices or supply the requisite information before the command executes.

Sometimes commands have a check mark to their left. The check mark indicates that the particular marked command is currently active or selected. The check mark is absent when the command is unselected or when it is inactive. Check marks are ON/OFF indicators and are sometimes called toggles.

3.2 MAIN WINDOWS MANAGER PROGRAMS

3.2.1 Program Manager

○ Program Manager organizes user programs into groups.
○ The central program from which user can run other programs is the windows Program Manager.
○ The user sees this program running when he first starts windows and again when he is about to leave windows.
○ Its features is its flexibility.

When windows starts it looks like as in Fig.1

Program-item icons represent applications you can run.

The screen background is known as the desktop.
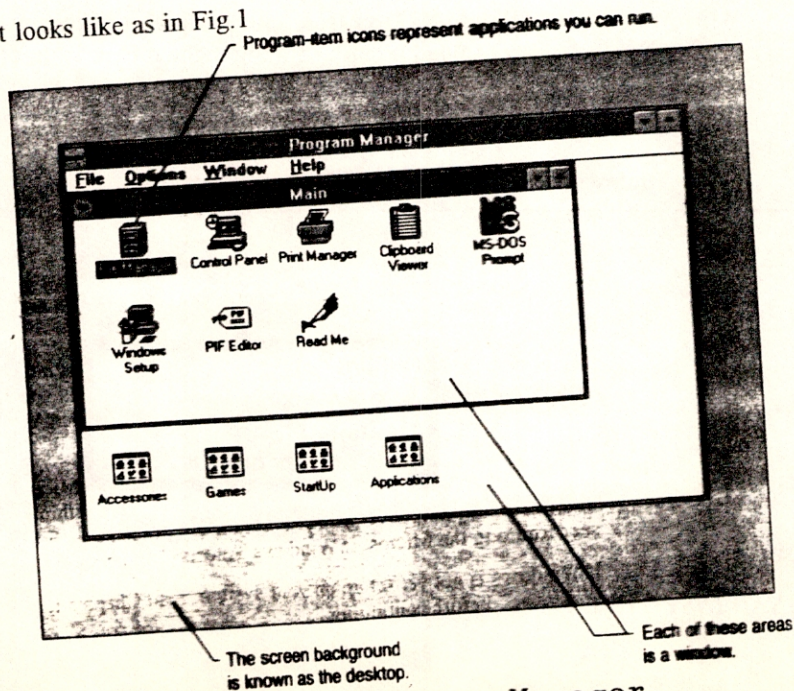
Each of these areas is a window.

Fig. 1 : Program Manager

①   User can easily change the ways programs appear in Program Manager, rearrange the programs, add new ones, remove old ones and so on.

②   User can configure how programs should run whether they should run at the start and what documents to open when program starts.

After installation, the Windows has five program groups (holding related programs), represented by their icons. These are as follows:

- Start-up
- Main
- Accessories
- Application
- Games

Menus in Program Manager

The four menus of Program Manager are File, Options, Windows and Help. The File menu is displayed in Fig. 2.
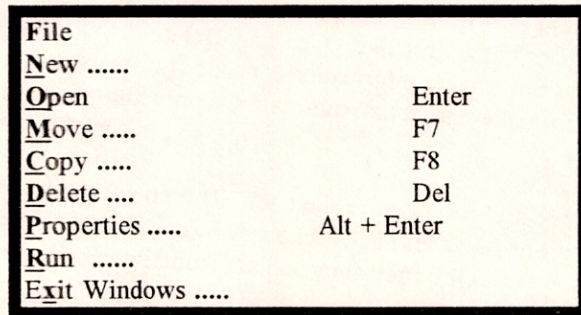
```
┌─────────────────────────────────────────┐
│ File                                     │
│ New ......                               │
│ Open                        Enter        │
│ Move .....                  F7           │
│ Copy .....                  F8           │
│ Delete ....                 Del          │
│ Properties .....       Alt + Enter       │
│ Run ......                               │
│ Exit Windows .....                       │
└─────────────────────────────────────────┘
```

Fig. 2. File Menu

File Menu

The various commands of the file menu are explained in Table 1.

