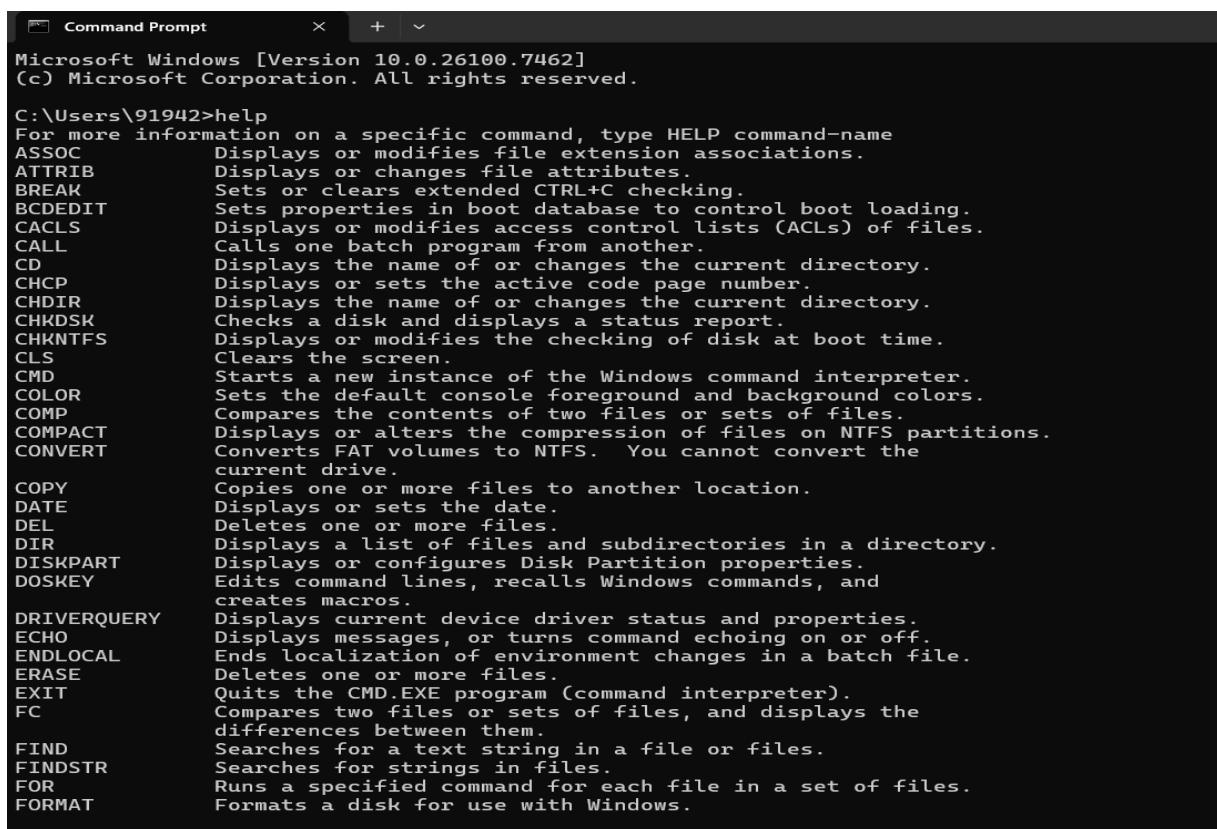


## PRACTICAL 1

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      X + ^

Microsoft Windows [Version 10.0.26100.7462]
(c) Microsoft Corporation. All rights reserved.

C:\Users\91942>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.
```

```
Command Prompt + ^

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       Recovers 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.
```

```
Command Prompt + ^

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       Recovers 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.
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.

