IT WORKSHOP I

Operating Systems and Commands

29-Nov-22

What is an Operating System?

- An Operating System is a program that acts as an interface between a user of a computer and the computer hardware.
- It provides a user-friendly environment in which a user may easily develop and execute programs.
- Otherwise, hardware knowledge would be mandatory for computer programming.
- So, it can be said that an OS hides the complexity of hardware from uninterested users.
- OS goals:
  - Control/execute user/application programs.
  - Make the computer system convenient to use.
  - Ease the solving of user problems.
  - Use the computer hardware in an efficient manner.

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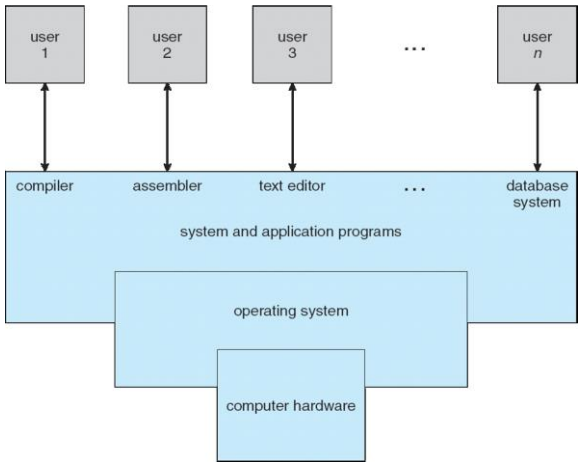
Computer system



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DOS

- Disk Operating System – run from disk drive
- The first PC Operating System (1981)
- Not a Multitasking OS, only one program could run at a time
- A command-line interface, no GUI.
- Early versions of Windows sat on top of DOS and used it to communicate with the BIOS.
- Windows XP onwards, OS communicates directly with the BIOS, but allows commands to be entered via a command prompt.

PCDOS and MSDOS

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MSDOS

- Although MS-DOS interfaces gave way to new Windows-based interfaces
- Windows still included an MS-DOS "shell" where users could still encounter the familiar DOS command prompt
- to execute code, check files and directories, and do all of the other things that were possible with the original command line systems.

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Command Prompt

- The DOS command prompt is a critical part of the Microsoft Disk Operating System (MS-DOS) command line interface.
- It is the fundamental setting for the interface, where the prompt sets the stage for executing command lines of code.
- Up until the emergence of new Windows-oriented graphical interfaces, the DOS command prompt was the most common way to interact with the personal computer.
- This is a text-based window for typing commands and receiving text-based output.

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DOS Commands

- DOS commands are small programs, which are made to perform a particular job.
- Every DOS command performs different task.
- There are two types of DOS command.
  - Internal Commands : These commands enter into the computer memory during computer booting.
  - For example : MD, CD, TIME, DATE,
  - External Commands : These commands are stored in the computer list in the form of files. These Commands can be viewed, copied, changed or deleted.
  - For example : FORMAT, COPY, PRINT, SYS, EDIT, TREE, SORT, PROMPT etc.

https://docs.microsoft.com/en-us/windows-server/administration/windows-commands/windows-commands

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Command Categories

- Disk Commands
  - format
  - chkdsk
  - diskcopy
- Directory Manipulation Commands
  - mkdir
  - rmdir
  - Chdir/cd
  - path
- File Copying & Backup Commands
  - copy
  - xcopy
  - backup
  - restore
- File Management Commands
  - dir
  - type
  - del (erase)
  - ren (rename)
- Other Commands
  - prompt
  - date
  - time

DOS commands are case in-sensitive.

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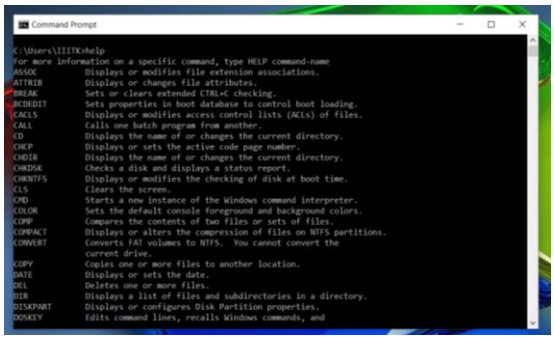
Basic commands

