



Creative's INTRODUCTION TO DOS



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Microsoft Disk Operating System

Introduction to the Operating Systems:

An Operating system is software that creates a relation between the User, Software and Hardware. It is an interface between the all. All the computers need basic software known as an Operating System (OS) to function. The OS acts as an interface between the User, Application Programs, Hardware and the System Peripherals. The OS is the first software to be loaded when a computers starts up. The entire application programs are loaded after the OS. Whenever an application needs information it requests the OS which in turn queries the System clock on the motherboard. User interacts with the computer through the OS then OS interprets inputs given by a user through the Keyboard, Mouse or other input device and takes appropriate actions.

An Operating System can be of Three Types:

Single User MS-Dos, MS-Win 95-98, Win-ME

Multi User UNIX, Linux, XENIX

Network Novel Netware, Win-NT, Win-2000-2003

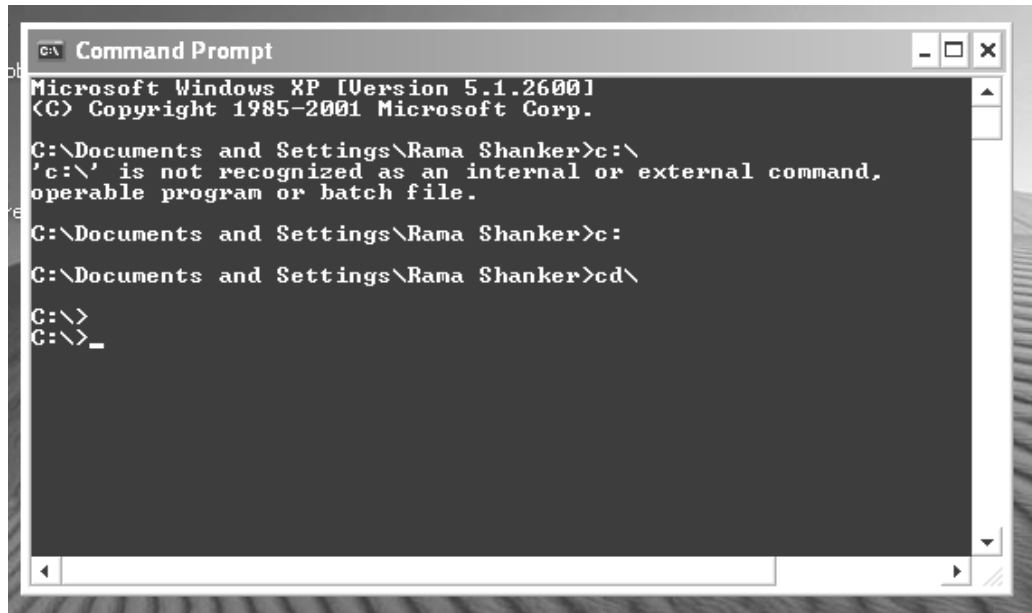
1. Single User: If the single user os is loaded in computer's memory; the computer would be able to handle one user at a time.
2. Multi user: If the multi-user os is loaded in computer's memory; the computer would be able to handle more than one user at a time.
3. Network: If the network os is loaded in computer's memory; the computer would be able to handle more than one computer at time.

Command Prompt Interface:

Operating System provides a text based interface called command prompt. From the command prompt commands can be issued to perform file and disk management and to run program. Results of these commands are presented to the user as text message.

C:\>-

The command prompt can be an alphabet followed by one colon (:), one back slash (\), one greater than sign (>) and one blinking element called cursor (_).



- \ represents the current folder / Directory
- > represents the end of the Prompt and
- _ blinking element (represents the Cursor)

Always a cursor position decides that the current typed letter from the keyboard will appear on that position.

The operating system (OS) is the first program that must be loaded into the memory of your PC before you can use it for any application. You can start your computer with disk operating system (DOS) or some other operating system such as Windows 95, 97, 98 or Windows NT that might be installed in the Hard disk. In this chapter, we shall discuss the basic facilities available in DOS. Switch to MS-DOS and go through most of the text given in this and the next two chapters. If your computer is running under windows 95/98 or Windows NT, perform the following steps to switch to MS-DOS, otherwise move to section 2.1.

- Click the start button in the taskbar and press the windows logo key to open the start menu then click programs in the start menu.
- Windows displays the program submenu.
- In the program menu click MS-DOS Prompt and your screen displays a window that contains MS-DOS Prompt, such as “C:\windows>_”.