Table - 1

Command	Function
New	Creates new program groups and icons.
Open	Opens the application icon that has a high-lighted text.
Move	Moves icon from one group to another.
Copy	Makes a copy of a highlighted icon from one group in another desired group.
Delete	Removes the selected icon or group permanently.
Run	Starts an application or opens a document.
Exit Windows	Command to leave windows.

Options Menu

The Options menu is shown in Fig. 3.

```
┌─────────────────────────────┐
│ Options                     │
│ Auto Arrange                │
│ Minimize on Use             │
│ Save Settings on Exit       │
└─────────────────────────────┘
```
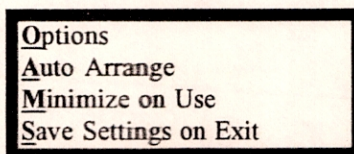
Fig.3 . Preferences chosen from options menu.

The various commands of the options menu are explained in Table 2.

Table - 2

Command	Function
<u>A</u>uto Arrange <u>M</u>inimize on Use <u>S</u>ave settings on Exit	Arranges icons automatically. Causes the last program used to change to an icon Indicates whether changes to windows environment will be saved upon exit.

<u>Window Menu</u>

The Window menu is used to arrange the appearance of icons and is shown in Fig. 4.
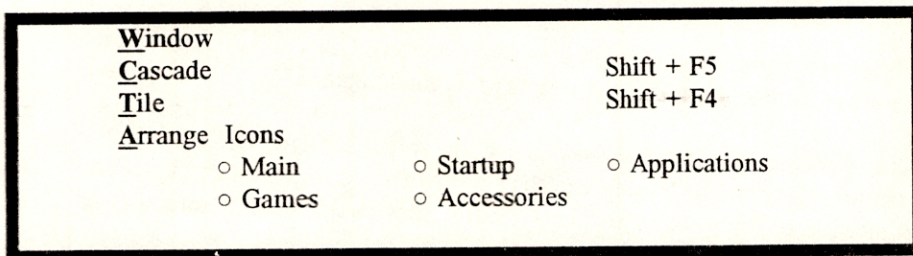
```
┌─────────────────────────────────────────────────────┐
│   Window                                             │
│   Cascade                        Shift + F5          │
│   Tile                           Shift + F4          │
│   Arrange  Icons                                     │
│           o Main        o Startup      o Applications│
│           o Games       o Accessories                │
└─────────────────────────────────────────────────────┘
```

Fig.4 : The Window menu with main group chosen.

The various commands of the window menu are explained in Table 3.

Table - 3

Command	Function
Cascade	Displays the window opened below and to the right of each other.
Tile	Divides the screen equally between the opened windows.
Arrange Icons	Enables the space icons manually.
Available Groups	List of the program groups available for use in windows.

<u>Help Menu</u>

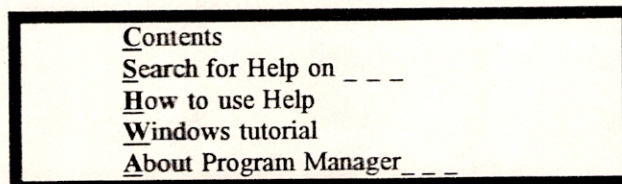This menu is shown in Fig. 5. Its commands are explained in Table 4.

```
┌─────────────────────────────────────────┐
│      Contents                           │
│      Search for Help on _ _ _           │
│      How to use Help                    │
│      Windows tutorial                   │
│      About Program Manager_ _ _         │
└─────────────────────────────────────────┘
```

Fig.5. Help Menu of Program Manager.

Table - 4

Command	Function
Contents	Displays a table of topics covered in Help.
Search for Help on	Shows a detailed alphabetical list of topics in Help from which user can make a choice.
How to use	Provides tips and techniques to use Help.
Help	On-line lessons to know the windows basics.
Windows tutorials	Information about the user's copy of Program Manager, its
About program	operating mode, memory capacity and available system resources.

3.2.2   File Manager

- File manager can be started from the Program Manager by double clicking its icon in the Main group window.

