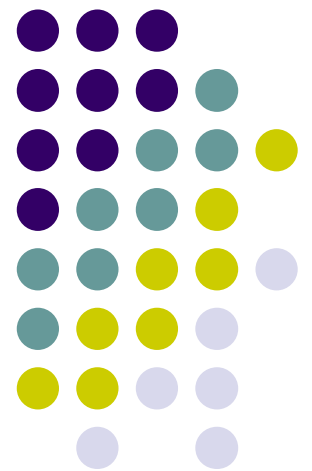


Lecture By Amit Kumar

*Disk Operating
System (MS DOS)*



Disk Operating System (DOS)



- In the 1980s or early 1990s, the operating system that shipped with most PCs was a version of the *Disk Operating System (DOS)* created by Microsoft: *MS-DOS*.
- MS-DOS is a disk operating system for IBM PC-compatible computers.
- In its day, it was easily the most popular operating system in the world.



- As with any other operating system, its function is to oversee the operation of the system by providing support for executing programs, controlling I/O devices, handling errors, and providing the user interface.
- MS-DOS is a disk-based, single-user, single-task operating system. These qualities make it one of the easiest disk operating systems to understand.

DOS FILES



- The main portions of MS-DOS are the ***IO.SYS***, ***MSDOS.SYS***, and ***COMMAND.COM*** files.
- IO.SYS and MSDOS.SYS are special, hidden system files
- The IO.SYS file moves the system's basic I/O functions into memory and then implements the MS-DOS default control programs, referred to as device drivers, for various hardware components.
- **These include the following:**
 - The boot disk drive
 - The console display and keyboard
 - The system's time-of-day clock
 - The parallel and serial communications port

COMMAND.COM



- The COMMAND.COM command interpreter accepts commands issued through the keyboard, or other input device, and carries them out according to the commands definition
- When DOS runs an application, COMMAND.COM finds the program, loads it into memory, and then gives it control of the system. When the program is shut down, it passes control back to the command interpreter.



Popular DOS Versions

- **MS-DOS 3**
- With DOS 3.0, released in summer 1984, Microsoft continued to include additional DOS features and to support more powerful hardware. DOS 3.0 supported hard drives larger than 10MB, as well as enhanced graphics formats.
- Three revisions—3.1, 3.2, and 3.3—provided additional innovations

MS-DOS 4



- By 1988 it was apparent that the wave of the future was the graphical interface, and DOS 4 provided users with the DOS Shell, a utility much like the Windows File Manager. Actually, DOS Shell was simply a scaled-down version of Windows that allowed users to manage files, run programs, and do routine maintenance, all from a single screen. The DOS Shell even supported a mouse.

MS-DOS 5



- There were several important features introduced in the 1991 release of DOS 5.0. First of all, the ability to load drivers into reserved (upper) memory was a relief to those people who were constantly running out of conventional memory. This feature allowed more complex DOS programs. Several software utilities made their debut. The most commonly used utility introduced at this time was EDIT.COM. Also added were QBASIC.EXE, DOSKEY, UNFORMAT, and UNDELETE.

MS-DOS 6

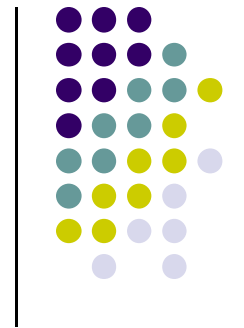


- Released in 1993 to excellent sales, DOS 6.0 offered a number of new commands and configurable options. Another enhancement in DOS 6.0 was EMM386.EXE, which allowed the system to pool extended and expanded memory. DOS 6.0 has subsequently been revised a number of times. As of this date, DOS 6.22 is the most current MS-DOS version available as a stand-alone operating system.

