

Disk Operating System

MS-DOS is one of the oldest and widely used operating system. DOS is a set of computer programs, the major functions of which are file management, allocation of system resources, providing essential features to control hardware devices.

DOS uses a command line, or text-based interface, that allows the user to type commands.

User must know the basic commands in order to use DOS effectively. This made the operating system difficult for novices to use, which is why Microsoft later bundled the graphic-based Windows operating system with DOS

The **main difference** between DOS and Windows is that the **DOS (Disk Operating System) is an operating system that provides a command line or a text-based interface while the Windows provides a Graphical User Interface..**

DOS commands can be typed in either upper case or lower case.

Features of DOS

Following are the significant features of DOS –

- It is a single user system.
- It controls program.
- It is machine independence.
- It manages (computer) files.
- It manages input and output system.
- It manages (computer) memory.
- It provides command processing facilities.
- It operates with Assembler.

DOS (Disk Operating System)	Windows OS
DOS is single user operating system	Windows is multitasking OS
It consume less power	It consume high power
It consume less memory	It consumes more memory
DOS does not support networking	Windows support networking
Complex to use	Easy and simple to use
DOS is command line OS	Windows is Graphical user Interface OS
Does not support multimedia like (games, movies, songs)	Support multimedia like (games, movies, songs)
Only one window opened at a time	Multiple windows can be opened at a time
DOS is free of cost	Windows original version is expensive

Types of DOS Commands

DOS Commands are divided into 2 types:

Internal Commands

Internal Commands are built into the operating system as the part of a file called COMMAND.COM
When you type an Internal Command MS-DOS will perform it immediately. All of the internal commands are part of the shell which could be command.com or cmd.exe (depending on your version of MS-DOS or

Windows) and are not separate files on the hard drive. As long as you can open a command line you can run any of the internal commands included with your version of MS-DOS.

External Commands

- External commands are MS-DOS utilities / programs. These are the .EXE or .COM programs located on our hard drive.
- External commands are not embedded into the command.com and therefore require separate files to be used.
- They are normally placed under C:\DOS, the default directory.

MS-DOS will load external commands if and only if user instructs to execute them at the DOS prompt and /or in a batch program.

DOS (DISK OPERATING SYSTEM):-

Directory:- is a location for storing files on your computer. Directories are found in a [hierarchical file system](#), such as [Linux](#), [MS-DOS](#), [OS/2](#), and [Unix](#).

Current Directory:-Also called **working directory** or **current working directory (CWD)**, the **current directory** is the [directory](#) or [folder](#) where you are currently working.

Root or Root directory:- is the highest level in a [directory](#) hierarchy and includes all other directories under it. For example, in [MS-DOS](#), the primary [hard drive](#)'s root or **root directory** would be the C:\ directory.

Wildcards in DOS:-The **asterisk (*)** and **question mark (?)** are used as **wildcard** characters, as they are in MS-DOS and Windows. The asterisk(*) matches any **sequence of characters**, whereas the question mark(?) matches any **single character**.

• TO VIEW ABOUT COMMAND AND ITS SWITCHES

COMMANDNAME /? (PRESS ENTER KEY)

e.g. to view about dir command and its switches

Dir /? (PRESS ENTER KEY)

To Open Command Prompt:-

Press window key and r to open Run dialog box
Type cmd and click ok

Rules for naming files in DOS:-

A File name must have 1 to 8 characters.

- An optional extension of 1 to 3 characters
- A period (.) between the name and extension name, if extension is used
- All letters from A through Z (lower case letters are automatically transferred to uppercase), 0 to 9 numbers and special characters & symbols \$ # & @ ! ^ () _ - { } ‘ ~ are permitted in the file name.
- The control characters such as Esc, Del, or space bar cannot be used in the file name.
- The characters + = / [] : ; ? * < > : are not permitted.
- Each file name in a directory must be unique.