- File manager provides a graphical representation of files and directories and help the user to organize and simplify file maintenance.

- The directory window is divided by the split bar. The left side of the window displays the structure of the current drive, or the directory tree. The right side of the window displays a list of files in the selected directory as seen in Fig.6.

- User can use the drive icons on the drive bar to choose what drive is displayed in a directory window.

- Status bar displays information about the current drive and directory and other information that helps explain the task user is performing with File Manager.

- The Menu bar contains menus listing File Manager Commands.

Tasks performed by File Manager

With the File manager, a user can:

- ◊ View the contents of directories.
- ◊ Move, copy and delete files and directories.
- ◊ Change to other disk drives, including network drives.
- ◊ Format and maintain disks.
- ◊ Print documents.
- ◊ Start an application.
- ◊ Rename and delete files.
- ◊ Change the kind and amount of information displayed about each file.
- ◊ Create directories and subdirectories.
- ◊ Search for files.

3.2.3   Print Manager

The Print Manager is an application included with Windows that the users can use to manage documents sent to a printer and can install and configure printers, as shown in Fig. 7. Whenever a user prints from a windows based application, the application creates a print file and sends it to Print Manager. Print Manager works in background, sending users documents to the printer while the user can continue working. The user can check the status of the document at any time and change its status until it starts printing.

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As user sends documents to Print Manager, a print queue forms. The point queue displays the following printer information :

⇨ The name of the printer.
⇨ The port printer is connected to and, if it is a network printer, the network path.
⇨ The current status of the printer (such as native or idle).
⇨ Beneath the printer information, the print queue displays the following document information.
⇨ The title of the document.
⇨ The document's position in the queue, or a printer icon if the document is printing.
⇨ The size of the document in kilobytes (if the Print file size command has a check mark next to it).
⇨ The time and date user sent the document to Print Manager.
⇨ If a document is currently printing, the amount (as a percentage) of the document printed so far.

To Pause printing
o In print Manager window, select the name of the printer to be paused.
o Choose the Pause button, Or press ALT + P.

To Resume printing
o In print Manager window, select the document or the name of the printer you want to resume printing.
o Choose the Resume button. Or press ALT + R.

To Cancel printing
o In print manager, select the document whose printing is to be cancelled.
o Choose the Delete button. Or press ALT + D. A dialog box appears, prompting to confirm the deletion.

3.3 OTHER PROGRAMS THAT COME WITH WINDOWS

⇨ **Write** a word processor that can prepare letters, reports and articles.
⇨ **Paintbrush** a painting program that can create colour or black & white drawings.
⇨ **Calendar** an appointment calendar that helps a user organize his time and alerts when important events are about to take place.
⇨ **Cardfile** an organizing program that a user can use to store and search for information.
⇨ **Terminal** a communications program for connecting the users' PC to other computers through a modem.
⇨ **Calculator** a desk calculator that can replace the old pocket model.

3.4 KEYBOARD SHORTCUTS

A user can use keyboard shortcuts to do common windows tasks.

3.4.1 Using Help

To	Press
Start Help	F1
Move among jumps in a topic	TAB or SHIFT + TAB
Display all the jumps in a topic or cancel the selection of a jump	Ctrl + TAB
Copy a Help screen or annotation into the clipboard	ALT + PRINT SCREEN
Quit Help	ALT + F4

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3.4.2 Switching between Applications

To switch	Do this
Between applications	Press and hold down ALT or SHIFT + ALT and repeatedly press TAB
To the next application	Press ALT + ESC
To the previous application	Press SHIFT + ALT + ESC
To task list	Press Ctrl + ESC
An MS-DOS based application from a full screen to a window and back	Press ALT + ENTER

3.4.3 Using Menus

To	Press
Activate the menu bar	ALT or F10
Select a menu	ALT + the underlined character in the menu name
Choose a menu command	An arrow key, ENTER or the under-lined character in the command name.
Open the control menu for an application window	ALT + SPACE BAR
Open the Control menu for a document window and a group window.	ALT + HYPHEN

