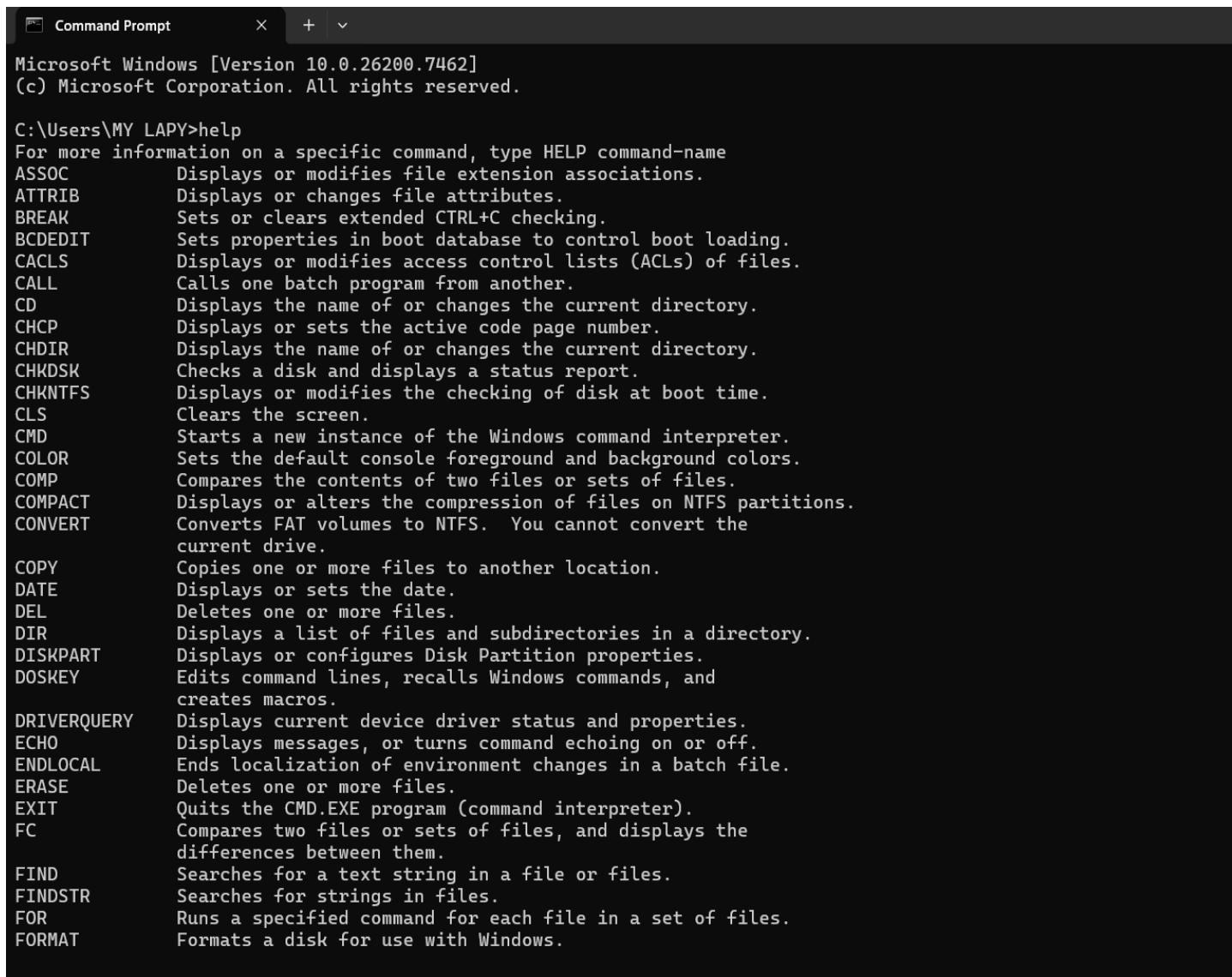


PRACTICAL - 1

John has recently started a new job as system administrator in MNC. He is dealing with computers having different operating systems such as Windows, LINUX and UNIX. How will he be able to interact with the system by using different operating system commands for the following operation?