## 2. Change the current working directory of the user

```
C:\Users\91942>cd OneDrive

C:\Users\91942\OneDrive>dir
 Volume in drive C is Windows
 Volume Serial Number is 106D-CD90

Directory of C:\Users\91942\OneDrive

19-01-2026 18:58    <DIR>        .
18-01-2026 21:04    <DIR>        ..
04-02-2024 11:55    <DIR>        Attachments
19-01-2026 19:04    <DIR>        Desktop
18-01-2026 20:58    <DIR>        Documents
16-02-2023 18:13      (1,053,417) Getting started with OneDrive.pdf
28-09-2023 14:27      406,190 Oramega D3.xlsx
19-01-2026 18:58      1,140 Personal Vault.lnk
13-01-2026 20:18    <DIR>        Pictures
            3 File(s)   1,460,747 bytes
            6 Dir(s)  42,983,305,216 bytes free

C:\Users\91942\OneDrive>cd Desktop

C:\Users\91942\OneDrive\Desktop>
```

## 3. Lists all the contents in the current working directory

```
C:\Users\91942\OneDrive\Desktop>dir
 Volume in drive C is Windows
 Volume Serial Number is 106D-CD90

Directory of C:\Users\91942\OneDrive\Desktop

19-01-2026 19:04    <DIR>        .
19-01-2026 18:58    <DIR>        ..
24-09-2025 18:08      151,718 12th marsheet.jpg
29-06-2024 20:33      3,028 Collections Microsoft Learn.lnk
11-04-2024 16:19      332,437 Dr. GAUTAM PINCHA.mhtml
18-01-2026 20:49      41,728 EVS
24-09-2025 18:03      149,405 fees receipt.jpg
18-01-2026 20:30      5,988,753 ilovepdf_pages-to-jpg.zip
09-08-2025 09:54      10,506,941 IMG_3406(1).jpg
08-06-2025 17:48    <DIR>        KATZAN PURCHASE ORDER
19-01-2026 19:03    <DIR>        OS_CD24026
18-01-2026 20:54      189,801 palak evs.pdf
29-10-2025 20:35      2,322 Perplexity.lnk
04-01-2026 20:45    <DIR>        pics
23-07-2025 22:24    <DIR>        PP
18-01-2026 20:35      470,552 prelab output (1)_page-0008.jpg
18-01-2026 20:35      297,173 prelab output (1)_page-0009.jpg
18-01-2026 20:35      288,390 prelab output (1)_page-0010.jpg
18-01-2026 20:34      152,705 prelab output (1)_page-0011.jpg
18-01-2026 20:34      176,136 prelab output (1)_page-0012.jpg
18-01-2026 20:34      233,710 prelab output (1)_page-0013.jpg
18-01-2026 20:34      214,561 prelab output (1)_page-0014.jpg
18-01-2026 20:34      233,962 prelab output (1)_page-0015.jpg
18-01-2026 20:34      206,851 prelab output (1)_page-0016.jpg
18-01-2026 20:34      279,513 prelab output (1)_page-0017.jpg
08-01-2026 07:37      17,229 skill set 1(palak singh CD24026).docx
08-01-2026 07:44      17,028 skill set 2.docx
18-01-2026 18:22    <DIR>        TVISHA
24-09-2025 18:13      134,770 undertaking.jpg
            22 File(s)   20,088,713 bytes
            7 Dir(s)  42,161,000,448 bytes free

C:\Users\91942\OneDrive\Desktop>
```

## 4. Read, modify or concatenate text files

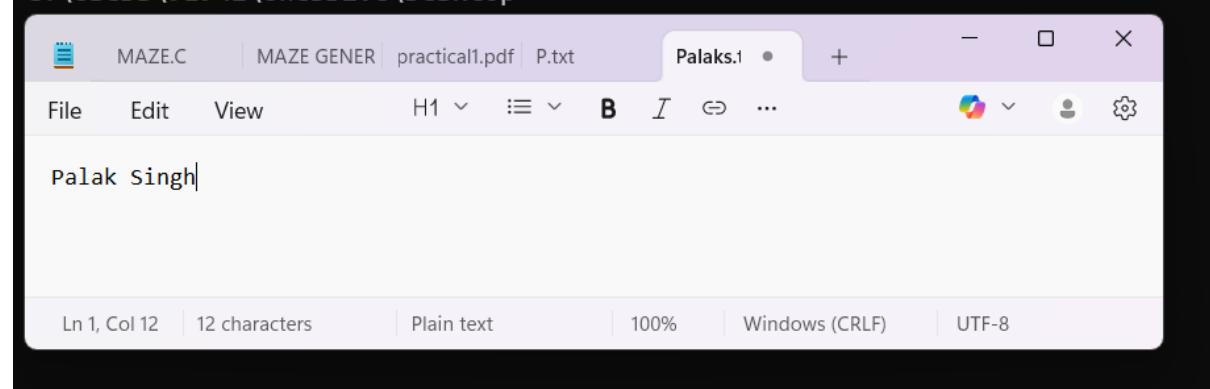
- Read a text file:

```
C:\Users\91942\OneDrive\Desktop>echo hello Palak > Palak.txt.txt  
C:\Users\91942\OneDrive\Desktop>type Palak.txt.txt  
hello Palak
```