3.4.4 Moving Around

To move	Press
Between menu commands, characters in a text box, or items in a list.	An arrow key
To next or previous dialog box item	TAB or SHIFT + TAB
To a dialog box item	ALT + the character underlined in the item name.
Right or Left one word in a text box	Ctrl + an ARROW key.
To beginning or end of a line, list, or screen	HOME or END
Up or Down one screen	PAGE UP or PAGE DOWN

3.4.5 Selecting Items

* **In a Document Window**

To select	Press
One line of text up or down	SHIFT + UP ARROW or SHIFT +DOWN ARROW
Text to the beginning or end of a document	SHIFT + Ctrl + HOME or SHIFT + Ctrl + END

* **In a Document Window, Text Box, or List**

To Select	Press
Text to the beginning or end of a line	SHIFT+HOME or SHIFT+END
The next or previous word	SHIFT + Ctrl + Right Arrow or SHIFT + Ctrl + Left Arrow
One letter at a time to left or right	SHIFT + Left Arrow or SHIFT + Right Arrow

*   **In a Dialog Box**
                To Select   **Press**
Select nonconsecutive items in a list   SHIFT + F8, Use arrow key to move item to be
                                         selected, press SPACEBAR to select item, press
                                         SHIFT + F8 again.
Select a list item or check box   SPACEBAR
Select all items in a list   Ctrl + SLASH (/)
Cancel all selections in a list except   Ctrl + BACKSLASH (\)
the current one

3.4.6   Editing Text
            In a Text Box or Window
                    To   . **Press**
Delete the character to the left or   BACKSPACE or DEL
right or delete selected text.
Copy selected text into the clipboard   Ctrl+ C or Ctrl + INS
Move selected text into the clipboard   Ctrl + X or SHIFT + DEL
Paste text from the clipboard   Ctrl + V or SHIFT + INS
Undo the last editing action   Ctrl + Z or ALT+BACKSPACE

3.4.7   Copying Onto the Clipboard
                    To   **Do this**
Copy an image of the entire screen   Press PRINT SCREEN
onto the clipboard.
Copy an image of the active window   Press ALT + PRINT SCREEN
on to the clipboard.

3.4.8   Quitting an Application & Closing a Window

                    To   **Press**
Quit an application   ALT + F4
Close the active document window   Ctrl + F4
or group window.

3.4.9   Program Manager
                    To   **Press**
Move between groups   Ctrl + F6 or Ctrl + TAB
Move between items in a group window   An arrow key
Start the selected application or restore ENTER
the selected group icon.
File the group windows   SHIFT + F4
Cascade the group windows   SHIFT + F5
Close an active group window   Ctrl + F4

3.4.10   File Manager

                    To   **Do this**
Move among the left and right side of   Press TAB or F6
the directory window and the drive bar.
Change the drive displayed in the   Press Ctrl + the letter representing directory
                                          window.
Display or hide a selected directory's   Press ENTER
subdirectories, start a selected appli-
cation, or open a selected file.

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Open a new window, display only the contents of the selected directory.	Press SHIFT + ENTER
Select the next file or directory whose name begins with a certain character	Press the first character or file or directory name. Press F7.
Move the selected file or directory.	
Copy the selected file or directory.	Press F8
Update the information displayed.	Press F5
Display the properties of the selected file or directory.	Press ALT + ENTER

3.4.11 Print Manager

To	Press
Move between queues and between documents in each queue.	Up Arrow or Down Arrow
Move the selected document up or down in a queue.	Ctrl + UP ARROW or Ctrl + DOWN ARROW
Update the information displayed	Press F5

3.4.12 Write

To	Do this
Undo the last typing or editing action	Press C+Z or ALT+BACKSPACE
Insert a manual page break	Press Ctrl + ENTER
Insert an invisible hyphen (only to be used when a word is wrapped).	Press Ctrl + SHIFT + HYPHEN
Switch between the document and Find or Replace dialog box or between the Header and Footer window and the Page Header or Page Footer dialog box.	Press ALT + F6

4.0   WINDOWS-95

4.1   Introduction

The Windows-95 is an operating system, it bypasses DOS and runs completely in protected mode. It can however stop briefly in real mode at start up to process the now-optional CONFIG.SYS and AUTOEXEC.BAT, to load TSRs and old device drivers. With Windows-95 INI files will be a history, crucial configuration details like user preferences, hardware settings and security are stored in the Registry - a database user can distribute across a Windows-95 network. The OS also expands and contracts its cache buffer space to match available memory - thus ending swap-file tinkering and cache memory problems. The Windows-95 is 32-bit operating system but Microsoft has left some 16-bit code in so that it can run on 4MB systems.

