

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 10.0.26100.7462]
(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.
```

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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.
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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

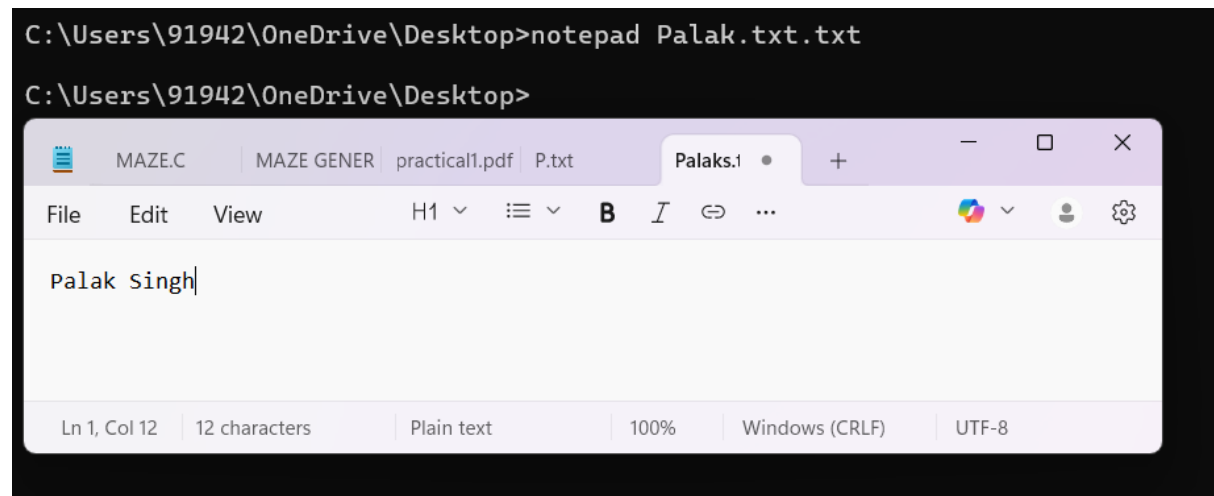
C:\Users\91942\OneDrive\Desktop>
```