Que.1. Display the user manual of any command that we can run on the terminal.



```
Command Prompt
Microsoft Windows [Version 10.0.26200.7462]
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C:\Users\MY LAPY>help
For more information on a specific command, type HELP command-name
ASSOC      Displays or modifies file extension associations.
ATTRIB     Displays or changes file attributes.
BREAK      Sets or clears extended CTRL+C checking.
BCDEDIT    Sets properties in boot database to control boot loading.
CACLS      Displays or modifies access control lists (ACLs) of files.
CALL       Calls one batch program from another.
CD          Displays the name of or changes the current directory.
CHCP       Displays or sets the active code page number.
CHDIR      Displays the name of or changes the current directory.
CHKDSK     Checks a disk and displays a status report.
CHKNTFS    Displays or modifies the checking of disk at boot time.
CLS         Clears the screen.
CMD          Starts a new instance of the Windows command interpreter.
COLOR      Sets the default console foreground and background colors.
COMP        Compares the contents of two files or sets of files.
COMPACT    Displays or alters the compression of files on NTFS partitions.
CONVERT    Converts FAT volumes to NTFS. You cannot convert the
           current drive.
COPY        Copies one or more files to another location.
DATE        Displays or sets the date.
DEL         Deletes one or more files.
DIR          Displays a list of files and subdirectories in a directory.
DISKPART   Displays or configures Disk Partition properties.
DOSKEY     Edits command lines, recalls Windows commands, and
           creates macros.
DRIVERQUERY Displays current device driver status and properties.
ECHO        Displays messages, or turns command echoing on or off.
ENDLOCAL    Ends localization of environment changes in a batch file.
ERASE      Deletes one or more files.
EXIT        Quits the CMD.EXE program (command interpreter).
FC          Compares two files or sets of files, and displays the
           differences between them.
FIND        Searches for a text string in a file or files.
FINDSTR    Searches for strings in files.
FOR         Runs a specified command for each file in a set of files.
FORMAT     Formats a disk for use with Windows.
```

FSUTIL	Displays or configures the file system properties.
FTYPE	Displays or modifies file types used in file extension associations.
GOTO	Directs the Windows command interpreter to a labeled line in a batch program.
GPRESULT	Displays Group Policy information for machine or user.
HELP	Provides Help information for Windows commands.
ICACLS	Display, modify, backup, or restore ACLs for files and directories.
IF	Performs conditional processing in batch programs.
LABEL	Creates, changes, or deletes the volume label of a disk.
MD	Creates a directory.
MKDIR	Creates a directory.
MKLINK	Creates Symbolic Links and Hard Links
MODE	Configures a system device.
MORE	Displays output one screen at a time.
MOVE	Moves one or more files from one directory to another directory.
OPENFILES	Displays files opened by remote users for a file share.
PATH	Displays or sets a search path for executable files.
PAUSE	Suspends processing of a batch file and displays a message.
POPD	Restores the previous value of the current directory saved by PUSHD.
PRINT	Prints a text file.
PROMPT	Changes the Windows command prompt.
PUSHD	Saves the current directory then changes it.
RD	Removes a directory.
RECOVER	Recover readable information from a bad or defective disk.
REM	Records comments (remarks) in batch files or CONFIG.SYS.
REN	Renames a file or files.
RENAME	Renames a file or files.
REPLACE	Replaces files.
RMDIR	Removes a directory.
ROBOCOPY	Advanced utility to copy files and directory trees
SET	Displays, sets, or removes Windows environment variables.
SETLOCAL	Begins localization of environment changes in a batch file.
SC	Displays or configures services (background processes).
SCHTASKS	Schedules commands and programs to run on a computer.
SHIFT	Shifts the position of replaceable parameters in batch files.
SHUTDOWN	Allows proper local or remote shutdown of machine.
SORT	Sorts input.