4.1.1   What's on Windows-95 Screen

Depending upon how the computer is set up, various items appear on desktop whenever the Windows is started.

∗ **My Computer** : By double clicking this icon, computer contents can be seen and files can be managed.

∗ **Network Neighbourhood** : By double clicking this icon, the user can see available resources on the network, if the computer is connected to any of the network.

∗ **Recycle Bin** : The Recycle Bin is a temporary storage place for deleted files. User can use it to retrieve files deleted in error.

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* <u>Start button</u> : The user can click start button on the task bar to start a program, open a document, change system settings, get Help, find items on computer.

4.1.2   What's new in Windows-95?

The Windows-95 offers many new exciting features. Some of the import features are :

○ **New improved interface**
   Windows now features the start button and taskbar.
   Start button: It quickly opens programs, find documents, and use system tools.
   Task bar :   It is used to switch between programs as easily as changing channels on T.V.

○ **Windows Explorer:**
   Windows Explorer is a powerful way to browse through and manage files, drivers and network connections.

○ **Long Filenames:**
   Windows now supports long filenames to make files easier to organize and find.

○ **Improved Games & Multimedia Support:**
   Faster video capability for games, enhanced support for MS-DOS based games, and improved performance for playing video and sound files.

○ **Plug and Play Hardware Compatibility:**
   The user can just insert the card for plug and play hardware in the computer. When he turns on the computer, windows recognizes and sets up hardware automatically.

○ **32-bit Preemptive Multitasking:**
   The Windows provides using many programs at once : do more in less time.

○ **Microsoft Exchange:**
   It is used to view and work with all types of electronic communications, including e-mail and faxes.

○ **The Microsoft Network:**
   User can use on-line service to communicate with people worldwide, using e-mail, bulletin boards and the Internet.

4.2   GETTING STARTED WITH WINDOWS 95

4.2.1   Logging on to Windows

   ○   In the User Name box, type your name.
   ○   In the Password box, type a password. The first time, Windows prompts user
             to confirm his password.

4.2.2   The Start button and taskbar

The start button and taskbar are located at the bottom of screen when Windows starts for the first time. By default they are always visible when Windows is running.

Starting with the Start Menu
   When user clicks on Start button a Menu comes which contain everything that is needed to begin using Windows as seen in Fig. 8.

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This Command	Do this
Programs	Displays a list of programs to start.
Documents	Displays a list of documents opened previously.
Settings	Displays a list of system components for which settings can be changed.
Find	Enables to find a folder, file, shared computer, or mail message.
Help	Starts Help. User can use help contents, Index, or other tabs to find out how to do a task in Windows.
Run	Starts a program or opens a folder when user type an MS-DOS command.
Shut down	Shuts down or restarts computer, or logs off.

Depending on Computer and the options user have chosen, user may see additional items on his menu.

To start a Program
(i) Click the start button and then point to Programs.
(ii) Point to the folder such as Accessories that contains the program, and then click the program.

Opening a Document
There are several methods to open documents in Windows. Two methods are described below:

A. To open document from within program:
i) On the file menu, click open.
ii) To open a document in different folder, click the arrow next to the look in box, and then click the disk that contains the folder.
iii) Click the folder that contains the document to be open and then click open. Scroll to see more folders.
iv) Click the document to open, and then click open.

B. To open a Document by using the Documents menu:
i) Click the start button, and then point to Documents.
ii) Click the name of document to be opened.

Changing System Settings:
Using the Control Panel, the user can change the way Windows looks and works.

i) Click the start button and the Point to Settings.
ii) Click Control panel.
iii) Double-click an icon to see the settings user can change.

