

Disk Operating System (DOS)

DOS

DOS is designed to

1. provide an easy way to use disk for storage.
2. provides a method for organizing and using the information stored on disk.
3. instruct the computer how to read the information that we have stored on the disk.
4. locate the information on the disk or memory and also control other devices.

Version of DOS

Version 6.22 is the latest version of DOS.

Boot Record:

The simple startup program that reads the very first part of the system diskette where the DOS startup program is written is called **Boot Record**.

Bootting:

To load essential program of Dos into memory of Computer is called **bootting**.

Bootable disk.

The DOS software comes in the form of three files IO.SYS, MSDOS.SYS and COMMAND.COM. The disk that contains all the three files is called a **bootable disk**. Out of these three files IO.SYS and MSDOS.SYS do not appear in the directory since their status is **hidden**.

IO.SYS:

This file contains two important modules:

- (1). Device drives like printer, VDU, keyboard, etc. All these drivers together are called "**Disk BIOS**".
- (2). SYSINIT module which loads the file MSDOS.SYS from the disk into memory.

MSDOS.SYS:

This file is also called **DOS kernel**. It has four major roles to play:

- (1) **Process Control:** This includes loading the program requested by the user from the disk into memory initiating the execution of the loaded program and performing operating system recovery when program execution is terminated.
- (2) **Memory Management:** This refers to allocation of memory for application program and managing it. This is necessary since different application programs have varying memory demands.
- (3) **Application Program Interface (API):** It provides an interface between our (application) programs and the hardware. As a result, the programmer gets shielded from the intricacies of the hardware and its internal working. The API comes in the form of functions, which can be called by issuing software interrupts
- (4) **File Management System:** This portion of DOS kernel is larger portion of MS-DOS and manages the reading and writing of the files.

COMMAND.COM:

This file contains command processor, best known as **shell**. It is the user's interface to the Operating System. The command like DIR, DEL, COPY, etc. COMMAND.COM consists of following parts.

(1) **Resident Portion:** As the name suggests, once DOS has been loaded into memory till we don't switch off the computer. It contains routines to process Ctrl C, critical errors and the job of termination of application programs. Resident portion also issues the error messages and is responsible for the familiar prompt: Abort, Retry, Ignore? It also contains code required to reload the transient portion of COMMAND.COM when necessary.

(2) **Transient portion:** It is the temporary portion of COMMAND.COM. It may not remain in memory at all times. If an application program falls short of memory, the transient portion of COMMAND.COM is erased and this memory is made available to the application program.

The transient portion is responsible for issuing the prompts, A, B and C, and for reading the commands from the keyboard or from batch files and then causing them to be executed. A batch is a file that contains a batch or group of DOS commands. If the application program is big the transient portion gets erased and this space is utilized by application program.

Files:

Data on a disk are organized into files. The file name must be unique.

File name: A file name has two parts

1. First name *can be 1 to 8 character long*
2. Extension name *0 to 3 character long*

The two are separated by a period (.).

Ex. SHAILAJ.DBF

File extension

- | | | |
|----|------|-----------------|
| 1. | .EXE | Executable file |
| 2. | .COM | Command file |
| 3. | .SYS | System file |
| 4. | .BAT | Batch file |
| 5. | .BAK | Back up file |
| 6. | .DOC | Document file |
| 7. | .DBF | Data Base file |
| 8. | .WKS | Worksheet file |

Types of files

- | | | |
|---|------------------|------------|
| 1 | Text files | .TXT |
| 2 | Program files | .EXE, .COM |
| 3 | System file | .SYS |
| 4 | Back up file | .BAK |
| 5 | Document file | .DOC |
| 6 | Data base file | .DBF |
| 7 | Work sheet files | .WK1, .WK2 |
| 8 | Basic files | BAS |

Computer coded images: .BMP, .PCX, .TIF

SYNTAX: The syntax is proper format of a command.

DOS commands:- DOS command are of two types. 1. External 2. Internal. All DOS commands are accepted either in upper or lower case letter.

Wild Card: There are two types of wild cards

1. *

2. ?

- Ex.
- | | | |
|-----|----------|---|
| (a) | ** | means that the files can have any first name and any extension. |
| (b) | *.EXE | means that the files can have any first name and extension EXE. |
| (c) | ?SKS.DBF | means that the files can start with any single character and remaining letter in the file name must be SKS and the file must have extension .DBF. |
| (d) | SKS?.DBF | means that the files can start SKS and followed by any single Character and the file must have extension .DBF. |