REPLACE	Replaces files.
RMDIR	Removes a directory.
ROBOCOPY	Advanced utility to copy files and directory trees
SET	Displays, sets, or removes Windows environment variables.
SETLOCAL	Begins localization of environment changes in a batch file.
SC	Displays or configures services (background processes).
SCHTASKS	Schedules commands and programs to run on a computer.
SHIFT	Shifts the position of replaceable parameters in batch files.
SHUTDOWN	Allows proper local or remote shutdown of machine.
SORT	Sorts input.
START	Starts a separate window to run a specified program or command.
SUBST	Associates a path with a drive letter.
SYSTEMINFO	Displays machine specific properties and configuration.
TASKLIST	Displays all currently running tasks including services.
TASKKILL	Kill or stop a running process or application.
TIME	Displays or sets the system time.
TITLE	Sets the window title for a CMD.EXE session.
TREE	Graphically displays the directory structure of a drive or path.
TYPE	Displays the contents of a text file.
VER	Displays the Windows version.
VERIFY	Tells Windows whether to verify that your files are written correctly to a disk.
VOL	Displays a disk volume label and serial number.
XCOPY	Copies files and directory trees.
WMIC	Displays WMI information inside interactive command shell.

For more information on tools see the command-line reference in the online help.

C:\Users\MY LAPY>

2. Change the current working directory of the user

```
Microsoft Windows [Version 10.0.26200.7462]
(c) Microsoft Corporation. All rights reserved.

C:\Users\MY LAPY>cd Downloads

C:\Users\MY LAPY\Downloads>
```