- If you like you can also restart your computer in MS-DOS mode by using the following steps:
 - Close any open programs
 - Click the Start Button in the TaskBar or Press the Windows Logo Key to open the Start Menu.
 - Click “restart in MS-DOS Mode” and then click OK.

Wait for some time and your PC restarts in MS-DOS Mode.

After your PC starts in MS-DOS Mode or window, skip the next section and move to section 2.2.

Loading Disk Operating System (DOS)

Different version of DOS, such as 2.0, 3.0, 3.2, 4.0, 5.0, 6.0, 6.2, 6.22, 7.0, 7.2 are available. The higher versions have more features and commands. However, the basic commands and features are available in all versions. You can load DOS prompt the floppy disk drive or Hard Disk Drive. Loading the Operating System on a computer is also called Booting of the computer. Complete the following steps to load DOS in your PC.

To Load DOS from Hard Disk:

To Load DOS from the Hard Disk of your computer, follow these steps:

1. Turn on the power ON/OFF switch of the CPU unit of your PC the power ON/OFF switch is usually located in the front or the rear of the CPU unit.
2. If your VDU display unit (Monitor) has an ON/OFF switch, turn that switch ON too.
3. Do not put any Diskette in drive A:

Wait for some time your PC perform a Self Test and loads DOS.

Your monitor displays “C>” or “C :\> _” and a DOS prompt message.

To load DOS from Floppy Disk:

If DOS is not installed on the Hard Disk of your PC, or you want to load DOS from the Floppy disk drive due to any reason, follow these steps:

1. Put the DOS diskette in drive A:, Close the drive door if required.
2. Turn on the power ON/OFF switch of the CPU unit of your PC the power ON/OFF switch is usually located in the front or the rear of the CPU unit.
3. If your VDU display unit (Monitor) has an ON/OFF switch, turn that switch ON too.

Wait for some time your PC perform a Self Test and loads DOS.

Your monitor displays “A>” or “A :\> _” and a DOS prompt message.

Resetting the Computer:

Sometime you may have to reset your computer (i.e., Reboot DOS) while it is still running because DOS does not work properly. To reset your computer you have two options:

1. Press and hold Ctrl and Alt keys and Press Del. Then release all keys restarting PC without switching OFF the power is called Cold Booting.
2. Press the “Reset” button that is usually located in the front of the CPU unit. This kind of Booting is called Warm Booting.

System Prompt:

On loading (or Switching to) DOS, the screen displays C :\>, C>, A :\> or a similar message. The message displayed by DOS is called DOS Prompt or System Prompt. This prompt serves two purposes:

1. It indicates that DOS is ready to accept a command from the keyboard.
2. It displays the default drive name. For instance, C>, C :\>, indicates that drive C: is a default drive. DOS will use the default drive for all file operations if the user does not specify any drive name with commands.

Changing Default Drive:

To change a default drive type the new drive letter followed by colon (:) and then press Enter. For example, if the default drive is A and you type C: and press Enter, DOS selects drive C: as the default drive. DOS confirm this by changing the prompt to C:\> or a similar message. If

you enter a drive letter that does not exist in your PC, DOS displays a message “Invalid Drive Specification”.

When you select a floppy drive as the default drive, make sure that there is a diskette inserted in that drive. Otherwise, DOS gives the following message:

“Not ready reading drive A
Abort, Retrieve, Fail ?

If you get this message, insert a diskette in the floppy drive and then press “r” to Retrieve.

What is a File?

In computer terminology, a file is a collection of text or data stored on a storage device, such as a Floppy Disk or Hard Disk. If you are new to computers, it may sound a bit complicated. Well, a computer file is not much different from a conventional paper file that you must have used, or at least seen being used. Just as you stored different types of documents (invoice, letters, reminders, memos etc.) in conventional files, computer files too store information.

File Name

Each file is given a name so that it can be referred to later. This name is called Filename. The filename in DOS can be up to eight alpha-numeric characters long. Optionally it can also have a period (.) followed by an extension name. The extension name can be up to three characters long. For instance, consider the following filename:

REPORT2
PROGRESS.DOC

Here REPORT2 is a filename. This filename does not have an extension name – ‘DOC’. The use of an extension name in a filename is optional. However, the extension name helps in organizing and identifying a file. For instance ‘DOC’ may suggest that it is a document file; and ‘COM’ may suggest that it is a command file. If you use an extension name with a filename, normally you will have to specify the complete file name, normally you will have to specify the complete file name (i.e. including the extension name) while using it with DOS commands. While naming files, you can use the following characters in filename:

