

Problem Statement- 1 :- Explore , Execute and Analyze general purpose Linux commands.

- 1.1 Use a command to list all files, including hidden ones, in the current working directory.
- 1.2 Show the full path of your current working directory.
- 1.3 Create a new directory called MyFolder.
- 1.4 Change the current directory to MyFolder.
- 1.5 Delete the directory MyFolder.
- 1.6 Copy file1.txt to file2.txt.
- 1.7 Rename file2.txt to file3.txt.
- 1.8 Delete file3.txt
- 1.9 Use a command to display system information, such as kernel name and version.
- 1.10 Create an empty file named test.txt.
- 1.11 Clear the terminal screen.
- 1.12 List all currently running process.
- 1.13 Search for the word "Linux" in the file example.txt
- 1.14 Use a command to display "Welcome to Linux" on the terminal
- 1.15 Display the disk usage of all mounted file systems.
- 1.16 Use a command to count lines, word, and characters in test.txt.
- 1.17 Display the current user name.
- 1.18 Command to sort the output of file in reverse order.

Objective: To understand and effectively utilize general purpose Linux commands for system management, file manipulation and task automation. This includes mastering commands for navigating directories, managing files and permissions , monitoring system performance and executing basic scripting task to enhance productivity and streamline workflows in a Linux environment.

- 1.1 Use a command to list all files, including hidden ones, in the current working directory.

Command: `ls -a`

Description: The `ls` command is commonly used to identify the files and directories in the working directory.

Output :

```
ashis@Ashish-Vivobook MINGW64 ~  
$ ls -a  
./  
../  
.android/  
.bash_history  
.gitconfig  
.gradle/  
.minttyrc  
.packettracer  
.vscode/
```

- 1.2 Show the full path of your current working directory.

Command: `pwd`

Description: The `pwd` command is mostly used to print the current working directory on your terminal.

Output :

```
ashis@Ashish-Vivobook MINGW64 ~  
$ pwd  
/c/Users/ashis  
  
ashis@Ashish-Vivobook MINGW64 ~  
$ |
```

- 1.3 Create a new directory called MyFolder.

Command: `mkdir MyFolder`

Description: The `mkdir` command allows you to create fresh directories in the terminal

Output :

```
ashis@Ashish-Vivobook MINGW64 ~  
$ mkdir MyFolder  
  
ashis@Ashish-Vivobook MINGW64 ~  
$ ls  
AppData/  
'Application Data'@  
'Cisco Packet Tracer 8.2.2'/  
Contacts/  
Cookies@  
Documents/  
Downloads/  
Favorites/  
Links/  
'Local Settings'@  
Music/  
'My Documents'@  
MyFolder/
```

1.4 Change the current directory to MyFolder.

Command: cd MyFolder

Description: The cd command allows you to change the directory in the terminal

Output :

```
ashis@Ashish-Vivobook MINGW64 ~  
$ cd MyFolder  
  
ashis@Ashish-Vivobook MINGW64 ~/MyFolder  
$ pwd  
/c/Users/ashis/MyFolder  
  
ashis@Ashish-Vivobook MINGW64 ~/MyFolder  
$
```

1.5 Delete the directory MyFolder.

Command: rmdir MyFolder

Description: The rmdir command allows you to delete the directory in the terminal

Output :

```
ashis@Ashish-Vivobook MINGW64 ~/MyFolder
$ cd ..

ashis@Ashish-Vivobook MINGW64 ~
$ rmdir MyFolder

ashis@Ashish-Vivobook MINGW64 ~
$ ls
AppData/
'Application Data'@
'Cisco Packet Tracer 8.2.2'/
Contacts/
Cookies@
Documents/
Downloads/
Favorites/
Links/
```

1.6 Copy file1.txt to create file2.txt

Command: cp file1.txt file2.txt

Description: cp command copy the content of a file into another file

Output :

```
ashis@Ashish-Vivobook MINGW64 ~
$ cat > file1.txt
This is file1

ashis@Ashish-Vivobook MINGW64 ~
$ cat file1.txt
This is file1

ashis@Ashish-Vivobook MINGW64 ~
$ cp file1.txt file2.txt

ashis@Ashish-Vivobook MINGW64 ~
$ cat file2.txt
This is file1
```

1.7 Rename file2.txt to file3.txt

Command: mv file2.txt file3.txt

Description: mv command is used to rename a file in terminal.

