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MS DOS (Disk Operating System)

Disk operating system or Pc dos is the powerful operating system.MS-Dos means Microsoft Disk Operating System. Where PC-Dos means Microsoft disk operating system for personal computer. Dos is similar to old operating system which is also oldest system. A single user and all the resources are available to their user. The Dos software is divided into three parts and stored in three field on a floppy disk. When dos was launched, at that time harddisk were not available. So floppy disks were used. Therefore this operating system was stored in floppy disk.

Limitations of MS-DOS

1. Single-tasking: Only one operation at a time.
2. Character User Interface (CUI): All tasks are performed via typed commands.
3. No networking support.

What is a Command?

A **command** is a small set of instructions given to the computer to perform a specific task.

Types of Commands

1. **Internal Commands** – Loaded into memory during boot; always available.
2. **External Commands** – Require separate executable files (.EXE, .COM, .BAT).

Internal Commands

Loaded automatically during boot and always available. Not visible in directory listings.

Examples:

- `CLS` – Clears screen
- `COPY CON` – Creates file from console
- `DIR` – Lists files and folders
- `DATE` – Displays/sets date
- `DEL` – Deletes files
- `MD` – Makes directory
- `CD` – Changes directory
- `VOLUME` – Displays volume label

External Commands

Require external files to execute. Used for more complex tasks.

File types: `.EXE`, `.COM`, `.BAT` **Examples:**

- `EDIT` – Opens text editor
- `DISKCOPY` – Copies entire disk
- `MODE` – Configures devices
- `SCANDISK` – Checks disk for errors
- `FIND` – Searches text in files

- `XCOPY` – Copies files/folders recursively
- `MOVE` – Moves files

Why Do We Use CMD in MS-DOS?

CMD (Command Prompt) is the **gateway** to interacting with MS-DOS. Unlike modern operating systems that use icons and windows, MS-DOS relies entirely on **typed commands**. Here's why CMD is essential:

1. it's the Control Center

CMD lets users **communicate directly** with the operating system. Every task—whether it's opening a file, creating a folder, or checking disk space—is done by typing a command.

Think of CMD as the "language" MS-DOS understands. If you want something done, you have to speak its language.

2. No Mouse, No GUI

MS-DOS doesn't have a graphical interface. That means:

- No clicking
- No dragging
- No icons

Instead, everything is done through **text-based instructions** in CMD.

3. Precision and Speed

CMD allows users to:

- Perform tasks quickly with short commands
- Access deep system functions that aren't available through menus
- Automate repetitive tasks using batch files

For example: `COPY file.txt D:\Backup` — copies a file instantly without opening any folder.

4. Learning the Foundations

Using CMD helps students:

- Understand how operating systems work behind the scenes
- Build confidence in using command-line tools
- Prepare for advanced environments like Linux, PowerShell, or Git Bash

5. Real-World Relevance

Even today, CMD is used for:

- Troubleshooting system issues
- Running scripts

- Managing files in professional IT environments

In Summary:

CMD is not just a tool—it's the **interface**, the **language**, and the **engine** of MS-DOS. Learning to use it means learning how computers really work beneath the surface.

Command Prompt Basics

To open Command Prompt:

- Press `Windows + R`, type `cmd`, and hit Enter.

Prompt Format:

```
C:\>
```

- `C:` → Drive letter
- `:` → Root directory
- `\` → Separator
- `>` → Command status indicator

Drives `A:` and `B:` were reserved for floppy disks.

How to Create a Folder in CMD

Command:

cmd

```
MD foldername
```

or

cmd

```
MKDIR foldername
```

Example:

cmd

```
MD Projects
```

This creates a folder named **Projects** in the current directory.

How to Create a File in CMD

Method 1: Using `COPY CON`

cmd

```
COPY CON filename.txt
```

After typing this, CMD waits for input. Type your content, then press:

Code

```
Ctrl + Z → Enter
```

Example:

cmd

```
COPY CON notes.txt
This is my first file.
^Z
```

This creates a file named **notes.txt** with the content "This is my first file."

Method 2: Using ECHO (Quick content)

cmd

```
ECHO Hello students > welcome.txt
```

This creates a file named **welcome.txt** with the text "Hello students".

More Command

Command	Use	Syntax
DIR	Lists files and folders in a directory	DIR [drive:][path]
CD / CHDIR	Changes current directory	CD [foldername]
MD / MKDIR	Creates a new directory	MD [foldername]
RD / RMDIR	Removes an empty directory	RD [foldername]
COPY	Copies files from one location to another	COPY [source] [destination]
XCOPY	Copies files and folders recursively	XCOPY [source] [destination] [/E]
DEL / ERASE	Deletes one or more files	DEL [filename]
REN	Renames a file or folder	REN [oldname] [newname]
TYPE	Displays contents of a text file	TYPE [filename.txt]
EDIT	Opens MS-DOS text editor	EDIT [filename.txt]
CLS	Clears the screen	CLS
ATTRIB	Displays/changes file attributes	ATTRIB [+R/-R +H/-H +S/-S] [filename]
TREE	Shows directory structure graphically	TREE [drive:][path]
FORMAT	Formats a disk for use	FORMAT [drive:] [/Q]
CHKDSK	Checks disk for errors	CHKDSK [drive:] [/F]
DATE	Displays or sets system date	DATE [MM-DD-YYYY]
TIME	Displays or sets system time	TIME [HH:MM:SS]
VOL	Displays volume label and serial number	VOL [drive:]
VER	Displays DOS version	VER
EXIT	Exits the command prompt	EXIT
HELP	Displays help for commands	HELP [command]

MS-DOS Command Categories

1. Files and Folders Management

- `COPY` – Copies files
- `DIR` – Lists files/folders
- `DEL` / `ERASE` – Deletes files
- `CD` – Changes directory
- `EXPAND` – Decompresses files
- `FC` – Compares files
- `MD` / `MAKEDIR` – Creates folder
- `MOVE` – Moves files
- `PRINT` – Prints text file
- `RD` / `RMDIR` – Deletes folder
- `REN` / `RENAME` – Renames file/folder
- `REPLACE` – Overwrites files
- `TREE` – Shows directory structure
- `TYPE` – Displays file contents

2. Command Line Setup

- `CLS` – Clears screen
- `CMD` – Opens new command prompt
- `COLOR` – Sets text/background color
- `HELP` – Displays help
- `EXIT` – Exits command prompt

3. Applications and Processes

- `SHUTDOWN` – Shuts down/reboots system
- `TASKLIST` – Lists running tasks
- `REG` – Opens registry editor

4. Disk Management

- `CHKDISK` – Checks disk and shows stats
- `DEFRAG` – Defragments disk
- `CONVERT` – Converts FAT to NTFS
- `DISKPART` – Manages partitions
- `FORMAT` – Formats disk
- `LABEL` – Manages volume labels
- `RECOVER` – Recovers data from damaged disk
- `VOL` – Displays volume label and serial number

5. System Information

- `DATE` – Sets/displays date
- `TIME` – Sets/displays time
- `HOSTNAME` – Shows computer name
- `SYSTEMINFO` – Displays system configuration

- `VER` – Shows Windows version

6. Network Commands

- `IPCONFIG` – Displays network info
- `PING` – Checks host availability
- `NSLOOKUP` – Resolves domain names
- `ROUTE` – Displays routing tables