A- Z, a- z, 0 – 9, @, #, \$, %, ^, &, -, _ { }, ` , ~, ()

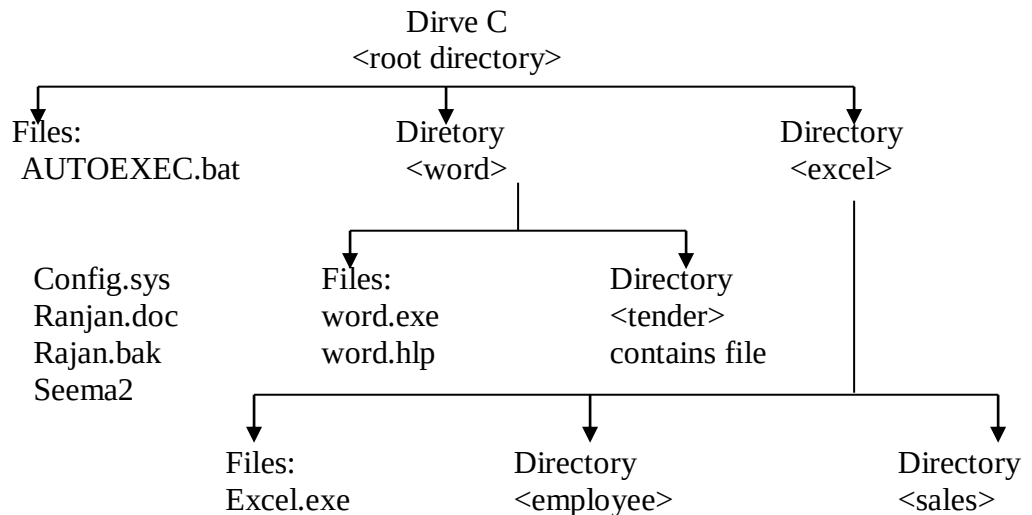
You cannot use other characters, such as coma (,) colon (:), semicolon (;), <, >, \, /, etc. in filename. Moreover, you cannot use space in filenames. Some examples of invalid file names are:

Filename	Reason
SALE 2	Contains space
PROGRESSER	Contains more that eight characters
MY, File	Contains commas
CHAP_01.DOC3	Extension name contains more than 3 characters

If you use more than eight characters in the filename or more than three characters in the extension name, DOS may automatically truncate the filename by removing extra characters. Further, some file names, such as COM 1, COM 2, LPT1, com and PRN are reserved by DOS for its own use. Therefore, do not use these names to name your file. Also, remember that all DOS application programs including Word, Excel, WordStar, Bbase III PLUS AND Fox Pro follow the same file naming convention.

WHAT IS A Directory?

As you know, the storage capacity of the hard disk is usually quite large (10 MB to a few GB). You can store hundreds or even thousands of files in your hard disk. Even the capacity of a floppy disk is large enough to store many files. A directory is nothing but a named section of a storage device, such as hard disk, floppy disk. In other words, to organize file on hard disk or floppy disk, these are divided into various segments (sections), called directories. You can store any number of files in each directory. The directory helps to organise your file in an efficient manner. Using directories in a storage devise is similar to keeping different types of files in an office in separate drawers of a filing cabinet. For instant, Xyz Company may keep all sales files in the first drawer, all purchase files in the second drawer and all employees' files in the third drawer of a filing cabinet. In the same way, when XYZ Company computerizes its operation, it may store all sales files in the SALES directory, all purchase files in the PURCHASE directory and all employees' files in the EMPOLYEES directory. Similarly, the user Raj Kumar may keep his personal files in the RAJ directory and the secretary of XYZ Company may store the letters in the LETTERS or DOC directory.



Like a file name, the directory name can also have up to eight alpha-numeric characters. The directory name can also have an extension name up to 3 characters long. However, normally, the extension name is not used with the directory name.

When you start your PC, it usually responds with 'C :/>' and selects the main or the root directory of drive C. Any file that you create or copy to drive C is added to this root directory. If you continue to add files in the root directory, after a few days, the root directory will have too many files. This will not only confuse you, it will also make the PC slow. The PC may take too long to locate or open the files if there are too many files in a directory. Therefore, you should try to use directories (and sub directories) in your hard disk.

DOS always creates a root directory in each storage device. You can create new directories in the root directory of the hard disk or floppy disk. You can store files in these directories. Moreover, besides files, each directory can also have directories. Thus, the file and directory organization in DOS looks like the roots of a tree, as shown in figure 2.1. Here, the root directory in drive C contains if you files in two directories – WORD and EXCEL. The WORD directory contains a few files as well as a directory TENDER. Sometimes, the second level directory (TENDER in this case) is called sub-directory. The root directory contains another directory – EXCEL. This directory contains a few files as well as two directories – SALES and EMPLOYEE. Both these directories contain files.