3. Lists all the contents in the current working directory

```
C:\Users\MY LAPY\Downloads>dir
Volume in drive C has no label.
Volume Serial Number is DC74-4D01

Directory of C:\Users\MY LAPY\Downloads

12-01-2026 23:02    <DIR>      .
12-01-2026 22:23    <DIR>      ..
05-10-2025 15:25          2,181,474 2024-25 Model EVS Project Report and Guidelines.docx
05-10-2025 13:34          1,146,952 2024-25 Model EVS Project Report and Guidelines.pdf
05-10-2025 15:31          560,238 CAO TAE1-PDF.pdf
19-09-2025 11:14          10,791,864 ChromeSetup.exe
21-09-2025 22:46          93,509,904 CodeTantra.SEA-x64-4.0.0.exe
03-11-2025 23:19          93,695,464 CodeTantra.SEA-x64-4.2.0.exe
06-01-2026 22:50          100,501,080 CodeTantra.SEA-x64-4.3.0.exe
03-10-2025 00:01          827,971 f report oe.pdf
11-11-2025 13:12          328,972 GeoCivic.pdf
11-11-2025 13:17          326,137 GeoCivic1.pdf
12-01-2026 21:38          66,292,520 Git-2.52.0-64-bit.exe
18-11-2025 22:42          12,039 IC Eligibility Form 2025-2026 - Basketball (M) (1).docx
18-11-2025 22:41          157,882 IC Eligibility Form 2025-2026 - Basketball (M) (1).pdf
18-11-2025 22:41          157,882 IC Eligibility Form 2025-2026 - Basketball (M).pdf
05-10-2025 13:33          322,625 Mentee Form CSE .pdf
12-01-2026 23:02          5,312,954 Practical List Session 2025-26 (EVEN).PDF
12-01-2026 22:09          817,295 prelab (1).pdf
11-01-2026 21:18          307,745 PreLab.docx
11-01-2026 21:05          346,980 PreLab.pdf
11-01-2026 22:06          453,255 PreLab1.pdf
16-10-2025 14:40          8,217,040 RobloxPlayerInstaller-CT88W8PCB6.exe
16-10-2025 14:40          8,217,040 RobloxPlayerInstaller-JFTM9K4MM9.exe
27-09-2025 15:55          8,284,112 RobloxPlayerInstaller-XBPMWF3YRB.exe
31-12-2025 21:00          1,936,744 rufus-4.11.exe
05-10-2025 13:34          1,473,789 Sahil EVS edited.pdf
03-10-2025 00:05          257,327 sahil mech-tae^LM(^LMfinal)[1].pdf
06-01-2026 22:02          146,074 Sb Jain 2nd year Training Schedule.pdf
11-10-2025 00:18          736,562 shrijee ic.pdf
03-10-2025 22:48          877,412 tae 1 oe... (1)...pdf
03-10-2025 22:31          148,164 tae 1 oe... (1).docx
03-10-2025 22:31          374,326 tae 1 oe... (1).pdf
03-10-2025 00:18          729,500 tae 1 oe.pdf
```

```

Command Prompt x + -
02-10-2025 23:53      53,023 TAE_I-EST_Template.docx
02-10-2025 00:57      12,903 TAE-I_Spreadsheet.xlsx
08-10-2025 22:18      962,851 Taeoe..pdf
08-10-2025 22:04      1,177,446 Taeoe.docx
11-10-2025 00:18      1,047,403 tanushree_ic_w.docx
11-10-2025 00:07      829,245 tanushree_ic_w.pdf
29-10-2025 23:30      898,408 TheGrandMafia_PC-2024062701-2e9a0430.exe
30-10-2025 17:22      898,408 TheGrandMafia_PC-2024062701-41102ec2 (1).exe
30-10-2025 17:22      898,408 TheGrandMafia_PC-2024062701-41102ec2.exe
31-12-2025 20:39      6,345,887,744 ubuntu-24.04.3-desktop-amd64.iso
03-10-2025 22:29      37,934 WhatsApp Image 2025-10-03 at 14.58.08.jpeg
08-10-2025 22:08      25,116 WhatsApp Image 2025-10-08 at 21.59.49 (1).jpeg
08-10-2025 22:08      83,470 WhatsApp Image 2025-10-08 at 21.59.49.jpeg
08-10-2025 22:08      36,085 WhatsApp Image 2025-10-08 at 21.59.50 (1).jpeg
08-10-2025 22:08      26,666 WhatsApp Image 2025-10-08 at 21.59.50.jpeg
08-10-2025 22:08      59,974 WhatsApp Image 2025-10-08 at 21.59.51 (1).jpeg
08-10-2025 22:08      22,659 WhatsApp Image 2025-10-08 at 21.59.51.jpeg
08-10-2025 22:08      40,406 WhatsApp Image 2025-10-08 at 21.59.52.jpeg
08-10-2025 22:08      71,403 WhatsApp Image 2025-10-08 at 21.59.53 (1).jpeg
08-10-2025 22:08      54,252 WhatsApp Image 2025-10-08 at 21.59.53 (2).jpeg
08-10-2025 22:08      42,191 WhatsApp Image 2025-10-08 at 21.59.53.jpeg
11-10-2025 00:08      48,793 WhatsApp Image 2025-10-10 at 22.22.41.jpeg
06-12-2025 14:38      115,127 WhatsApp Image 2025-12-06 at 13.47.04 (1).jpeg
06-12-2025 14:38      204,461 WhatsApp Image 2025-12-06 at 13.47.04 (2).jpeg
06-12-2025 14:38      174,895 WhatsApp Image 2025-12-06 at 13.47.04 (3).jpeg
06-12-2025 14:38      173,753 WhatsApp Image 2025-12-06 at 13.47.04 (4).jpeg
06-12-2025 14:39      110,634 WhatsApp Image 2025-12-06 at 13.47.04 (5).jpeg
06-12-2025 14:39      189,451 WhatsApp Image 2025-12-06 at 13.47.04 (6).jpeg
06-12-2025 14:39      170,714 WhatsApp Image 2025-12-06 at 13.47.04 (7).jpeg
06-12-2025 14:39      164,120 WhatsApp Image 2025-12-06 at 13.47.04 (8).jpeg
06-12-2025 14:39      143,453 WhatsApp Image 2025-12-06 at 13.47.04 (9).jpeg
06-12-2025 14:38      153,585 WhatsApp Image 2025-12-06 at 13.47.04.jpeg
11-01-2026 21:49      38,772 WhatsApp Image 2026-01-11 at 21.44.38 (1).jpeg
11-01-2026 21:49      19,636 WhatsApp Image 2026-01-11 at 21.44.38.jpeg
11-01-2026 21:49      35,799 WhatsApp Image 2026-01-11 at 21.44.39.jpeg
11-01-2026 21:49      40,388 WhatsApp Image 2026-01-11 at 21.48.52.jpeg
11-01-2026 21:52      45,621 WhatsApp Image 2026-01-11 at 21.51.55.jpeg
69 File(s) 6,764,444,520 bytes
2 Dir(s) 96,710,774,784 bytes free
C:\Users\MY LAPY\Downloads>