The main functions of DOS



- **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.**
- **Manage disk files,**
- **Allocate system resources according to the requirement.**
- **DOS provides features essential to control hardware devices such as Keyboard, Screen, Disk Devices, Printers, Modems and programs.**



Loading of DOS



- The system start-up routine of ROM runs a test called **Power On Self Test (POST)** which check whether peripherals connected to the computer are working or not & RAM memory.
- The ROM bootstrap loader attempts to read the Boot record and if successful, passes the control on to it. The instructions/programs in the boot record then load the rest of the program.
- The boot tries to load the DOS into the memory by reading the two hidden files ***IO.SYS, MSDOS.SYS***, If these two are found, they are loaded along with the DOS command interpreter **COMMAND.COM**.

4.2 COMPUTER FILES IN DOS



- A file may contain a program or any other kind of information. DOS permits the user to assign a name consisting of two parts to a **file - primary** (a maximum of eight characters consisting of Characters, Alphabets, Number and Hyphen), and **secondary names**(should consist of three characters, which is optional) this two parts separated by a dot (.).
- **Using an extension** is specified, using the complete name . Using extensions can be an excellent way of naming a file so that it can be identified easily.

Examples:



Filename	Primary Name	Separator	Secondary Name
Employee	Employee		
Employee.Exe	Employee		. Exe
Employee.Dbf	Employee		. Dbf



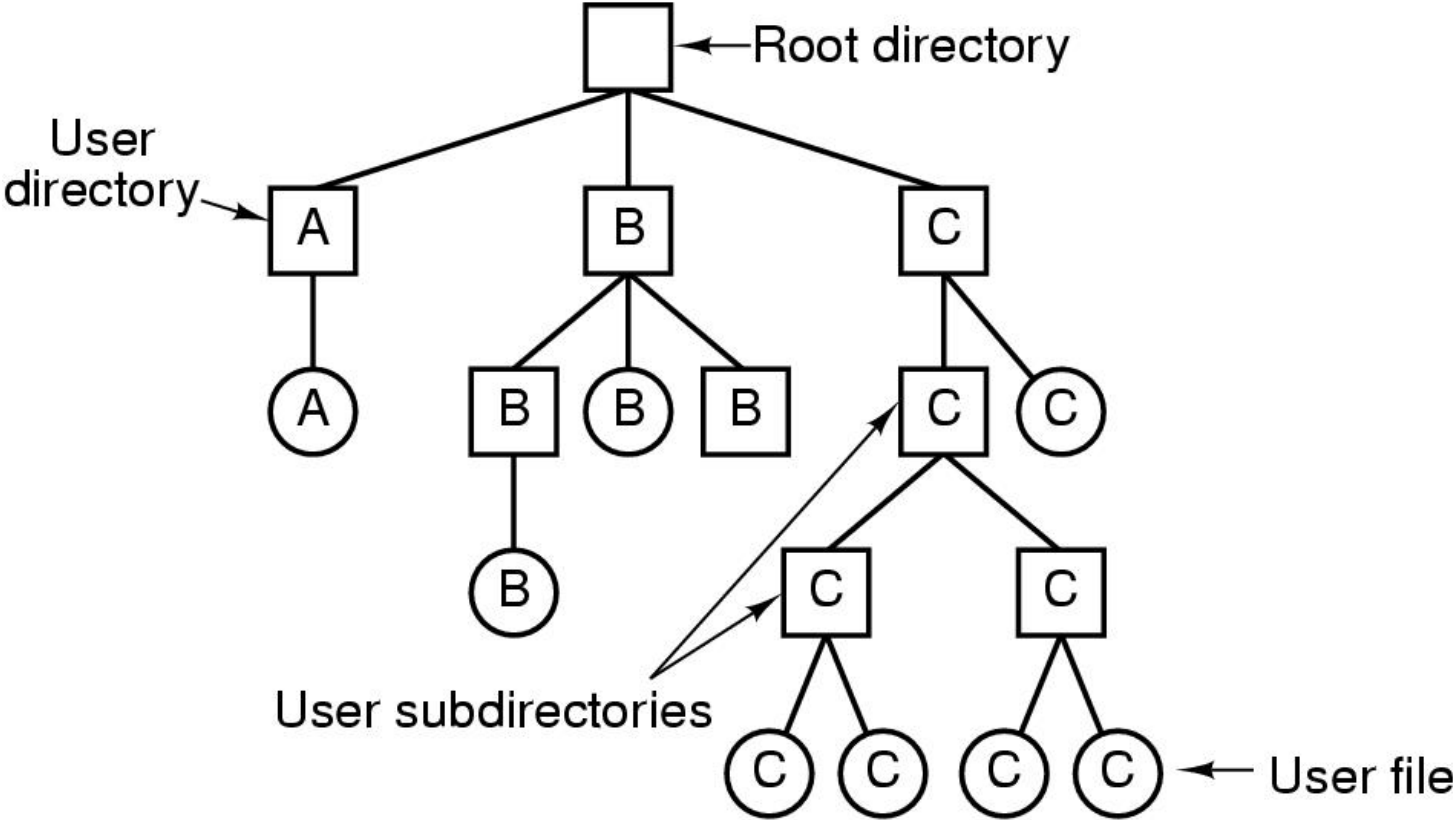
- **DOS has a way of showing which disk drive is currently active.** The floppy disk drives are assigned alphabets **A** and **B**, whereas the hard disk drive is assigned the alphabet **C**.
- **Ex:** If your PC includes a hard disk, besides a FDD (Floppy Disk Drive), the drive names would be **A** and **C**. If the prompt is **A**, then it implies that the first floppy disk drive is active. Where as the DOS prompt would be **C**, if the hard disk is active. Data as well as instructions reside in a file stored in a disk.

