## Types of Operating Systems

**1- MS-DOS(1980):** MS-DOS stands for Microsoft Disk Operating System. MS- DOS was one of the first operating systems for the personal computer.

**2- Windows** :Windows is an operating system from Microsoft, is a **GUI** (graphical user interface) operating system. This type easy to use pictures instead of MS-DOS commands and have **WIMP** features:

- **W**indows
- **I**cons
- **M**enus
- **P**ointing device (mouse)

### • Windows Desktop
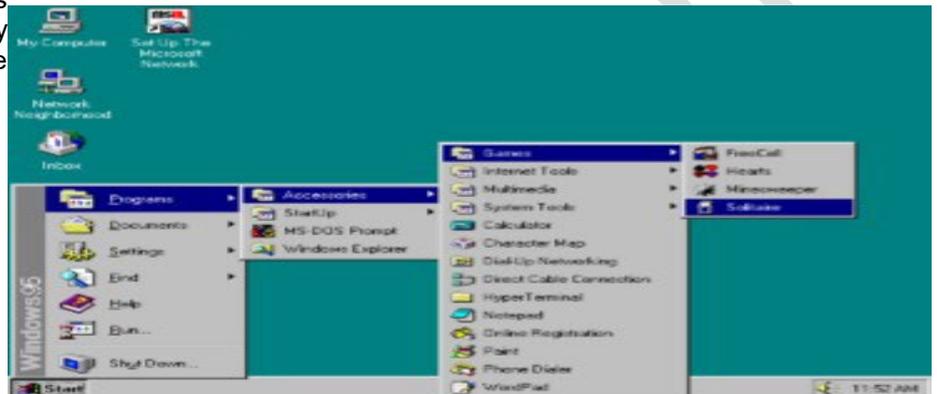
The operation environment was introduced by Microsoft in the early 1980's, and has advanced with the following versions

1-Windows 3.1(1992):
2- Windows 95 1995
3- Windows 98 1998
4- Windows 2000
5- Windows Millennium
6- Windows XP
7- Windows Vista
8- Windows 7
9- Windows 10

**3- MacOS -** Macintosh, a product of Apple, has its own operating system with a GUI and WIMP features.

### • MS-DOS Introduction:

short for Microsoft Disk Operating System is an operating system for x86-based personal computers. It was the most commonly used member of the DOS family of operating systems, and was the main operating system for IBM PC compatible personal computers during the 1980s to the mid 1990s, until it was gradually superseded by operating systems offering a graphical user interface (GUI), in particular by various generations of the Microsoft Windows operating system.

In the personal computer operating systems MS-DOS and PC DOS, a number of standard system commands were provided for common tasks such as listing files on a disk or moving files. Some commands were built-in to the command interpreter; others existed as transient commands loaded into memory when required.

The DOS (Disk Operating System) is the old and single user Operating System in the computer. Though it is not used by many people at present, it is better to study DOS with a view to understand how the files are created, maintained and copied in the computer. *As this operating system is mainly deals with different disks like floppy, hard disk etc., it is called as Disk Operating System (DOS)*.

Over the several generations of MS-DOS, commands were added for the additional functions of the operating system. In the current Microsoft Windows operating system a text-mode command prompt window can still be used. Some DOS commands carry out functions equivalent to those in a UNIX system but always with differences in details of the function.

When we start the computer, it makes the system to work in its internal parts like RAM, ROM and other peripherals. Here it will check whether the operating system has been loaded in it or not. If it is loaded, it will start further operations. Disk operating system is thus that part of system which will co-ordinate with all the parts of a computer.

### • Functions of DOS (Disk Operating System)

1. It takes commands from the keyboard and interprets them.
2. It shows all the files in the system.
3. It creates new files and allots space for programme.
4. It changes the name of a file in place of old name.
5. It copies information in a floppy drive and hard disk.
6. It helps in locating a file.
7. It searchers where the file is located in the disk.
8. If we want the information in the file to be printed, it gives printout of the information.
9. It hides the files and directories so as not to be seen by others.
10. It permanently removes the file.

- **Features of DOS**

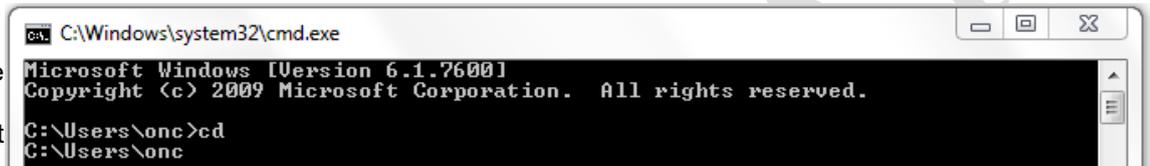The primitive operating system of DOS has the following features:

1. It is the **primary system** where the user will get an environment about the input and output devices, e.g. Monitor, Keyboard, Printers etc. viz. DOS provides features essential to control hardware devices such as Keyboard, Screen, Disk Devices, Printers, Modems and programs.
2. It is helpful in **performing file management** e.g., creating, editing, deleting files etc.
3. It is a **single user operating system.** One user can operate at one time in this operating system.
4. It is **Character Based** interface system. We can type letters (or characters in this operating system). DOS translate the command issued of the user in the format that is understood by the computer to execute it, also error message in the format for the user to understand.