```

4. Read, modify or concatenate text files

- Read a text file:

```

Microsoft Windows [Version 10.0.26200.7462]
(c) Microsoft Corporation. All rights reserved.

C:\Users\MY LAPY>cd Downloads
C:\Users\MY LAPY\Downloads>
C:\Users\MY LAPY\Downloads>type Pratham.txt.txt

C:\Users\MY LAPY\Downloads>type Pratham.LxL.LxL
Pratham Gawande
C:\Users\MY LAPY\Downloads>

```

- Modify a text file:

```

C:\Users\MY LAPY\Downloads>
C:\Users\MY LAPY\Downloads>type Pratham.txt.txt
C:\Users\MY LAPY\Downloads>type Pratham.txt.txt
Pratham Gawande
C:\Users\MY LAPY\Downloads>notepad Pratham.txt.txt
C:\Users\MY LAPY\Downloads>

Name Pratham Gawande   Pratham.txt.txt
File Edit View
H1 I B ⊖ A
Pratham Gawande

Ln 1, Col 18 17 characters Plain text 100% Win

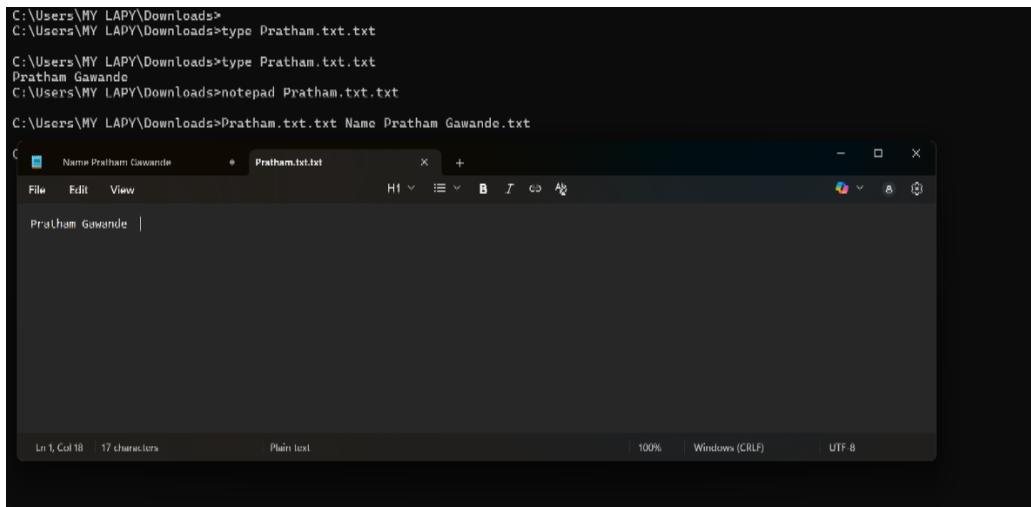
```