1 MD or MKDIR:- This command is used to create a new directory.

Syntax:- MD DIRECTORYNAME PRESS ENTER KEY

EXAMPLE E:\> MD HP PRESS ENTER KEY (here E is root directory)

2 CD (CHANGE DIRECTORY):- Used to change directory. It is used to enter inside a directory or exit from a directory.

Syntax:- CD DIRECTORYNAME PRESS ENTER KEY

EXAMPLE E:\> CD HP PRESS ENTER KEY (USED TO ENTER INSIDE HP DIRECTORY)

EXAMPLE E:\HP\KANGRA> CD.. PRESS ENTER KEY(USED TO EXIT FROM A CURRENT DIRECTORY THAT IS FROM KANGRA)

Example E:\HP\KANGRA>CD/ PRESS ENTER KEY(USED TO RETURN TO ROOT DIRECTORY)

3 COPY CON:- THIS COMMAND IS USED TO CREATE A FILE.

Syntax:- COPY CON FILENAME

EXAMPLE E:\HP>COPY CON ABC.txt press enter (THEN TYPE SOMETHING IN FILE AND PRESS F6 OR CTRL+Z TO SAVE FILE)

4 TYPE:- USED TO DISPLAY THE CONTENTS OF A FILE.

Syntax:- TYPE FILENAME

EXAMPLE E:\HP>TYPE ABC.txt press enter (THIS WILL DISPLAY THE CONTENTS OF FILE ABC.TXT)

5 CLS(CLEAR SCREEN):-THIS COMMAND IS USED TO CLEAR THE SCREEN.

Syntax:- CLS PRESS ENTER KEY

EXAMPLE E:\HP>CLS press enter (THIS WILL CLEAR THE SCREEN)

6 REN(RENAME):-THIS COMMAND IS USED TO RENAME A FILE OR DIRECTORY NAME.

Syntax:- REN OLDFILENAME NEW FILENAME

EXAMPLE E:\HP>REN ABC.txt XYZ.txt press enter (THIS WILL RENAME ABC.TXT FILE WITH XYZ.TXT)

EXAMPLE E:\>REN HP HP1 press enter (THIS WILL RENAME HP DIRECTORY WITH NAME HP1)

7 DIR:-This command displays a list of files and subdirectories in a directory.

Syntax:- DIR PRESS ENTER KEY

EXAMPLE E:\>DIR PRESS ENTER KEY

Examples:-

DIR *.txt

***.txt instruction will list all files having txt extension in the specified directory.**

DIR ???T.*

???T instruction will search for files having four characters which ends with T like TEST, REST etc. And * instructs that these files may have any extension like .txt, .dat etc.

SWITCHES USED WITH DIR

[drive:][path][filename]	Specifies drive, directory, and/or files to list.
/A:attributes	Displays files with specified attributes. The possible attributes are as follow: D → Directories, R → Read-only files, H → Hidden files, A → Files ready for archiving, S → System files, – Prefix meaning not
/B	display in bare format with no heading information or summary
/C	Using this attribute with dir by default displays the thousand separator in file sizes. To disable display or separator use /-C
/D	Displays file list sorted by column.
/L	Uses lowercase in listing file names and sub-directories.
/N	Display in new long list format where filenames are on the far right.
/O:sortorder	Displays list by files in sorted order. The sortorder attributes are as follow: N → By name (alphabetic), S → By size (smallest first), E → By extension (alphabetic), D → By date/time (oldest first), G → Group directories first, – Prefix to reverse order
/P	Display page wise pausing after each screenful of information and prompts to press any key to continue.
/Q	Displays the owner of a file or files.
/S	Displays files in specified directory and all subdirectories. Bear caution in using this in your root directory as you may end up in overflowing information. To stop the screen overflow at any point hit Pause-Break key.
T:timefield	This sorts and displays the list based on time field specified. C for Creation, A for Last Access, W for Last Written
/W	Displays list width wise or wide list format.
/X	This is used to display the short names generated for non-8dot3 file names.

8 VER:- This command displays the version of the Microsoft Windows running on your computer.

SYNTAX:- VER (PRESS ENTER KEY)

9 VOL :-It displays the disk volume label and serial number, if they exist for the drive specified. If no drive is specified it displays for the active drive.