At any level in the directory structure, can be created. For example, another directory, say FOXPPO directory may contain files as well as more directories. If you want, you can remove files from any directory or move files to another directory. You can also delete an entire directory. Commands to copy, move, rename and delete files and to create and change directories are discussed later in this chapter. Additional file and directory commands are discussed in the next chapter.

Displaying the List of Files with DIR

You can display the list of files stored in a diskette or hard disk with the DIR command. This command lists files and sub directories in a disk's directory on the screen. Besides the file name, DIR also lists other details about files, such as file size (in bytes) and date and time of creation/last update of files. It also displays the number of files listed, total bytes occupied by the listed files as well as free space available on the disk. Let us list files from the current (default) drive.

Against the prompt message (A> or C :>) type DIR and press Enter.

Your monitor displays the information similar to that shown in figure 2.3

The DIR command displays the list of files present in the default drive. In the directory listing, the first column indicates files and directories present in the disk. Notice that DOS displays < DIR > against directories. If your disk has no directories, (your DOS disk may not have any directory), you will not get any <DIR > entry in your list. For all file names, DIR also displays extension names, if used. DIR also displays size and date and time of creation or last update for all files and directories. At the end of the list, it shows the number of files listed, bytes used in these files and bytes remaining on the disk.

Options with DIR

You can use several options with DIR.

To get the list of files from some other drive, specify the drive name followed by ':' with DIR. For instance, if drive C is the default drive and you want to get list of files from a disk in drive B, type DIR B: and then press enter key.

To get summary of the directory listing, use /W after DIR, e.g. DIR/W or DIR C: /W. With the '/W' option, DOS displays only the file names. It does not display file size and date/ time of creation/ modification of files.

```
Volume in drive C has no label.
Volume Serial Number is 60C5-CAB4

Directory of C:\

05/28/1998  02:52 AM                975,608 !!TALLY.EXE
04/12/2006  04:51 AM                 0 AUTOEXEC.BAT
04/12/2006  04:51 AM                 0 CONFIG.SYS
04/22/2006  02:37 PM                10 csb.log
04/26/2006  11:34 AM                 0 DelUS.bat
04/12/2006  04:56 AM      <DIR>          Documents and Settings
04/15/2006  12:40 AM             1,580 INSTALL.LOG
04/22/2006  03:37 PM          47,564 ntdetect.com
04/22/2006  03:37 PM        250,032 ntldr
04/26/2006  11:34 AM      <DIR>          Program Files
04/26/2006  03:54 PM                 0 T.TXT
04/14/2006  04:13 AM      <DIR>          TALLY
04/24/2006  01:45 PM      <DIR>          WINDOWS
          9 File(s)              1,274,794 bytes
          4 Dir(s)      4,803,510,272 bytes free
```

If the directory listening is too long to fit on the screen, it scrolls up on the screen so fast that you may not be able to read it. In such a situation, you can use ‘/P’ option with DIR to get the directory listening page wise. For instance, you can try

DIR /P or DIR A: /P. Now, it will display the first page of the directory listening and pause. You can take your time to read the list.

When you want to see the next page of the directory listening, press any key.

Sometimes you may like to find out if a particular file is present in a disk. In that case, you can specify that file name after the DIR command. For instance, consider the following command:

```
C:> DIR RAMA
```

In response to this command, DOS will check if any files having the file name RAMA exist (regardless of the extension name). If so, it lists them. For instance, if drive C contains two files-RAMA.Doc and RAMA.bak, the DIR RAMA command will list both of them along with the file size and date and time of last update of these files. If there is no file with the specified filename on drive C, DOS displays a message – ‘file not found’.

Sometimes you may like to list files having similar names. For example, you may have named files containing chapter of a book as CHAPTER.1, CHAPTER.2, CHAPTER.3, etc. Let us

assume that these files are available in a root directory of drive C. now if you use the command – DIR C: CHAPTER.*, it will list all files from drive C that have the name CHAPTER. Similarly, to list all ‘.DOC’ files from the current drive, you can use the command – DIR *.DOC. the character ‘*’ used in these commands is called the **wildcard** character. This character selects any name (where * is used) in the command. In the first DIR command (DIR C: CHAPTER.*) it will select any extension name. in the second command (DIR *.DOC), ‘*’ selects any file name having ‘.DOC’ extension name. the ‘*’ wildcard character can also be used in another way. Consider the command – DIR WCHAP*. This command list all file names that begin with WCHAP from the current drive. For instance, it will list filenames, such as WCHAP1, WCHAP 10.DOC, WCHAP_A.BAK, etc.