- **Windows command prompt**

Microsoft Windows supports a number of commands which may be invoked by typing them in a command window; they are usually similar to their MS-DOS equivalents. Typing help followed by a carriage return at a command prompt will list the commands. File and path names used as arguments may be long, unlike MS-DOS names in "8.3" form, and may contain embedded spaces; names with spaces must be enclosed between a pair of double-quote character (").

Commend List:

- **CD**: (**C**hange **D**irectory)
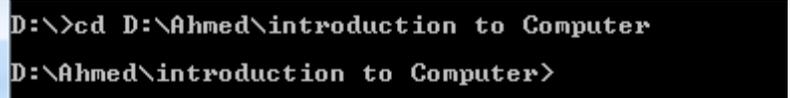
Change current working directory. Displays the current working directory when used without a path parameter



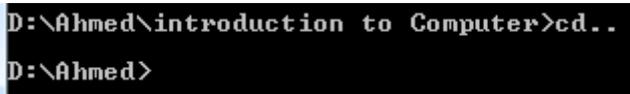- **CD**: displays the current working directory on the current drive.

 Example *CD*

CD directory: changes the working directory on the current drive to directory.
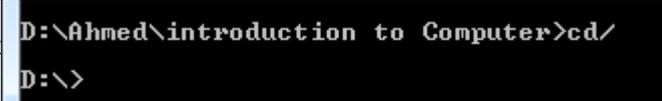


Example *CD D:\Ahmed\introduction to Computer*

- **CD..** : changes the working directory to the parent directory (up one directory level).

Example *CD..*



- **CD\**: changes the working directory to the root (top level) directory of the current drive.

Example *CD\*



- **CLS** (**C**lean **S**creen): clean the command prompt window from the previous command lines.
- **DIR**: Lists the contents of a directory.

The **DIR** command typed by itself, displays the disk's volume label and serial number; one directory or filename per line, including the filename extension, the file size in bytes, and the date and time the file was last modified; and the total number of files listed, their cumulative size, and the free space (in bytes) remaining on the disk.

*dir [drive:][path][filename] [parameters]*



- **Copy:**

Copies files from one location to another. The destination defaults to the current directory. If multiple source files are indicated, the destination must be a directory, or an error will result.

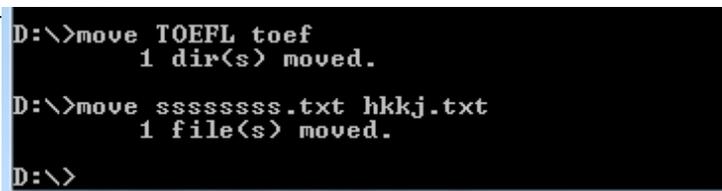Copy [source\filename] [destination\folder]

**Del**: Deletes one or more files.



- **Deltree**: Deletes a directory along with all of the files and subdirectories that it contains. Normally, it will ask for confirmation of such a drastic action.

For Microsoft windows use

Del /s /f [/q] *directory* && rd /s [/q] *directory*

- **Move:** moves files or rename directories.

*move filename newname*

move *driveletter:\olddir driveletter:\newdir*

- **Md:** Makes a new directory. The parent of the directory specified will be created if it does not already exist.

*md directory*

- **Edit**:

Full-screen text editor, included with MS-DOS 5 and 6, OS/2 and Windows NT to 4.0.

- **pause**

Suspends processing of a batch program and displays the message *'Press any key to continue. . .'*. This command exists in all versions of Microsoft Windows and has the exact same function.

- **Tree:** Shows the directory tree of the current directory

- **Ipconfig:**

Ipconfig displays all current TCP/IP network configuration values and refreshes Dynamic Host Configuration Protocol (DHCP) and Domain Name System (DNS) settings. Used without parameters, **ipconfig** displays the IP address, subnet mask, and default gateway for all adapters.

**Ipconfig:** To display the basic TCP/IP configuration for all adapters.

**Ipconfig /all**: To display the full TCP/IP configuration for all adapters.

**Ipconfig /renew**: To renew a DHCP-assigned IP address configuration.

**Ipconfig /release**: Sends a DHCPRELEASE message to the DHCP server to release the current DHCP configuration and discard the IP address configuration for either all adapters (if an adapter is not specified) or for a specific adapter if the Adapter parameter is included.

- **Ping**

Ping Verifies IP-level connectivity to another TCP/IP computer by sending Internet Control Message Protocol (ICMP) Echo Request messages. The receipt of corresponding Echo Reply messages are displayed, along with round-trip times. Ping is the primary TCP/IP command used to troubleshoot connectivity, reach ability, and name resolution. Used without parameters, ping displays help.

**-t:** Specifies that ping continue sending Echo Request messages to the destination until interrupted.

- **Exit:**

e.g. *ping www.google.com –t*

Exit: Exits the current batch script or the Cmd.exe program.

- **Ctrl+C**

Used to interrupt any running command and terminate it.

- Make the USB flash bootable: