

Unit 4

Understand DOS Operating System

4.0 Operating System:

- **A computer** is an electro-mechanical machine that accepts the data, stores and processes the data and produces the output as per the instructions issued to it.
- When we switch on a new computer without installing any software, it simple doesn't perform any action. It is useless without an **Operating System**.
 - An operating system is a collection of programs written by the computer manufacturer.
 - It enables you to use that computer system. **It is an interface between user and the computer hardware.**
 - An operating system translates the instructions given by the user from human understandable language (English language).
 - It also controls various units in a computer.

4.1 Need of an Operating System.

- An operating system is the most important software that runs on a computer.
- It manages the computer's memory, processes and all of its software and hardware.
- When you switch on a computer a process called **booting** will be done by the computer.
- In this process the computer:
 - » Runs tests to make sure that everything is working correctly.
 - » Checks for new hardware.
 - » Starts up the Operating system.
- When booting is completed, your operating system is up and running. Now a user can work with it.

Functions performed by operating system.

1. Managing and controlling the execution of a program.
2. Transfer data between primary memory and secondary memory, storage devices.
3. Acts as a mediator between programs and the computer hardware.
4. Accept commands entered at the keyboard that allows you to control the computer system.
5. Managing peripheral devices.
6. Allowing users to interact with computer.
7. Managing files on external media.

4.2 List various Operating Systems used presently.

Classification based on the number of users working in a time

1. Single user Operating System for personal computer purpose. Some Operating Systems are.
 - » MS-DOS (Microsoft Disk Operating System)
 - » Windows XP.
 - » Windows 7.
 - » Windows 8.
 - » Windows 10.
 - » Mac OS X.
 - » Linux (some single user distributions exists).
2. Multi user Operating System for Servers and Industrial Purpose. Some Operating Systems are.
 - » UNIX.
 - » Fedora Linux.
 - » Ubuntu Linux.
 - » OpenSuse Linux.
 - » Windows server Operating systems (Windows 2003 server, Windows 2008 server, etc.).
 - » Red Hat Linux.
 - » Novel NetWare.

» Sun Solaris and more.

Classification based on the user interface

1) **Character base OS:** it provides interface through set of commands.

Ex:DOS,unix.

2) **Graphical base OS:** it provides interface through set of icons. This type of OS is user friendly.

Ex:windows,mac.

3) **Personal OS:** this type of os are used to work in personal computers.

Ex:windows 7, windows 8.

4) **Network based OS:** operating system that includes special functions for connecting computers and devices into a local area network.

Ex:microsoft window server,novel netware,sunsolaris.

4.3 DOS Prompt

- DOS stands for Disk Operating System. It is a single user operating system released by Microsoft in the early 1980's.
- DOS is a command line interpreter operating system.
- A prompt is defined as a command line interface to indicate that a computer is ready to accept commands from users. Dos controls the computer hardware and provides an environment for program to run.
- It is where DOS commands are given for execution.
- In DOS '>' is used as a prompt, which is preceded by other information such as current drive and path of the current working directory.
- To display the command prompt, Click **START** menu, point to **All Programs**, point to **Accessories**, and then select **Command Prompt**.

Or

Click **start** menu select **Run** option and type **CMD or Command** and click **ok**.

4.4 Classify DOS Commands:

In Disk Operating System the commands are classified into two types

1. Internal commands.
2. External commands.

Internal commands: The internal commands are built into the operating system as part of a file called **COMMAND.COM**. Which is loaded into main memory during the booting process? The internal commands are commonly used. This commands are also called as memory residence commands.

Some internal commands are DIR, CLS, MKDIR (OR) MD, CHDIR (OR) CD, RMDIR (OR) RD, COPY CON, TYPE, DATE, TIME, DEL (OR) ERASE, VER, VOL, COPY, REN (OR) RENAME.

External commands: The commands which are not present in **COMMAND.COM** file are called as External commands. Every External command will have its own **.exe, .bat, .com** file. These commands are also called as disk residence commands.

The external commands require larger requirements and are not commonly used.

Some external commands are EDIT, MEM, ATTRIB, TREE, XCOPY, CHKDSK, FORMAT, DISKCOPY, DISKCOMP, FDISK, UNDELETE, And UNFORMAT.

4.5 List and explain any 10 Internal commands:

1. **DIR (Directory):** This command is used to displays a list of files and sub-directories in a directory.

Syntax: Prompt> dir

Ex:c:>dir /p

/p PAGEWISE

/w WIDTHWISE

/s LIST ALL FILES AND DIRECTORY OF SUBDIRECTORIES.

/AH DISPLAY DIRECTORY WITH HIDDEN FILES.

/AS DISPLAY DIRECTORY WITH SYSTEM FILES.

/AD DISPLAY ONLY DIRECTORIES PRESENT IN CURRENT DRIVE.

Example:

```
C:\>dir
Volume in drive C has no label.
Volume Serial Number is C0A0-5F17

Directory of C:\

02/27/2015  09:33 AM                1,024 .rnd
07/13/2015  11:14 AM            181,978 1020.log
06/11/2009  03:12 AM                24 autoexec.bat
06/11/2009  03:12 AM               10 config.sys
02/22/2015  01:06 PM             <DIR> Intel
07/14/2009  08:07 AM             <DIR> PerfLogs
09/07/2015  05:40 PM             <DIR> Program Files
09/03/2015  09:39 AM             <DIR> TC
08/08/2015  12:55 PM             <DIR> tmp
02/22/2015  10:25 AM             <DIR> Users
08/19/2015  10:47 AM             <DIR> Windows
               4 File(s)            183,036 bytes
               7 Dir(s)   3,510,497,280 bytes free

C:\>
```

2. **Cls: (clear screen):** This command is used to clear the content on the screen.