Finding Something on Computer :
When the user doesn't know where a document or folder is he can use find command to find and open it.
i) Click the start button and then point to Find.
ii) Click files or Folders.
iii) Click the Named box, and then type the name of the file or folder which is to be found.
iv) To specify where to search, click the arrow next to the look In box, or click Browse.
v) To start the search, click Find Now.

Getting Help :
On line help is essential for learning and using Windows. There are two kinds of Help : Help about a specific procedure and Help that gives information about what is on the screen.

A. To find Help through the contents :
• Click the contents tab to find topics grouped by subject, and then follow the instructions on screen.
• To return to the list of topics, click Help Topics.

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B. **To find Help through the Index:**
- Click the Index tab to find topics listed alphabetically and then follow the instructions on screen.
- To return to the list of topics, click Help topics.

C. **To find Help topics containing a word or phrase:**
- Click the Find tab to find all topics that contain a specific word or phrase, and then follow instructions on screen.

D. **To get Help on a specific Item:**
- For information about an item in a dialog box, click? and then click the item.
- A pop-up explanation appears. Click it to make it disappear.

Starting a Program by Using the Run Command:
When the user knows the path of the program he wants to start, he can use run command to start it easily.
- ○ Click the Start button and then click Run.
- ○ Type the name of the program, folder, or document user want to open. Or click Browse to look for the item.

Shutting Down Computer:
To avoid damaging files, always shut down Windows before turning off Computer.

- ○ Click the start button, and then click shut down.
- ○ Click Yes. If the document has not been saved, the windows prompts to save changes.
- ○ A screen message lets user know when he can safely turn off his computer.

The Task Bar :
Every-time user starts a program or open a window, a button representing that window appears on the taskbar. To switch between windows, just click the button for the window that is required. While closing a window, its button disappears from the task bar.

Depending on what task user is working on, other indicators can appear in the notification area on the task bar, such as printer representing print job or a battery representing power on portable computer. At one end of the taskbar is the clock. To view or change settings, just double click the clock or any of the indicators.

4.3 ORGANIZING FILES AND FOLDERS

4.3.1 To move or Copy a file or folder

- ○ Double click "My Computer", Find the file or folder user want to move or copy, and then click it.
- ○ Click Edit:
  - To move the file, click cut.
  - To make a copy of the file, click copy.
- ○ Open the folder where user want to place the file, click Edit, and the click Paste.

4.3.2 To delete a file or folder

- ○ Double-click My Computer. Find the file or folder you want to delete, and then click it.
- ○ On the File menu, click Delete.

4.3.3 To create a new folder

- o Double click My Computer, and then double-click the disk drive or folder in which user wants to place the new folder.
- o On the File menu, point to New, and then click Folder.
- o Type the name of the new folder and then press ENTER.

4.3.4 To copy a file to a floppy disk

- o Double-click My Computer. Find the file or folder user want to copy and then click it.
- o On the File Menu, point to Send To, and then click the drive where user want to copy the file or folder.

4.4 PRINTING

4.4.1 Setting up printer for use with Windows

- - Click the start button, point to settings, and then click Printers.
- - Double-click Add Printer.
- - Follow instructions on Screen.
- - After the setup is completed, the icon for printer appears in the Printers folder & printer is ready for use.

4.4.2 Printing a Document

- - If the document is open, click File and then click Print.
- - Double-click the printer icon in the printer folder to see the documents that are printing or waiting to print, and to manage printing. User can pause or cancel the printing of one or more documents.