4.3 DIRECTORY STRUCTURE IN DOS



- Directory is just like a file folder, which contain all the logically related files.
- DOS files are organized in a hierarchical or an inverted tree-like structure.
- DOS enables the user to organize the files in a disk into directories and sub-directories
- A directory within another directory is called a sub-directory
- Of course, there may be sub-directories of sub-directories, subsub.

Levels of Directory Systems



4.4 DIRECTORY COMMAND



- The directory, the user is in at any point of time, is called the **WORKING/PRESENT/CURRENT** directory.
- DOS indicates which directory you are in by displaying the directory's name in the command prompt.
- **For example**, the following command prompt indicate that you are in the DOS directory: C:\DOS>.
- Knowing which directory is current helps you find files, and to move from one directory to another more easily.
- Typically, the **ROOT DIRECTORY** (\) is the initial working directory. The entire specification of directory from root is called a **PATH**. By itself, the DIR command is applicable to the **working/present** directory. The names of the sub-directories at adjacent levels are separated by backslash (\), while specifying the path to be followed while traveling to a sub-directory.

4.5 USING PATH TO SPECIFY THE LOCATION OF FILES



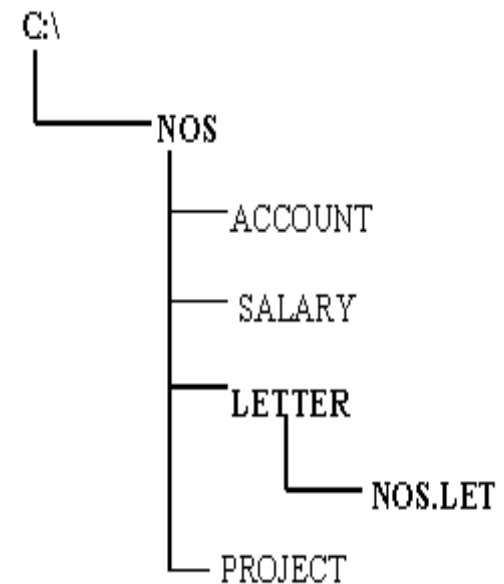
- A path is the route that leads from the root directory of a drive to the file you want to use.

- **For example** , to access **C:\NOS\LETTER\NOS.LET**

- **Where** (C:) represent the drive the file is on , 1st (\) is the root directory.

2nd (\) separates the NOS directory from the LETTER sub-directory .

3rd (\) separates the LETTER directories from the NOS.LET.



Internal File COMMANDS



1. Dir
2. Rename (**Ren**)
3. Delete (**Del**)
4. Copy
5. Type
7. Set Attributes (**attrib**)