- Concatenate text files:

```
C:\Users\MY LAPY\Downloads>
C:\Users\MY LAPY\Downloads>type Pratham.txt.txt
C:\Users\MY LAPY\Downloads>type Pratham.txt.txt
Pratham Gawande
C:\Users\MY LAPY\Downloads>notepad Pratham.txt.txt
C:\Users\MY LAPY\Downloads>Pratham.txt.txt Name Pratham Gawande.txt

C: Name Pratham Gawande  Pratham.txt.txt  +
File Edit View  HI  B I CD A
Pratham Gawande |
```

Ln 1, Col 18 17 characters Plain text 100% Windows (CRLF) UTF-8



5. Create a new directory under any directory

```
C:\Users\MY LAPY\Downloads>type Pratham.txt.txt
C:\Users\MY LAPY\Downloads>type Pratham.txt.txt
Pratham Gawande
C:\Users\MY LAPY\Downloads>notepad Pratham.txt.txt
C:\Users\MY LAPY\Downloads>Pratham.txt.txt Name Pratham Gawande.txt
C:\Users\MY LAPY\Downloads>mdir Practical
C:\Users\MY LAPY\Downloads>md Practical
A subdirectory or file Practical already exists.
C:\Users\MY LAPY\Downloads>
```

6. Display the current working directory of the terminal

```
C:\Users\MY LAPY\Downloads>cd
C:\Users\MY LAPY\Downloads

C:\Users\MY LAPY\Downloads>|
```

7. Write its arguments to standard output

```
C:\Users\MY LAPY\Downloads>echo Practical OS
Practical OS
```

```
C:\Users\MY LAPY\Downloads>
```

8. Remove a file.

```
C:\Users\MY LAPY\Downloads>del hi.txt  
C:\Users\MY LAPY\Downloads>
```

9. Delete a directory

```
C:\Users\MY LAPY\Downloads>rmdir system  
C:\Users\MY LAPY\Downloads>
```

10. Copy a file or directory

```
C:\Users\MY LAPY\Downloads>copy Pratham.txt Name Pratham.Gawande.txt  
The system cannot find the file specified.  
C:\Users\MY LAPY\Downloads>copy Pratham.txt.txt hi.txt  
Overwrite hi.txt? (Yes/No/All): All  
    1 file(s) copied.  
C:\Users\MY LAPY\Downloads>
```

11. Switch to root-user

```
Command Prompt
C:\Users\MY LAPY\Downloads>runas /user:Administrator
RUNAS USAGE:

RUNAS [ [/noprofile | /profile] [/env] [/savecred | /netonly] ]
      /user:<UserName> program

RUNAS [ [/noprofile | /profile] [/env] [/savecred] ]
      /smartcard [/user:<UserName>] program

RUNAS [ [/machine:<MachineType>] ] /trustlevel:<TrustLevel> program

/noprofile      specifies that the user's profile should not be loaded.
                This causes the application to load more quickly, but
                can cause some applications to malfunction.
/profile        specifies that the user's profile should be loaded.
                This is the default.
/env            to use current environment instead of user's.
/netonly        use if the credentials specified are for remote
                access only.
/savecred       to use credentials previously saved by the user.
/smardcard      use if the credentials are to be supplied from a
                smartcard.
/user           <UserName> should be in form USER@DOMAIN or DOMAIN\USER
/showtrustlevels displays the trust levels that can be used as arguments
                  to /trustlevel.
/trustlevel     <Level> should be one of levels enumerated
                  in /showtrustlevels.
/machine        specifies the machine architecture of the process.
                <MachineType> should be one of x86|amd64|arm|arm64.
program         command line for EXE. See below for examples

Examples:
> runas /noprofile /user:mymachine\administrator cmd
> runas /profile /env /user:mydomain\admin "mmc %windir%\system32\dsa.msc"
> runas /env /user:user@domain.microsoft.com "notepad \"my file.txt\""

NOTE: Enter user's password only when prompted.
NOTE: /profile is not compatible with /netonly.
NOTE: /savecred is not compatible with /smardcard.

C:\Users\MY LAPY\Downloads>
```

```
Examples:
> runas /noprofile /user:mymachine\administrator cmd
> runas /profile /env /user:mydomain\admin "mmc %windir%\system32\dsa.msc"
> runas /env /user:user@domain.microsoft.com "notepad \"my file.txt\""

NOTE: Enter user's password only when prompted.
NOTE: /profile is not compatible with /netonly.
NOTE: /savecred is not compatible with /smardcard.
```