You can also use another wildcard character – ‘?’.

```
C:\> DIR sale?rep
```

This command will list filenames, such as SALE1REP, SALESREP, SALE_REP.bak, etc. that is, it will accept any character at the position of ‘?’ in the DIR command.

The Dir command can also be used to list files from the particular directory. For example, the list of files available in the WORD directory in drive C, you can use the following commands.

```
DIR C:\WORD
```

```
DIR \WORD
```

The first command specifies the drive & directory name with DIR command. The second command does not specify the drive name In he command, Dos ill use the default drive. There fore command will show list of file from the WORD directory in drive C only if drive C is the default drive. Otherwise, it will try to locket the WORD directory in the default (current) drive. In both these commands, ‘\’ refers to the root of the top –level directory in the default or the specified drive.

Similarly, if you want to get the list of file from the EXCEL directory, you can use the command –DIR C:\EXCEL. Now consider another case. We want to list files from the SALE

directory (refer to figure 2.1). If you look carefully at the directory structure shown in figure 2.1, you will notice that the Sales directory under the EXCEL directory, you need to specify the complete path for it with DIR command. The complete path for the SALES directory is shown: Thus, you can use the command DIR C:\EXCEL\ SALES to list files from the SALES directory. Here, C:\EXCEL\ SALES is the path for the files stored in the SALES directory. The path for any file includes all directories located above that file in the directory tree structure. The path also includes the drive name and the root directory. The root directory is referred to by '\ ' immediately following ':' after the drive letter, e.g. 'C:\'. If the path includes multiple directories, separate these directories with '\ '. Also, do not use any space in the path. For instance, DIR C:\EXCEL \SALES is invalid.

To list files from the root directory of the current drive, you can use the command– DIR \ (remember that the first '/' after DIR refers to the root directory.)

Changing the Directory

In previous section you learnt to change the drive. Similarly, you can also change the directory. After changing the directory, the new directory becomes the default directory. For example, you change the directory to EXCEL in drive C. Now if you use any DOS command (including DIR) and you do not specify the drive or directory with the command, DOS will automatically use the C:\ EXCEL directory with the command. To change the directory, you can use the CHDIR or CD command, e.g.

```
CHDIR \ EXCEL
```

```
CD \ EXCEL
```

```
CD C:\ EXCEL
```

```
CD C:\ EXCEL\SALES
```

The first two commands try to select the EXCEL directory in the current drive. If the system prompt is C :>, C :> or starts with 'C:' drive is the default drive. In that case, these commands will try to select the EXCEL directory at the root level in drive C. If the EXCEL directory exists in the default drive, DOS will select it. Otherwise, it will display the message – 'invalid directory'. The next command, i.e. CD C:\ EXCEL too tries to select the EXCEL directory in

drive C. Notice that this command uses the complete the path, including the drive name. The last command tries to selects the SALES directory under the EXCEL directory from drive C. Remember that if you want to change the directory in a drive other that the default (current) drive, you must the specify the complete path, including the drive name (letter) with CHDIR or CD. For instance, if your screen displaying 'A :>', 'A :>' or a similar prompt and you select the word directory in drive C, use any of the following commands.

```
CHDIR C:\WORD
```

```
CD C:\WORD
```

However, if you want to select the directory in the current drive, you may omit the drive name. After change the directory to WORD, if you use the DIR command, DOS displays the list of files from the WORD directory.

To select the root directory in the drive (regardless of the currently selected directory), you can use any of the following commands:

```
CHDIR \
```

```
CD \
```

Changing the System Prompt

When you change the directory, you would like to keep track of it. The best way to do this is by displaying the name of the current directory along with the drive name in the system prompt. If you're PC does not display the directory name after the drive name in the system prompt, you can use the PROMPT command to display it. For instance, consider the following command:

```
C>PROMPT $P$G
```

If you use this command, DOS display the directory name after the drive name. The system prompt change to C :>, A :>, etc. if a directory is a selected in the drive, DOS also includes that in the system prompt. For example, if the WORD directory is selected in drive C, the system prompt changes to C:\WORD>.

The prompt command can also be used to display additional information in the system prompt. For instance, you can display the current date and/or time. Consider the following commands:

```
PROMPT $P $D $G
```

```
PROMPT $P $T $G
```

The first command displays the current date along with the path of the selected directory in the system prompt. The next command displays the current time along with the selected directory in the system prompt.