- Modify a text file:

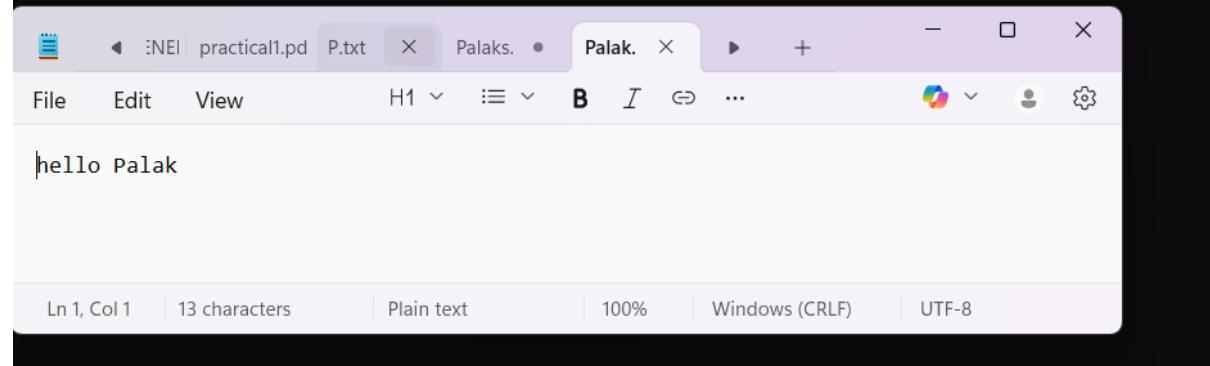
```
C:\Users\91942\OneDrive\Desktop>notepad Palak.txt.txt
```

```
C:\Users\91942\OneDrive\Desktop>
```



- Concatenate text files:

```
C:\Users\91942\OneDrive\Desktop>Palak.txt.txt Name Palaks.txt
```



5. Create a new directory under any directory

```
C:\Users\91942\OneDrive\Desktop> mkdir Practical  
C:\Users\91942\OneDrive\Desktop>md Practical  
A subdirectory or file Practical already exists.  
C:\Users\91942\OneDrive\Desktop>
```

6. Display the current working directory of the terminal

```
C:\Users\91942\OneDrive\Desktop>cd  
C:\Users\91942\OneDrive\Desktop  
  
C:\Users\91942\OneDrive\Desktop>
```

7. Write its arguments to standard output

```
C:\Users\91942\OneDrive\Desktop>echo Practical Os  
Practical Os
```

```
C:\Users\91942\OneDrive\Desktop>
```