4.5 SHORTCUT KEYS

The following keyboard shortcut keys can be used with Windows:

To	Press
See Help on the selected dialog box item	F1
Quit a program	ALT+F4
View the shortcut menu for the selected item	SHIFT+F10
Display the Start menu	Ctrl+ESC
Cut	Ctrl+X
Copy	Ctrl+C
Paste	Ctrl+V
Delete	DEL
Undo	Ctrl+Z

4.5.1 For the Desktop, My Computer, and Windows Explorer

When an item is selected, the following shortcut keys can be used:

To	Press
Rename an item	F2
Find a folder or file	F3
Delete immediately	SHIFT + DEL
View item properties	ALT+ENTER or ALT+double-click
Copy a file	Ctrl key while dragging the file
Create a shortcut	Ctrl+SHIFT while dragging the file

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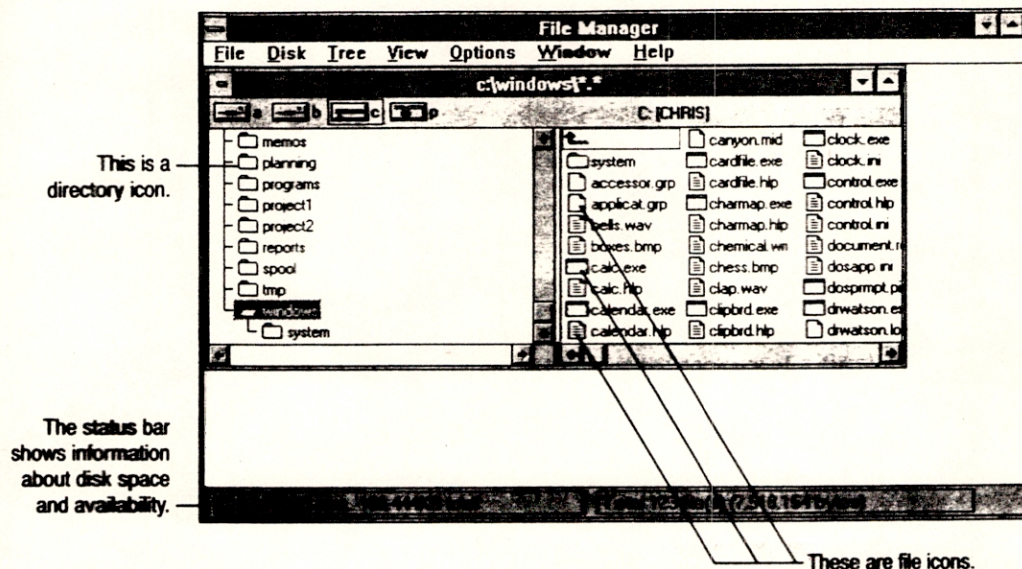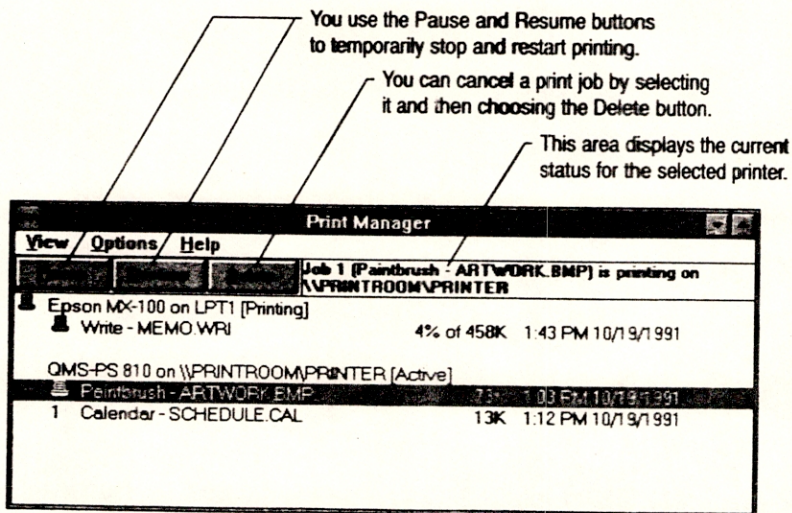|	
Toggle Toggle Keys on and off	NUMLOCK for 5 seconds
Toggle Mouse Keys on and off	LEFT ALT + LEFT SHIFT + NUMLOCK
Toggle High Contrast on and off	LEFT ALT + LEFT SHIFT + PRINT SCREEN

Fig. 6 : File Manager

Fig. 7 : Print Manager

Fig. 8 WINDOW 95 SCREEN