Open Source Office Automation

CC-107

Unit 1

Introduction to DOS and Windows




Operating System

- **Operating system** is a collection of smaller programs which work as a single unit and acts like a bridge between user and computer hardware.

- In simple words, we can say that an operating system provides an **interface** for interaction between user and the computer hardware.

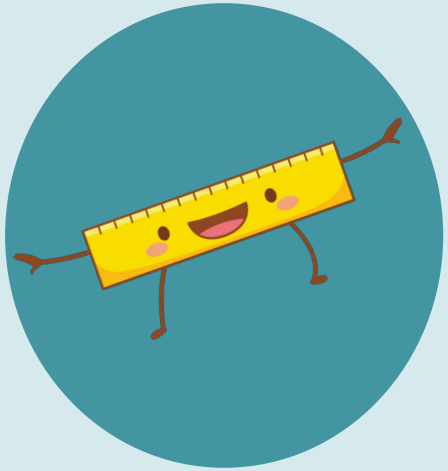
- Traditional OS had command line interface (**CLI**) such as **DOS**, while modern OS come with graphical user interface (**GUI**), Windows 95 to present, **Linux OS**, **Macintosh** etc.

DOS

- DOS stands for **Disk Operating System**.
- DOS provides **command line interface (CLI)** which means user can interact with computer by giving instructions in the form of **commands**.

Characteristics

- It is a **16-bit** operating system (**OS**).
- Efficient file management such as creation, updation and deletion.
- It supports maximum space of **2GB**.
- Single-user operating system.



DOS

Advantages

- Commands are **easy to remember and use**.
- DOS is very **lightweight** operating system.
- It has **direct access** to BIOS and hardware.
- **Booting process** is much faster than other operating systems.
- It does not have the overhead of multitasking operating system.

Disadvantages

- It does not support multitasking.
- 2 GB is not enough and it cannot be extended.
- Only one user can work at a time.
- It does not support interrupt request (IRQ) ordering.

dir Command

dir	Displays list of files and sub-directories in given directory.
dir /A:	**H** – hidden files **D** – directories only
dir /T:	**C** – creation **A** – last access **W** – last written
dir /L	Displays files & directories in lowercase.
dir /O:	Used for sorting. **N** – name **E** – extension **S** – size **D** – date & time

md & rd Commands

md dirname	Create single directories.
md dir1 dir2	Create multiple directories.
md dir1\dir2	Create sub-directories.

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rd dirname	Removes specified (empty) directory.
rd dir1 dir2	Removes multiple (empty) directories.
rd [/S] [/Q] dirname	**S** – all files & sub-dirs. **Q** – Quiet Mode.

cd, type & ren Commands

cd /path	Changes directory to specified path.
cd ..	Changes to Parent Directory.
cd /D drive:path	Change to the specified drive.

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type	Displays the contents of file(s).

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ren [drive:] old new	Renames the specified file(s).

copy & move Commands

copy src des — Copies file(s) to specified location.

/A – ASCII file. **/B** – Binary file. **/Y** – suppresses prompt

~~**/L** – Symbolic Link (Shortcut).~~

move src des — Moves & renames file(s) & dir(s) to specified location.

/Y – suppresses prompt.

del or erase Command

del filename(s) Deletes file(s).

/P – prompt for each file. **/F** – force deleting.

/S – delete from all subdirs. **/Q** – quiet mode.

/A:[attr] **R** – read only files. **H** – hidden files.

date, time ver & cls Commands

date [/T]	Sets or displays the date.
time [/T]	Sets or displays the time.
ver	Displays the windows version.
cls	Clears the screen.

attrib Command

attrib Display and change file attribute(s).

attrib [+-at] [drive] [file] [/S] [/D] [/L]

R – read only. **H** – hidden attribute. **A** – archive.

S – matching files in current folder. **D** – process dirs as well.

xcopy Command

xcopy Copies files & dirs.

xcopy src des

S – copies dirs except empty ones. **E** – including empty ones.

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xcopy **/exclude:filepath** src des – to exclude files.