8. Remove a file.

```
C:\Users\91942\OneDrive\Desktop>del P.txt  
C:\Users\91942\OneDrive\Desktop>
```

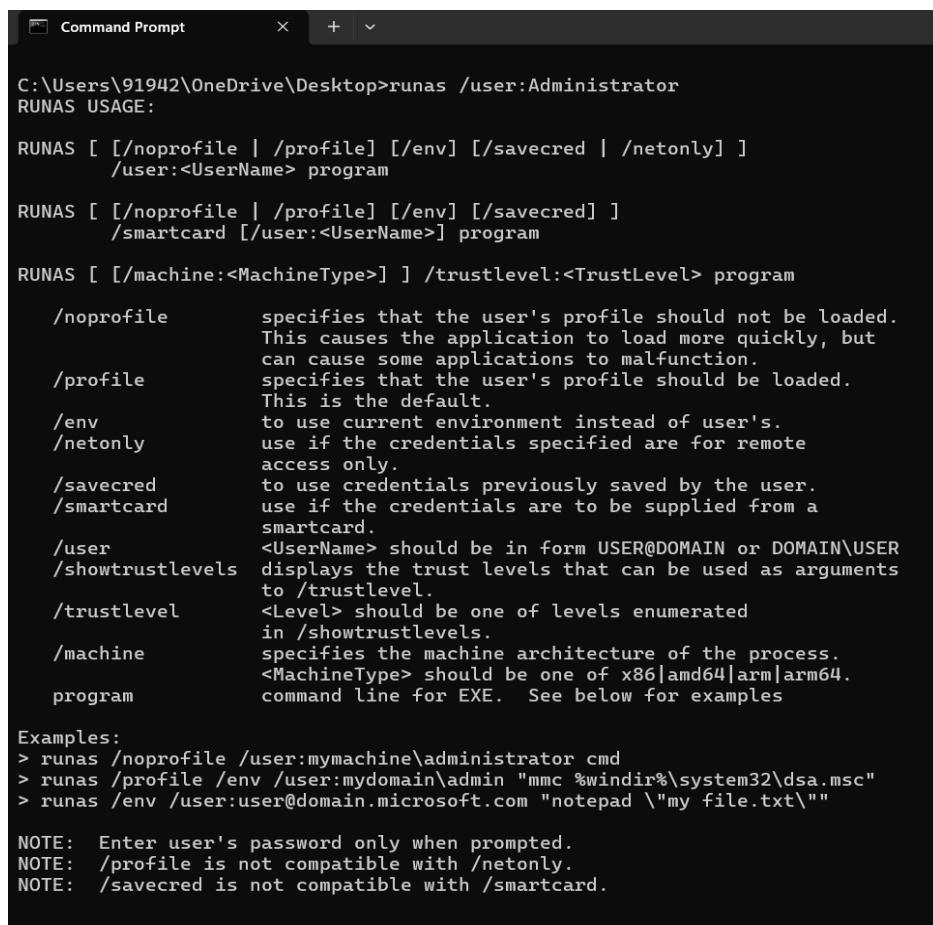
## 9. Delete a directory

```
C:\Users\91942\OneDrive\Desktop>rmdir/s Palak  
Palak, Are you sure (Y/N)? y  
C:\Users\91942\OneDrive\Desktop>
```

## 10. Copy a file or directory

```
C:\Users\91942\OneDrive\Desktop>copy Palak.txt.txt Palak.txt  
Overwrite Palak.txt? (Yes/No/All): All  
    1 file(s) copied.  
C:\Users\91942\OneDrive\Desktop>
```

## 11. Switch to root-user



The screenshot shows a Windows Command Prompt window titled "Command Prompt". The text displayed is the help documentation for the RUNAS command. It includes sections for USAGE, detailed descriptions of various options like /profile, /env, /netonly, etc., examples of how to use the command, and several notes at the bottom about password entry and compatibility.

```
C:\Users\91942\OneDrive\Desktop>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.  
/smartcard      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 /smartcard.
```

12. Moves files and directories from one directory to another

```
C:\Users\91942\OneDrive\Desktop>move Palak.txt.txt D:\Downloads  
1 file(s) moved.
```

```
C:\Users\91942\OneDrive\Desktop>
```

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

```
C:\Users\91942\OneDrive\Desktop>find "palak" Palak.txt  
----- PALAK.TXT
```

```
C:\Users\91942\OneDrive\Desktop>
```

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

```
C:\Users\91942\OneDrive\Desktop>more Palak.txt  
Palak  
Anushka  
Ayushi  
Deepika  
Nandini  
Rupali
```

```
C:\Users\91942\OneDrive\Desktop>
```