Syntax :- **VOL [drive:]** (PRESS ENTER KEY)

10 DEL/ERASE:- This command is used to delete one or more files.

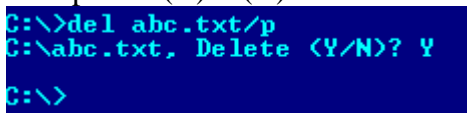
SYNTAX:- **DEL FILE NAME** (press enter key)

EXAMPLE:- **E:\HP>DEL ABC.TXT** (press enter key)

EXAMPLE:- **E:\HP>DEL ABC.TXT ASD.TXT** (press enter key) to delete multiple files

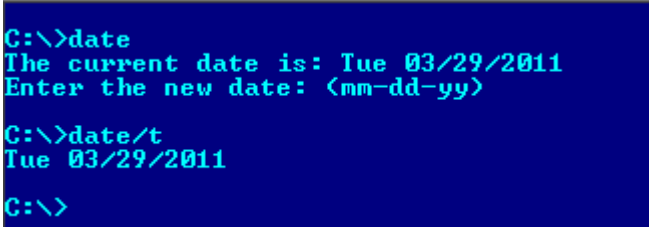
Example:- E:\HP> DEL *.* (press enter key) to delete all files.

DEL displays the following prompt: All files in directory will be deleted! Are you sure (Y/N)?

names	Specifies a list of one or more files or directories. Wildcards * and ? may be used to delete multiple files. * indicates group of unknown characters whereas using wildcard ? in file-names is for single unknown character. And using this command if a directory is specified, all files within the directory will be deleted.
/P	Prompts for (Y)es/(N)o confirmation before deleting each file.  <pre>C:\>del abc.txt/p C:\abc.txt, Delete (Y/N)? Y C:\></pre>
/F	Used to force delete read-only files.
/S	Delete specified files from all subdirectories. If Command Extensions are enabled DEL and ERASE change while using /S switch such that it shows you only the files that are deleted, not the ones it could not find.
/Q	Delete in quite mode and do not ask if ok to delete on global wildcard
/A:attributes	Delete files based on specified attribute. The attributes are: R for Read-only files, S for System files, H for Hidden files, A for files ready for archiving and – Prefix meaning not.

11 DATE:-This command is used to display the system current date setting and prompt you to enter a new date.

The syntax is: DATE [/T | date]



```
C:\>date
The current date is: Tue 03/29/2011
Enter the new date: <mm-dd-yy>

C:\>date/t
Tue 03/29/2011

C:\>
```

If you type DATE without parameters then it displays current date and prompts to enter new date. We should give new date in mm-dd-yy format. If you want to keep the same date just Press ENTER. DATE command with /T switch tells the command to just output the current system date, without prompting for a new date.

12 TIME:-This command is used to displays or set the system time.

The syntax is: **TIME [/T | time]**

```

C:\>time
The current time is: 13:41:53.99
Enter the new time:

C:\>time/t
01:42 PM

C:\>

```

Same as DATE command, typing TIME with no parameters displays the current time and a prompt for a new one. Press ENTER to keep the same time. TIME command used with /T switch tells the command to just output the current system time, without prompting for a new time.

13 RD or RMDIR:- command removes or deletes a directory. There are two conditions to remove any directory – (1) Directory to be removed should be empty. and (2) We should be outside the directory we are commanding to delete.

Syntax RD [/S] [/Q] [drive:]path

Here, using the switch /S removes a directory tree meaning it removes all directories and files in the specified directory in addition to the directory itself. And using /Q is the quiet mode that doesn't ask for ok approval to remove a directory tree

14 COPY COMMAND:- Using *copy* command, we can copy files from one directory to another directory. Copy the contents of a file to another file

Syntax:- **copy sourceFile destinationFile**

(a) Example:-suppose we are on e drive and created a file using copy con command in drive e (file named abc.txt)

Now we want to copy it to drive F then use this command on prompt

E:\>copy e:\abc.txt f:

Then press enter key. (1 file copied msg displayed)

(b) Example:- **copy content of a file to another file**

Suppose we had created 2 files in HP directory in E drive

E:\HP>copy con 12.txt (type some text in file & save it by pressing CTRL +Z)

E:\HP>copy con 34.txt (type some text in file & save it by pressing CTRL +Z)

Now use copy command as given

E:\HP>copy 12.txt 34.txt Press enter key(this command will ask you to overwrite content)

(c) Example :- To copy a file from one directory to another directory

Suppose we had a file named 12.txt in drive E under directory HP. And now want to copy it to directory Kangra under directory HP in drive E

E:\> copy E:\HP\12.txt E:\HP\KANGRA Press enter key (12.txt file will be copied to kangra directory also.