Command name

> help

clear the screen

> cls



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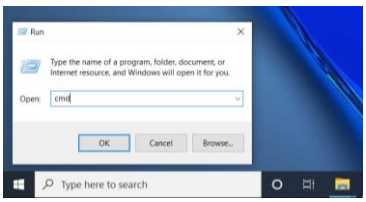
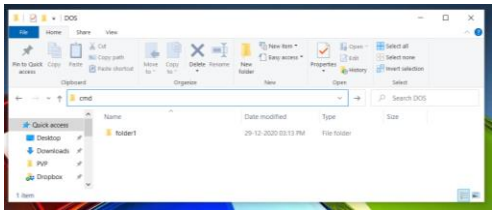
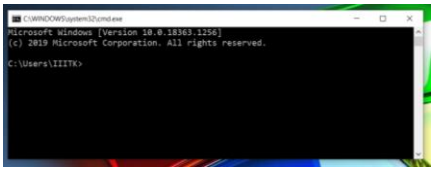
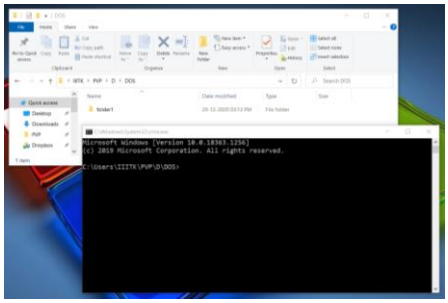
Open command prompt









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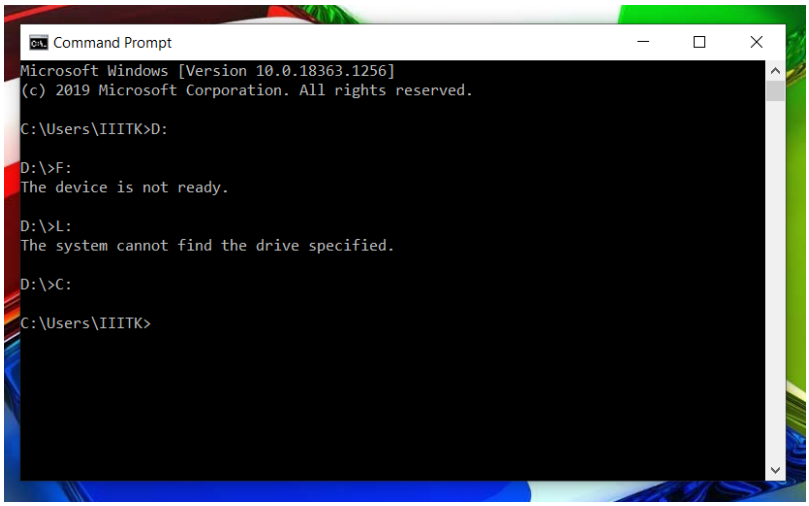
Changing Drive



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Directory Commands

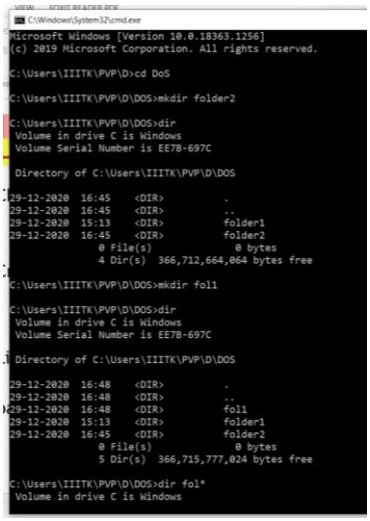
- Change Directory

  cd <<folder name>>
  cd DOS
- Create Directory Command

  mkdir <<folder name>>
  mkdir folder2
- List directory and files

  dir
- back to the root directory

  cd\



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Directory Commands

- DIR Options

* - wildcard ? – single character

dir <<folder name with * and ?>>
dir c:\foldername*.mp3
dir c:\foldername\hello?.c