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

```
C:\Users\91942\OneDrive\Desktop>type Palak.txt  
Palak  
Anushka  
Ayushi  
Deepika  
Nandini  
Rupali
```

```
C:\Users\91942\OneDrive\Desktop>
```

## 16. Remove read permission from owner of the file

```
C:\Users\91942\OneDrive\Desktop>icacls Palak.txt /deny "91942":R  
processed file: Palak.txt  
Successfully processed 1 files; Failed processing 0 files  
  
C:\Users\91942\OneDrive\Desktop>
```

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

```
C:\Users\91942\OneDrive\Desktop>icacls Palak.txt /grant "91942":R  
processed file: Palak.txt  
Successfully processed 1 files; Failed processing 0 files  
  
C:\Users\91942\OneDrive\Desktop>
```

## 18. Add write permission to owner no permission to others

```
C:\Users\91942\OneDrive\Desktop>icacls Palak.txt /grant "91942":W  
processed file: Palak.txt  
Successfully processed 1 files; Failed processing 0 files  
  
C:\Users\91942\OneDrive\Desktop>
```

## 19. Assign permission to users

```
C:\Users\91942\OneDrive\Desktop>icacls Palak.txt /grant "91942":F  
processed file: Palak.txt  
Successfully processed 1 files; Failed processing 0 files  
  
C:\Users\91942\OneDrive\Desktop>
```

## 20. Assign R/W/X to others

```
C:\Users\91942\OneDrive\Desktop>icacls Palaks.txt /grant "91942":F  
processed file: Palaks.txt  
Successfully processed 1 files; Failed processing 0 files  
  
C:\Users\91942\OneDrive\Desktop>
```

## 21. Remove all permission from all users

```
C:\Users\91942\OneDrive\Desktop>icacls Palak.txt /remove Everyone  
processed file: Palak.txt  
Successfully processed 1 files; Failed processing 0 files  
  
C:\Users\91942\OneDrive\Desktop>
```

## 22. Remove read permission from user using absolute mode

```
C:\Users\91942\OneDrive\Desktop>icacls Palak.txt /deny "91942":R  
processed file: Palak.txt  
Successfully processed 1 files; Failed processing 0 files  
  
C:\Users\91942\OneDrive\Desktop>
```

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

```
C:\Users\91942\OneDrive\Desktop>icacls Palak.txt /grant "91942":RW  
processed file: Palak.txt  
Successfully processed 1 files; Failed processing 0 files  
  
C:\Users\91942\OneDrive\Desktop>icacls Palak.txt /remove Everyone  
processed file: Palak.txt  
Successfully processed 1 files; Failed processing 0 files
```

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

```
C:\Users\91942\OneDrive\Desktop>icacls Palak.txt /grant "91942":RX Everyone:R  
processed file: Palak.txt  
Successfully processed 1 files; Failed processing 0 files  
  
C:\Users\91942\OneDrive\Desktop>
```

## 25. Add execute permission to all user

```
C:\Users\91942\OneDrive\Desktop>icacls Palak.txt /grant Everyone:RX  
processed file: Palak.txt  
Successfully processed 1 files; Failed processing 0 files
```