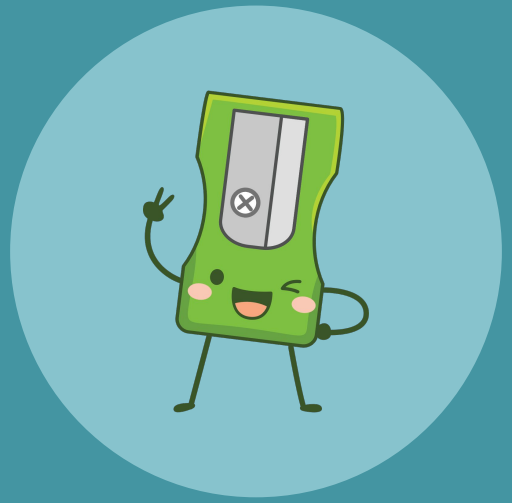
Wildcard Characters

- We have **two** special characters which make our life easier.
- These two characters are asterisk * and question mark **?**
- The asterisk matches any sequence of characters whereas the question mark matches only single character.
- Let’s go through some examples to understand how to use these characters.

Wildcard Characters

- Find out all files with extension “.txt”
  - dir **?.txt**
- Find out dirs named “**project**”
  - dir **project***
- Change the extension from **.html** to **.php**
  - ren ***.html *.php**
- Find out .txt files with name length 4 characters starting with “am”
  - dir **am??.txt**
- Find out all files having 3-character extension
  - dir ***.???**

Batch File



- If you want to run multiple commands in a sequence then create a batch file.
- A batch file is a script file in DOS having extension **.bat**

How to create a batch file?

1. Open notepad or word document.
2. Write down commands in separate line.
3. Save the file with **.bat** extension.

Booting Process

- The process of starting or restarting a computer is known as **booting**.

Other synonyms: **boot-up**, **start-up**, **reboot**

Types of Booting

- **Cold Booting**: When we turn on the computer which is powered off completely, we are **cold booting**. It is also known as **hard boot**.
- **Warm Booting**: The process of restarting the computer, known as **warm booting**. It is also known as **soft boot**.

Steps of Booting

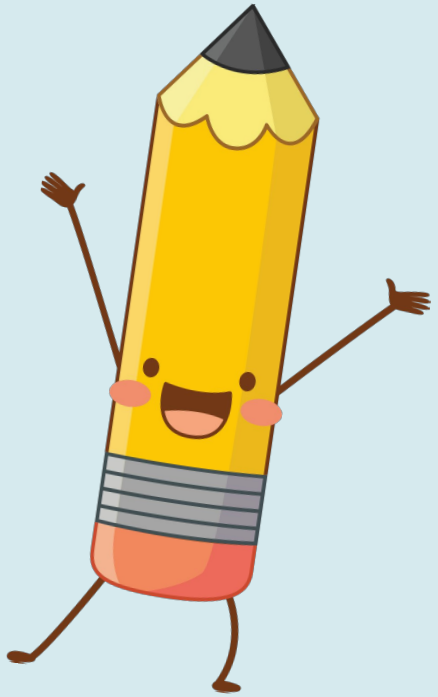
1. As soon as you press the power button, the **SMPS** (switch mode power supply) comes in action. The power supplier does the conversion from AC to DC. The processor chip resets itself and looks for BIOS to proceed.
2. Next, **BIOS** contains the startup instructions and performs **POST** (Power On Self Test). In simple words, it checks whether the computer hardware is connected and working properly or not. If not then either error message is displayed or beep sound is played. For example, 3 short beeps means RAM failure.

Steps of Booting

3. If everything is fine, BIOS gets the **CMOS** (Complementary Metal–Oxide–Semiconductor) to find the bootable device that has the OS in it.
4. After BIOS finds the bootable device, it transfer the boot process to the **MBR** (master boot record) which loads the system files into the memory (RAM). Next, operating system takes control of the process.

Note: The **MBR** holds the information on how the logical partitions, containing file systems, are organized on that medium.

MBR also k/a Partition sector or master partition table.



Thank you

Topics Covered

- What is OS?
- Characteristics of DOS
- Advantages & Disadvantages of DOS
- DOS commands
- Wildcard Characters
- Batch file
- Booting Process