4. Read, modify or concatenate text files

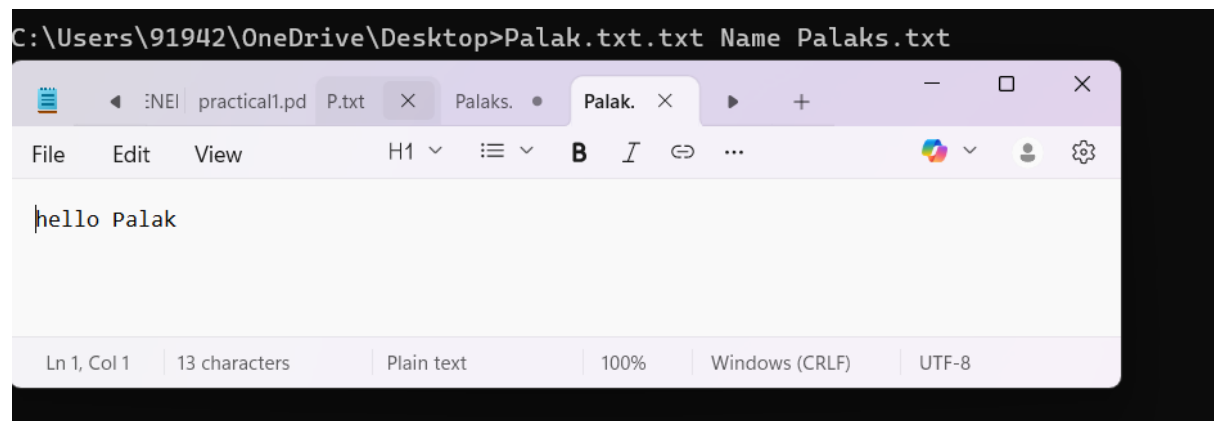
- Read a text file:

```
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:



- Concatenate text files:



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 0s  
Practical 0s  
  
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

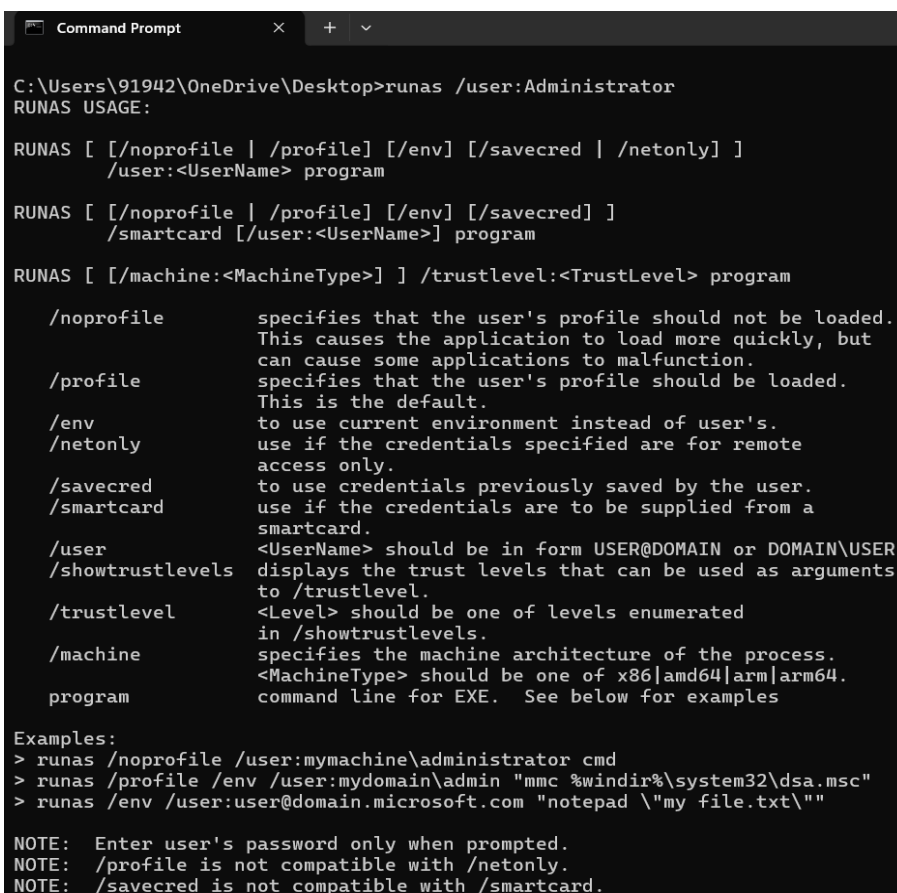
C:\Users\91942\OneDrive\Desktop>
```

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



```
Command Prompt
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 re move 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

91942@ANUSHA MINGW64 ~/OneDrive/Desktop (master)
$ 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\ marshet.jpg          OS_CD24026          Practical          palak\ evs.pdf      prelab\ output\ (1)_page-0011.jpg  prelab\ output\ (1)_page-0016.jpg
Collections\ \ \ Microsoft\ Learn.lnk  PP                  TVISHA            pics                prelab\ output\ (1)_page-0012.jpg  prelab\ output\ (1)_page-0017.jpg
Dr\ GAUTAM\ PINCHA.mhtml  Palak.txt           desktop.ini        prelab\ output\ (1)_page-0008.jpg  prelab\ output\ (1)_page-0013.jpg  skill\ set\ 1(palak\ singh\ CD24026).docx
ENG_2406(1).jpg           Palaks.txt          fees\ receipt.jpg  prelab\ output\ (1)_page-0009.jpg  prelab\ output\ (1)_page-0014.jpg  skill\ set\ 2.docx
KATZAN\ PURCHASE\ ORDER  Perplexity.lnk      ilovepdf_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

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