12. Moves files and directories from one directory to another

```
C:\Users\MY LAPY\Downloads>move Pratham.txt.txt D:\Desktop  
1 file(s) moved.
```

13. Search for a particular string/word in a text file

```
C:\Users\MY LAPY\Downloads>find "hi" hi.txt  
----- HI.TXT
```

14. Print the top N number of data of the given input

```
C:\Users\MY LAPY\Downloads>more hi.txt  
Pratham  
Isha  
Vedant  
Arpit  
Sarth
```

15. Print the last N number of data of the given input

```
C:\Users\MY LAPY\Downloads>type hi.txt  
Pratham  
Isha  
Vedant  
Arpit  
Sarth  
C:\Users\MY LAPY\Downloads>
```

16. Remove read permission from owner of the file

```
C:\Users\MY LAPY\Downloads>icacls file.txt /deny "MY LAPY":R  
processed file: file.txt  
Successfully processed 1 files; Failed processing 0 files
```

17. Add read permission to owner plus remove write permission and add write permission to group

```
C:\Users\MY LAPY\Downloads>icacls file.txt /grant "MY LAPY":R  
processed file: file.txt  
Successfully processed 1 files; Failed processing 0 files
```

18. Add write permission to owner no permission to others

```
C:\Users\MY LAPY\Downloads>icacls file.txt /grant "MY LAPY":W  
processed file: file.txt  
Successfully processed 1 files; Failed processing 0 files
```

19. Assign permission to users

```
C:\Users\MY LAPY\Downloads>icacls file.txt /grant "MY LAPY:F  
processed file: file.txt  
Successfully processed 1 files; Failed processing 0 files
```

20. Assign R/W/X to others

```
C:\Users\MY LAPY\Downloads>icacls file.txt /grant "MY LAPY:F  
processed file: file.txt  
Successfully processed 1 files; Failed processing 0 files
```

21. Remove all permission from all users

```
C:\Users\MY LAPY\Downloads>icacls file.txt /remove Everyone  
processed file: file.txt  
Successfully processed 1 files; Failed processing 0 files
```

```
C:\Users\MY LAPY\Downloads>
```

22. Remove read permission from user using absolute mode

```
C:\Users\MY LAPY\Downloads>icacls file.txt /deny "MY LAPY":R  
processed file: file.txt  
Successfully processed 1 files; Failed processing 0 files
```

23. Add R/w permission to owner no permission to group and no permission to other using absolute mode

```
C:\Users\MY LAPY\Downloads>icacls file.txt /grant "MY LAPY":RW  
processed file: file.txt  
Successfully processed 1 files; Failed processing 0 files
```

```
C:\Users\MY LAPY\Downloads>
```

```
C:\Users\MY LAPY\Downloads>icacls file.txt /remove Everyone  
processed file: file.txt  
Successfully processed 1 files; Failed processing 0 files
```

```
C:\Users\MY LAPY\Downloads>
```

24. Add execute permission to owner, read permission to group and other

```
C:\Users\MY LAPY\Downloads>icacls file.txt /grant "MY LAPY":RX Everyone:R  
processed file: file.txt  
Successfully processed 1 files; Failed processing 0 files
```

```
C:\Users\MY LAPY\Downloads>
```

25. Add execute permission to all user

```
C:\Users\MY LAPY\Downloads>icacls file.txt /grant Everyone:RX  
processed file: file.txt  
Successfully processed 1 files; Failed processing 0 files  
C:\Users\MY LAPY\Downloads>
```