(d)Example:- Copy multiple files from one directory to other using wild cards

Suppose we want to copy 2 files abc.txt and xyz.txt from HP directory to UNA directory

E:\> copy e:\HP*.txt e:\HP\UNA (press enter key)

(e) Example :- Copy a file with its content with another file name.

E:\HP> copy test1.txt test2.txt (press enter key) it will create copy of file test1.txt as test2.txt with same content

(f) Copy concatenating: Multiple file can be combined to form a single file by use of + between the source files and is called as concatenation

Example:-E:\HP> copy test1.txt + test2.txt result.txt (here result.txt is name of concatenation file)

With the above command test1.txt and test2.txt will be combined and result.txt file will be created which will have the contents of first two source files.

15 EXIT :- it is used to exit or quit form the command prompt

E:\> exit (press enter key)

16 Changing Drives:- We know every drive is represented by a drive letter such as C drive, D drive, E drive etc. DOS allows to change from current or default drive by typing the letter identification of disk drive desired followed immediately by a colon.

Example C\> d: (Press enter key)

17 Path :- Displays or sets a search path for executable files.

Example:- Path (press enter key) Typing "path" by itself shows the current path information.

External Commands:-

1 EDIT:- This command is used to edit the contents of a file in text editor.

Syntax:- EDIT FILENAME (press enter key)

Example Edit abc.txt (press enter key)

it does not work in some Operating system(i.e. 64 bit OS) directly. Here you can use it as below:-

E:\>HP\ notepad abc.txt (press enter key) it will open abc.txt file in notepad where you can edit the file and save it.

(OR) E:\>HP\ start abc.txt (press enter key) it will open abc.txt file in notepad where you can edit the file and save it. (if file is created without extension then it will prompt you to how do you want to open this file. Where you can choose any application program to open file.

2 XCOPY:- Copies files and directories, including subdirectories.

To copy all the files and subdirectories (including any empty subdirectories) from drive E to drive F, type:-

E:\> xcopy E:\HP/s/e F:\Test (press enter key)

/s:- copies directories and sub-directories, unless they are empty. If you omit **/s**, xcopy works within a single directory.

/e:- Copies all subdirectories, even if they are empty. Use **/e** with the **/s** and **/t** command-line options

3 MOVE :- Moves one or more files from one directory to another directory.

- To move a file from one drive(E) to another drive (F)

E:\> move e:\hp\abc.txt f:\zozo (Press enter key)

- To move files of same format to different directory

E:\>move e:\hp*.xlsx f:\zozo

4 WHOAMI:-Displays user, group and privileges information for the user who is currently logged on to the local system. If used without parameters, **whoami** displays the current domain and user name.

- To display the domain and user name of the person who is currently logged on to this computer

Example:- whoami (press enter key)

- To display all of the information in the current access token

Example:- whoami /all (press enter key)

5 Label:- The label command is used to view or change the label of a computer's drives.

Example:-Open command prompt as run as administrator.(suppose you are on drive E:/>)

(a) Then type this command if you want to view drive label:-

E:/> label E: (press enter key)

(b) Then type this command if you want to change drive label:-(before changing drive label is New Volume and now we are changing it to COPA)

E:/> label E: COPA (press enter key)

6 Tree :- The tree command allows the user to view an easy-to-read list of files and folders.

Syntax :- TREE [Drive:][[Path] [/F] [/A]

/F :- Displays the file names contained in each directory

/A:- Extended characters used for linking lines instead of graphic characters. **/a** is used with code pages that do not support graphics characters and to send output to printers that do not properly interpret graphics characters.