## IN LINUX/UNIX:

```
MINGW64:/c/Users/91942/OneDrive/Desktop/OS_CD24026
$ git config --global user.name
palak singh
91942@ANUSHA MINGW64 ~/OneDrive/Desktop (master)
$ git config --global user.email
singhpalak759@gmail.com

91942@ANUSHA MINGW64 ~/OneDrive/Desktop (master)
$ dir
12th\ marsheet.jpg          OS_CD24026    Practical      palak\ evs.pdf      prelab\ output\ (1)_page-0011.jpg prelab\ output\ (1)_page-0016.jpg
Collections\ \ Microsoft\ Learn.Ink  PP          TVISHA       pics           prelab\ output\ (1)_page-0012.jpg prelab\ output\ (1)_page-0017.jpg
Dr.\ GAUTAM_PICHA.mhtml     Palak.txt    desktop.ini   prelab\ output\ (1)_page-0008.jpg prelab\ output\ (1)_page-0013.jpg skill\ set\ 1\palak\ singh\ CD24026.docx
IMG_3406(1).jpg            Palaks.txt  fees\ receipt.jpg prelab\ output\ (1)_page-0009.jpg prelab\ output\ (1)_page-0014.jpg skill\ set\ 2.docx
KAIZAN\PURCHASE\ ORDER     Perplexity.Ink flovedpdf_pages-to-jpg.zip prelab\ output\ (1)_page-0010.jpg prelab\ output\ (1)_page-0015.jpg undertaking.jpg

91942@ANUSHA MINGW64 ~/OneDrive/Desktop (master)
$ cd OS_CD24026
$ ls
PreLab.pdf

91942@ANUSHA MINGW64 ~/OneDrive/Desktop/OS_CD24026 (master)
$ git add PreLab.pdf

91942@ANUSHA MINGW64 ~/OneDrive/Desktop/OS_CD24026 (master)
$ git status
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file:  PreLab.pdf

Changes not staged for commit:
  (use "git add/rm <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
        deleted:    practical1.pdf

91942@ANUSHA MINGW64 ~/OneDrive/Desktop/OS_CD24026 (master)
$ git commit -m"PreLab pdf executed successfully"
[master c193326] PreLab pdf executed successfully
 1 file changed, 0 insertions(+), 0 deletions(-)
 create mode 100644 PreLab.pdf

91942@ANUSHA MINGW64 ~/OneDrive/Desktop/OS_CD24026 (master)
$ git status
On branch master
Changes not staged for commit:
  (use "git add/rm <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
        deleted:    practical1.pdf

no changes added to commit (use "git add" and/or "git commit -a")
```

```
91942@ANUSHA MINGW64 ~/OneDrive/Desktop/OS_CD24026 (master)
$ git status
On branch master
Changes not staged for commit:
  (use "git add/rm <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
        deleted:    practical1.pdf

no changes added to commit (use "git add" and/or "git commit -a")

91942@ANUSHA MINGW64 ~/OneDrive/Desktop/OS_CD24026 (master)
$ git add -u

91942@ANUSHA MINGW64 ~/OneDrive/Desktop/OS_CD24026 (master)
$ git add practical1.pdf
fatal: pathspec 'practical1.pdf' did not match any files

91942@ANUSHA MINGW64 ~/OneDrive/Desktop/OS_CD24026 (master)
$ git commit -m"Removed practical1 pdf"
[master 97864bb] Removed practical1 pdf
 1 file changed, 3 deletions(-)
 delete mode 100644 practical1.pdf

91942@ANUSHA MINGW64 ~/OneDrive/Desktop/OS_CD24026 (master)
$ git status
On branch master
nothing to commit, working tree clean
```

```
91942@ANUSHA MINGW64 ~/OneDrive/Desktop/OS_CD24026 (master)
$ git status
On branch master
nothing to commit, working tree clean

91942@ANUSHA MINGW64 ~/OneDrive/Desktop/OS_CD24026 (master)
$ git branch -M main

91942@ANUSHA MINGW64 ~/OneDrive/Desktop/OS_CD24026 (main)
$ git remote add origin https://github.com/singhpalak759-cell/OS_CD24026.git

91942@ANUSHA MINGW64 ~/OneDrive/Desktop/OS_CD24026 (main)
$ git push -u origin main
info: please complete authentication in your browser...
Enumerating objects: 8, done.
Counting objects: 100% (8/8), done.
Delta compression using up to 8 threads
Compressing objects: 100% (6/6), done.
Writing objects: 100% (8/8), 1.88 MiB | 1.30 MiB/s, done.
Total 8 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To https://github.com/singhpalak759-cell/OS_CD24026.git
 * [new branch]      main -> main
branch 'main' set up to track 'origin/main'.

91942@ANUSHA MINGW64 ~/OneDrive/Desktop/OS_CD24026 (main)
$
```