Creating a New Directory

You can create any directory under any directory in the hard disk or floppy disk. The command to create a new directory is MKDIR or MD. To create a new directory, go through the following steps:

1. Select the drive where you wish to create a new directory.
2. If you want to create the new directory at the root level, select the root directory with the command CD\ or CHDIR\. Otherwise use the CD or CHDIR command to select the desired directory where you wish to select the root directory where wish to create a new directory.
3. Use the MKDIR or MD command.

If the prompt showing 'C :>', type C: and press the Enter key to select drives C.

Type CD\WORD and the press the Enter key to change the current directory to C:\word. Of course, if your hard disk does not contain the directory c:\word, you would get a message "Invalid Directory".

Copying Files

While using a PC, often you need to copy file from a floppy disk to the hard disk or vice-versa. For instance, you buy some software and want to load that on your hard disk, in that case, you may have to copy files from the floppy disk to the hard disk. You may also have to copy files if you want to transfer file from one computer to another. Moreover, you may want to make backup copies of you important file on the hard disk to floppy disk into a floppy disk. To copy files from one storage device to another, you can use the COPY command. This command has the following syntax:

Here, source refers to the path and the filename(s) of the file(s) to be copied. Destination typically refers to the destination path. I.e. drive name and directory where the files to be copied. For example, consider the following command:

```
C :> COPY C: REPORT A:
```

This COPY command copies the REPORT file from the drive C to the disk in drive A. after copying the file in drive A, it will name the new file (in drive A)too REPORT. Now consider the following commands:

```
C :> COPY A: CHAPTER1.DOC C:
```

```
C :> COPY A: CHAPTER1. DOC C:\WORD
```

The first command copies the chapter1.DOC file from drive A to the current directory in drive C. as the root directory is selected in drive C(prompt is 'C:>'), it copies the file to the root directory in drive C. the next command copies the file to the WORD directory in drive C.

In all examples discussed above the COPY command assigns the same name to the copied file as the source file name. Notice that in these COPY commands, you did not specify any filename with destination. That is why the COPY command assigned the source file name to the copied files. However if you like, you can assign a new name to the copied file for example,

```
C :> COPY C: REPORT A: SALESREP
```

Will copy the REPORT file from the drive C to drive A and will assign SALESREP as the file name to the copied file.

The COPY command can also be used to copy several files in one stroke by using wildcards. For example, consider the following commands:

```
C :> COPY C:*. DOC A:
```

```
C :> COPY C: SALE?. REP A:
```

The first COPY command copies all file having the extension name DOC in the current directory in drive C to a disk in drive A. The second command copies files such as SALE1.REP, SALE 2. REP and SALE.REP from the current directory in drive C to a disk in drive A.

While using the COPY command (or for that matter, any dos command), if you do not specify the path, DOS assumes that you are referring to the currently selected drive and directory. For instance, consider the following command:

```
C :> COPY COMMAND.COM A:  
C: \WORD> COPY DATA 1.DOC A:
```

In the first command, the drive and directory names are not specified with COMMAND.COM. However, as drive C is the currently selected drive and the root directory is selected (prompt is 'C :>'), DOS assumes that you are referring to the root directory of drive C. Accordingly, it looks for the COMMAND.COM file in the root directory of drive C. similarly, the next COPY command looks for DATA1.DOC file in the WORD directory in drive C, as C:\WORD is the current directory and no path is specified with the DATA1.DOC.

You can also copy files from a drive and directory other than the currently selected one.

However in that case, you need to specify the complete path for the source file(s). For example,

```
C :> COPY D: SAMPLE.TXT A:\  
C: \WORD> COPY C:\EXCEL\EMP01.XLS A:\  
C: \WORD> COPY C:\EXCEL\EMP01.XLS C:  
C :> COPY \FOXPRO\DATA.DPF A:
```

The first command copies the SAMPLE.TXT file from the drive D to the root directory in drive A. the next command copies EMP01.XLS file from the EXCEL directory of drive C to the current directory, i.e. WORD in drive C. the last command copies the DATA.DBF file from the FOXPRO directory (at the root level) in the current directory of drive A.

While copying files with copy, DOS encounters any error, it displays a suitable error message. The common reason for error messages are:

1. Source or target drive is not ready.
2. Target (destination) disk is write-protected.
3. Target disk is not formatted.
4. Unable to read files from the source disk.
5. Insufficient disk space on the target disk.