Example:- E:\HP tree (press enter key) The tree command typed alone produces a listing and overview of the current directory

Example:- E:\HP tree/f (press enter key) The resulting output would include the names of files located in each of the directories in the tree.

7 FC(File compare):- This command is capable for comparing two set of files and display difference between two files. If content of both files are same gives message no differences encountered else shows the contents of both the files.

Syntax:- E:\> FC <First file> <Second file>

E:\HP> FC 11.TXT 22.TXT

8 SORT:- This command is useful when we want to sort a file. When we run this command the result can be get to display device or file.

Syntax:- C:\> SORT filename (Press enter key)

Suppose we have a file **Student.txt** which having the list of students and we want to sort the list of students, then we uses this command

C:\> SORT Student.txt (press enter key)

If we not specify the output file name then result will show to the screen.

/R- switch is used for sorting the file in descending order like from Z to A or from 9 to 0.

- This next command takes the sorted results and stores them in the Result.txt file.

C:\>Sort Student.txt /o Result.txt

- Use of /R switch for sorting the file in descending order and stores them in the Result1.txt file.

C:\>Sort /r Student.txt /o Result1.txt

9 FIND:- The FIND command is used to search a file for a text string.

Syntax:- E:\HP> FIND "String to search" <File name>

E:\TEST>find "office" gulab.txt

----- gulab.txt

A clock in a office can never get stolen

10 ATTRIB:- Sets the various type of attribute to a file. Like Read only, Archive, Hidden and System attribute.

Read-only: Readable, but cannot be changed or deleted

Hidden: By default, not displayed in a directory listing

Archive: Used for selectively backing up or copying files; most helpful in DOS

System: Flagged for use by the operating system; not usually displayed in a directory listing

Syntax:- C:\> ATTRIB [\pm r] [\pm a] [\pm h] [\pm s] <File name>

here r - for read only, a- for archive, h - for hidden, s - for hidden attribute.

C:\> ATTRIB +r Gulab.txt

This command will change the attribute of file Gulab.txt to read only mode.

To remove the read only attribute we will follow this command.

C:\> ATTRIB -r Gulab.txt

11 DISKCOPY:- DISKCOPY copies the contents of a floppy disk to another.

Syntax:- **C:\> DISKCOPY <Drive1> <Drive2>**

C:\> DISKCOPY A: B:

This command will be copy all contents of **A drive to B drive**. This command is used only for copying diskettes, not fixed disks.

12 FORMAT:- The format command is used to erase information from a computer diskette or fixed drive.

Syntax:- **format C: (press enter key) (It will erase all data of drive C) so use this command carefully.**

13 CHKDSK:-(*Check disk*) - This command is used to check the status of a disk and show the report of result status.

Syntax:- **C:\> CHKDSK**

Example:- **C:\> CHKDSK (press enter key)**

14 DELTREE:- Short for delete tree, deltree is a command used to delete files and directories permanently from a computer.

Example:- **E:\hp> deltree e:\hp (press enter key)**

Note:-(The deltree command is no longer used in Windows 2000 and Windows XP, Vista or Windows 7, as the last operating system supporting the deltree command was Windows ME.)

15 BACKUP:- The backup command enables to backup one or more files from one disk to another. You can also backup files on to either hard disk or floppy disk.

backup c:\work*.* d: /s

The example above would create a backup of all the files and subdirectories in the working directory and save the backup to the **d: drive**.

Syntax:

Backup <source > <destination>

C:\>backup c:\work*.* d: /s

16 RESTORE:-Restore command restore files that are backed up by using backup command.

Syntax:- **Restore drive1 drive2 : path**

Drive1:- specifies drive on which backup files are stored.
Drive2 path:- specifies the path to which those backup files will be stored

Commands to open these programs:-

Explorer:-	To open The PC or explorer computer
Calc:-	Type calc at prompt to open calculator.
mspaint:-	To open paint.
start winword:-	Type this command to open MS-word
start excel:-	Type this command to open MS-Excel
start powerpnt:-	Type this command to open MS-Powerpoint
notepad:-	Type this command to open Notepad