- Delete/Remove Directory

rmdir <<folder name>>
rmdir folder2

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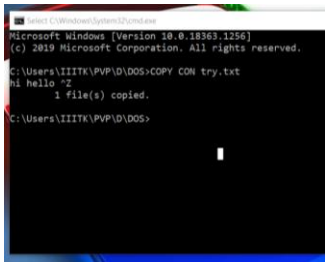
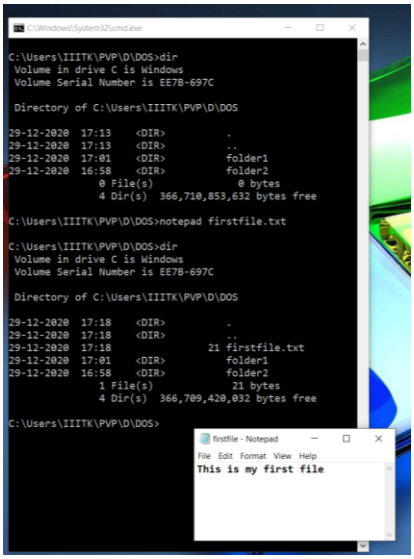
File creation

COPY CON <<filename>>





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Copy Files

copy <<sourcefile location>> <<destination location>>

```
C:\Users\IIITK\PVP\D\DOS\folder2>copy Test.txt C:\Users\IIITK\PVP\D\DOS\folder1
        1 file(s) copied.
```

```
C:\Users\IIITK\PVP\D\DOS>cd folder1

C:\Users\IIITK\PVP\D\DOS\folder1>dir
 Volume in drive C is Windows
 Volume Serial Number is EE7B-697C

 Directory of C:\Users\IIITK\PVP\D\DOS\folder1

29-12-2020  15:13    <DIR>          .
29-12-2020  15:13    <DIR>          ..
               0 File(s)              0 bytes
               2 Dir(s)  366,711,525,376 bytes free

C:\Users\IIITK\PVP\D\DOS\folder1>cd..

C:\Users\IIITK\PVP\D\DOS>cd folder2

C:\Users\IIITK\PVP\D\DOS\folder2>dir
 Volume in drive C is Windows
 Volume Serial Number is EE7B-697C

 Directory of C:\Users\IIITK\PVP\D\DOS\folder2

29-12-2020  16:58    <DIR>          .
29-12-2020  16:58    <DIR>          ..
29-12-2020  16:58                 3 Test.txt
               1 File(s)              3 bytes
               2 Dir(s)  366,711,525,376 bytes free

C:\Users\IIITK\PVP\D\DOS\folder2>copy Test.txt C:\Users\IIITK\PVP\D\DOS\folder1
        1 file(s) copied.

C:\Users\IIITK\PVP\D\DOS\folder2>cd..
```

```
C:\Users\IIITK\PVP\D\DOS\folder2>cd..

C:\Users\IIITK\PVP\D\DOS>cd folder1

C:\Users\IIITK\PVP\D\DOS\folder1>dir
 Volume in drive C is Windows
 Volume Serial Number is EE7B-697C

 Directory of C:\Users\IIITK\PVP\D\DOS\folder1

29-12-2020  17:01    <DIR>          .
29-12-2020  17:01    <DIR>          ..
29-12-2020  16:58                 3 Test.txt
               1 File(s)              3 bytes
               2 Dir(s)  366,714,630,144 bytes free

C:\Users\IIITK\PVP\D\DOS\folder1>
```

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File operation

- To view the content of a file

  type firstfile.txt

- To rename a file - ren <<old filename>> <<new filename>>

  ren firstfile.txt nextfile.txt

- To move a file - mov <<old filename>> <<new filename>>

  move Test.txt C:\Users\IIITK\PVP\D\DOS\folder1

- To delete a file - del <<filename>>

  del nextfile.txt

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Other operations

- Displays and changes the current date.

  date
- Displays and changes the current time

  time
- to print the text files

  print

  attrib
- display a message

  echo
- To exit the command prompt

  exit

Windows and Unix Commands

Windows	UNIX/OSX	Function
cd	cd	Change directory (folder)
md or mkdir	md or mkdir	make a new directory
dir	ls	List files and directories
copy file1 file2	cp file1 file2	Make a copy of file1 and name it file2
ren file1 file2	mv file1 file2	Rename file1 as file2
move file1 file2		
del	rm	delete (remove) files
rd	rmdir	remove an empty directory
time	time	date and time mean different things in windows and unix
date	date	
exit	exit	exit
help	man	help or manual
more	more	show text file content one screen a time
type	cat	show text file content

End