In most cases, DOS allows you to correct the error condition and retry the command (by pressing R). If the drive is not ready, normally, the remedy lies in inserting a disk in a drive and closing the drive door, if required. If the target disk is write-protected, you can remove the write-protect sticker (in a mini floppy disk) or move the write-protect tab in a micro floppy disk and retry the command. If you are attempting to copy files on a new floppy disk, you will first have to format the disk. (Formatting discussed in section 2.15). In case of insufficient disk space on the target disk, the remedy lies in creating vacant space by deleting unwanted files or by changing the target disk.

When you use the COPY command, if the destination directory already has file(s) that you are trying to copy, you are prompted to give direction to the system, e.g.

Overwrite A:\NEW\SAMPLE.DOC (Yes/No/All)?

You can choose the following:

Yes (Y) : Overwrites the file and continues the COPY command.

No (N) : Does not overwrite the file and continues the COPY command.

All (A) : Overwrite the indicated file and all subsequent files. That is, Suppresses To use any option, press the corresponding letter (e.g. Y for Yes) and press the Enter key.

Deleting Files with DEL/ERASE

The DEL or ERASE command is used to remove file from a floppy disk or hard disk. For example, DEL SAMPLE.BAK or ERASE SAMPLE.BAK files from the current drive and directory. To erase a file from some other drive or directory, you need to specify the path with the filename. To erase a group of files, you can use wildcards, with filename. Some examples of using DEL or ERASE commands are shown in figure 2.4. The last two commands, i.e. DEL

. and DEL. Delete all files in the current directory. If you any of these two commands, DOS displays message:

All files in directory will be deleted!

Are you sure (Y/N)?

Now you can press Y followed by the Enter key to delete all files. If you do not want to delete all files, press any other key and then press Enter.

Command	Deletes
C:\> Del A:\sample.txt	Sample.txt file from the root dir of drive A
C:\> Del A:\word*.txt	All files having .txt extension from the word dir of drive A
C:\> Del \word*.doc	All files having .doc extension from the word dir of the current drive C
A:\> Erase C:test.doc	Test.doc file from the current dir in drive C
C:\word> del *.*	All files in the current dir in word of the current drive C

Changing Filename with RENAME (REN)

If you need to change the filename of existing files, you can use the RENAME or REN command.

For example:

C :\> RENAME SAMPLE.TXT NEW.DOC or

C :\> REN SAMPLE.TXT NEW.DOC

Will rename the SAMPLE.TXT file in the current directory to NEW.DOC. If the specified file dose not exist or the new filename is already assigned to some other file, DOS responds with a massage, 'Duplicate filename or file not found'. If the file to be renamed exists in some other directory or drive, you need to specify the complete path with RENAME. For instance.

A:\>RENAME C:\WORD\SAMPLE.DOC NEW, DOC

Renames SAMPLE.DOC in the WORD directory in drive C to NEW. Doc

DATE and TIME

DOS maintains the real time calendar clock such that the current date and the time are always available to software programs. DOS also uses the real time clock to time-stamp any file that it or any software program creates or modifies. To see or change the current date, the DATE command can be used. On using this command, DOS displays the following or similar message:

Current date is wed 10-09-97

Enter new date (dd-mm-yy):

If you want to change the current date, type the new date followed by enter. If you do not want to change the date, just press the Enter. Notice that while entering the new date, you have to take care of the date format. Similarly, you can use the TIME command to see or change the current time.

Example:

C :> TIME

Current time is 3:48:20p

Enter new time:

Now you can enter the new time, if required. While entering the new time, you need not enter time up to the last second. For instance, you may just enter 9.30 if you want the new time to be 9.20 a.m.

Internal and External DOS Commands

There are two types of DOS commands- internal and external. The internal commands are those commands that are automatically loaded in the memory of your PC when DOS is loaded. These commands can be used without the need of any DOS file or diskette. The internal commands are simple and are used for common tasks, such as copying, renaming or erasing files, displaying a list of files in a diskette, creating and changing directories; changing the current date in your PC, etc. On the other hand, the external commands are used for relatively complex jobs, such as copying an entire diskette, formatting a diskette; comparing or joining files, sorting text, etc. The list of internal DOS commands is given in figure 2.5. We have already used a few internal DOS commands. Now we will use a few additional internal and external DOS commands.