Syntax: prompt> cls

Example: c:/> cls

3. **Date:** This command is used to display the current date and change the date.

Syntax: prompt> date

Example:

```
C:\>date
The current date is: Fri 09/11/2015
Enter the new date: (mm-dd-yy) 
```

4. **Time:** This command is used to display the current time and also change the new time.

Syntax: prompt> time

Example:

```
C:\>time
The current time is: 11:15:46.34
Enter the new time: 
```

5. **MD (or) MKDIR (MAKE A DIRECTORY):** This command is used to create a directory.

Syntax: PROMPT> MKDIR DIRECTORY NAME .

Example: c:\> mkdir folder1

6. **CD (or) CHDIR (change directory):** This command is used to change the current directory.

Syntax: prompt> CHDIR required directory name.

Example : c:\> CHDIR 123

```
C:\>
C:\>cd 1234
C:\1234>
```

7. **RD (or) RMDIR (Remove Directory):** This command is used to delete a directory.

Syntax: *prompt> RMDIR [/s] [/Q] <directory name>.*

Example: *c:\> RD 1234*

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

/Q is used to Quiet mode, do not ask if ok to remove a directory tree with **/S**.

8. **COPY CON:** This command is used to create a new file.

Syntax: *Prompt> Copy Con filename .txt*

Example: *c : \> copy con 123.txt*

Enter your text and press **Ctrl+C** or **Ctrl+Z** for saving and for coming back to command prompt.

```
C:\Users\admin\Desktop>copy con abc.txt
hi you are creating a new file
your file name is abc.txt
and save this file press ctrl + Z
^Z
1 file(s) copied.
C:\Users\admin\Desktop>_
```

9. **TYPE:** This command is used to display the contents of a specified file.

Syntax: *prompt> TYPE file name*

Example: *c:\> TYPE abc.txt*

```
C:\>cd users/admin/desktop
C:\Users\admin\Desktop>type abc.txt
hi you are creating a new file
your file name is abc.txt
and save this file press ctrl + Z
C:\Users\admin\Desktop>
```

- 10.**COPY:** This command is used to copy a file from one location to another location.

Syntax: *prompt> copy <source file name> <destination address>*

C : \> COPY source-file destination-file.

Example: *c:\> copy 123.doc 321.doc*

- 11.**DEL (or) ERASE:** This command is used to delete one or more files.

Syntax: *prompt> DEL <filename>*

DEL [/P] [/F] [/S] [/Q] [/A[:attributes]] names

ERASE [/P] [/F] [/S] [/Q] [/A[:attributes]] names

Wildcards may be used to delete multiple files. If a directory is specified, all files within the directory will be deleted.

/P Prompts for confirmation before deleting each file.

/F Force deleting of read-only files.

/S Delete specified files from all subdirectories.

/Q Quiet mode, do not ask if ok to delete on global wildcard

Example: *c : \> Del 123.txt*

12. **RENAME (OR) REN:** This command is used to rename a file.

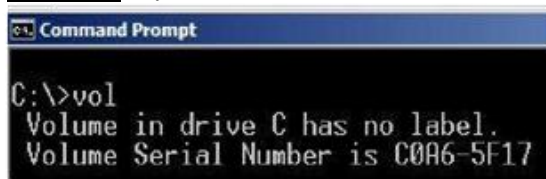
Syntax: *prompt> REN <old filename> <new filename>*

Example: *c:\>ren 123.txt 345.txt*

13. VOL: This command is used to display the disk volume and serial number.

Syntax: *prompt> vol*

Example: *c:/> VOL*

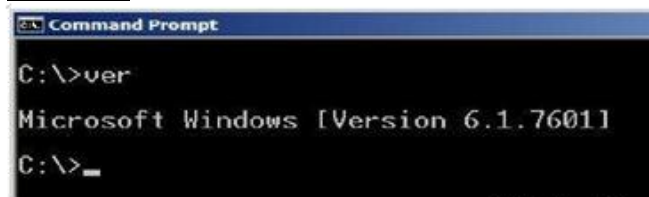


```
Command Prompt
C:\>vol
Volume in drive C has no label.
Volume Serial Number is C0A6-5F17
```

14. VER: This command is used to display the version number of MS-DOS.

Syntax: *prompt> VER*

Example: *c:\> VER*



```
Command Prompt
C:\>ver
Microsoft Windows [Version 6.1.7601]
C:\>_
```

15. PROMPT: this command is used to change the command prompt.

Syntax: *prompt> prompt [text]*

Text Specifies a new command prompt.

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

- \$A** & (Ampersand)
- \$B** | (pipe)
- \$C** ((Left parenthesis)
- \$D** Current date
- \$E** Escape code (ASCII code 27)
- \$F**) (Right parenthesis)
- \$G** > (greater-than sign)
- \$H** Backspace (erases previous character)
- \$L** < (less-than sign)
- \$N** Current drive
- \$P** Current drive and path
- \$Q** = (equal sign)
- \$S** (space)
- \$T** Current time
- \$V** Windows version number
- \$_** Carriage return and linefeed
- \$\$** \$ (dollar sign)

Example: *c:\> \$\$*



```
Command Prompt
C:\>
C:\>prompt $$
$
$_
```