BREAK	ECHO	REM	CALL
EXIT	REN(RENAME)	CHDIR(CD)	RMDIR(RD)
CLS	IF	COPY	MKDIR(MD)
TYPE	PATH	VER	DEL (ERASE)
PAUSE	VER	DIR	VOL

Formatting a Diskette with Format

Normally you have to format all new disks before you can use them. (Sometimes you can also buy pre-formatted disks.) The formatting of disks is done with the help of the FORMAT command. The format command does two operations on the disk:

- Checks the disk surface for bad areas. If it detects any bad area, it marks that area as bad. DOS will not use that area for storing files.
- Initializes the disk to accept DOS files and creates the root directory.

Initializes a disk means writing a pre- defined pattern on disk. Different operating system, such as DOS, UNIX, system 7.5 (Mac), etc store files in different format on the disk. Thus, when you format a disk, DOS writes a pre-defined pattern on the disk. This pattern helps DOS to verify that the disk is a DOS disk (and not a Unix disk) at the time of storing a file on the disk. Format is an external DOS command. The DOS file FORMAT. COM is used to invoke the formatting process. This file is available in your DOS disk, or in the root or DOS directory of your hard disk. To format a disk in drive A, complete the following steps:

- Select the directory in your hard disk that contains the file FORMAT. COM. Usually, the name of the directory that contains DOS files is C:\DOS.
- Enter FORMAT A:

Your monitor displays a message:

Insert new diskette for drive A:

And press enter when ready.....

- Now insert the disk to be formatted in drive A and press the enter key to start formatting. Your monitor displays the following or similar information:
Checking existing disk format

Saving unformat information

Verifying 1.44m

DOS will take some time to format the disk. Then it asks for a volume name (also called volume label). This name is assigned to the disk. DOS displays the name when you use DIR to get the list of files on the disk. You can enter up to 11 alphanumeric characters for the volume name. The volume name may be useful in identifying a disk. Therefore, always assign a meaningful volume name when you format a disk.

It then displays the formatted capacity of the new disk, e.g.

1,457, 664 bytes total disk space

1,457, 664 bytes available on disk

If the two numbers are same, it indicates that the disk is 100% okay and all storage area is available for storing files. However, if the disk that you have formatted is not 100% good, you also get a message, such as '15360 bytes in bad sector'. This does not mean that the disk is unusable. All it means is that so much area of the disk is bad and is not available for storing files. DOS automatically skips that area while storing files. In other words, the storage capacity of the disk is reduced.

Then DOS asks if you format another disk. You can enter Y, if you want to format another disk. Otherwise, enter N to cancel the command.

If you format a floppy disk that contains files, it will remove all files from the disk. If you format a disk containing useful file by mistake, try the UNFORMAT command immediately.

This command is discussed in the next section

OPTION with FORMAT

When you use the FORMAT command without any option, it formats the disk in the standard capacity of the drive being used for formatting. For instance, you use the command-FORMAT A:, and drive A is a 1.2 MB DSDD floppy drive. Therefore, this command will format the disk with 1.2-MB capacity. However, if you want to format a DSDD (360KB)

floppy disk in a 1.2 MB floppy drive, you can use the option '/4' with FORMAT, e.g. FORMAT A:/4.

Normally, you format both sides of the floppy disk. However, if you wish a format only one side on the disk, specify '/1' after the drive letter with the format command, e.g. FORMAT A:/1.

To format a disk in drive B, you can use FORMAT B: . If you like, FORMAT can automatically copy DOS in the newly formatted disk. For that, use '/S' with FORMAT, e.g. FORMAT B:/S. after the formatting of the disk in drive B is over, this disk becomes a bootable disk. That is, you can use the disk start (boot) a PC. However, remember that disk does not contain any external command file, such as FORMAT, DISKCOPY and XCOPY. You may copy these files selectively from your DOS disk or directory by using the Copy command.

The FORMAT command can also be used to format a hard disk. If you try to format a hard disk, DOS displays the following and similar message:

```
WARNING, ALL DATA ON NON-REMOVABLE DISK  
DRIVE C: WILL BE LOST!  
Proceed with Format (Y/N) ?
```

This message warns you that if you proceed with formatting, all files & programs in all directories on the hard disk (drive C) will be lost forever. You can enter N to cancel the FORMAT command. If you are prepared to lose all data on the hard disk, you may press Y.

Unformatting a Diskette with UNFORMAT

Sometimes, after you have formatted a disk, you realise that you have made a mistake. Now you want to get back the files on the disk. In that case, you can use the UNFORMAT command. The UNFORMAT command can help you to restore the file on the disk. For instance, if you have used the command FORMAT A: to format the disk in drive A, you can use UNFORMAT A: to restore back the file on the Disk.