Output :

```
ashis@Ashish-Vivobook MINGW64 ~  
$ mv file1.txt file3.txt
```

```
ashis@Ashish-Vivobook MINGW64 ~  
$ ls  
AppData/  
'Application Data'@  
'Cisco Packet Tracer 8.2.2'/  
Contacts/  
Cookies@  
Documents/  
Downloads/  
Favorites/
```

```
Searches/  
SendTo@  
'Start Menu'@  
Templates@  
Videos/  
file1  
file2.txt  
file3.txt
```

1.8 Delete file3.txt

Command: rm file3.txt

Description: rm command is used to delete a file in terminal.

Output :

```
ashis@Ashish-Vivobook MINGW64 ~  
$ rm file3.txt
```

```
ashis@Ashish-Vivobook MINGW64 ~  
$ ls  
AppData/  
'Application Data'@  
'Cisco Packet Tracer 8.2.2'/  
Contacts/  
Cookies@  
Documents/  
Downloads/
```

```
'Saved Games'/  
Searches/  
SendTo@  
'Start Menu'@  
Templates@  
Videos/  
file2.txt
```

1.9 Use a command to display system information , such as kernel name and version.

Command: uname -a

Description: uname command is used to display system information , such as kernel name and version

Output :

```
ashis@Ashish-Vivobook MINGW64 ~  
$ uname -a  
MINGW64_NT-10.0-26100 Ashish-Vivobook 3.5.7-882031da.x86_64 2025-01-30 11:14 UTC x86_64 Msys  
  
ashis@Ashish-Vivobook MINGW64 ~  
$ |
```

1.10 Create an empty file named test.txt.

Command: touch test.txt

Description: touch command is used to create an empty file in terminal.

Output :

```
ashis@Ashish-Vivobook MINGW64 ~  
$ touch test.txt  
  
ashis@Ashish-Vivobook MINGW64 ~  
$ ls  
AppData/  
'Application Data'@  
'Cisco Packet Tracer 8.2.2'/  
Contacts/  
Cookies@  
Documents/  
Downloads/  
Favorites/  
Links/  
'Local Settings'@  
Music/  
'My Documents'@  
NTUSER.DAT  
NTUSER.DAT{05f938ab-f802-11ef-8e36-dc4628507584}.TM.blf  
NTUSER.DAT{05f938ab-f802-11ef-8e36-dc4628507584}.TMContainer000000000000000001.regtrans-ms  
NTUSER.DAT{05f938ab-f802-11ef-8e36-dc4628507584}.TMContainer000000000000000002.regtrans-ms  
NetHood@  
OneDrive/  
PrintHood@  
Recent@  
'Saved Games'/  
Searches/  
SendTo@  
'Start Menu'@  
Templates@  
Videos/  
file2.txt  
jcef_14088.log  
jcef_15852.log  
jcef_17928.log  
jcef_17972.log  
jcef_18796.log  
jcef_3016.log  
jcef_3348.log  
jcef_7628.log  
jcef_9940.log  
ntuser.dat.LOG1  
ntuser.dat.LOG2  
ntuser.ini  
test.txt
```

1.11 Clear the terminal screen.

Command: clear

Description: clear command is used to clear the terminal screen

Output :

```
ashis@Ashish-Vivobook MINGW64 ~  
$ clear
```

1.12 List all currently running process

Command: ps

Description: ps command is use to list all currently running process in terminal

Output :

```
ashis@Ashish-Vivobook MINGW64 ~  
$ ps  
    PID   PPID  PGID   WINPID   TTY      UID    STIME  COMMAND  
    1729   1728   1729     9808  pty0     197609 22:50:33 /usr/bin/bash  
    1728     1   1728    20812   ?       197609 22:50:33 /usr/bin/mintty  
    1906   1729   1906    10408  pty0     197609 23:34:39 /usr/bin/ps  
  
ashis@Ashish-Vivobook MINGW64 ~  
$
```

1.13 Search for the word “Linux” in the file example.txt.

Command: grep “Linux” example.txt

Description: grep command is used to search a word in a file.

Output :

```
ashis@Ashish-Vivobook MINGW64 ~  
$ cat > example.txt  
These are some Linux commands.  
  
ashis@Ashish-Vivobook MINGW64 ~  
$ grep "Linux" example.txt  
These are some Linux Commands .  
  
ashis@Ashish-Vivobook MINGW64 ~  
$
```

1.14 Use a command to display “Welcome to Linux” on the terminal.

Command: echo “Welcome to Linux”

Description: echo command is used to display text on terminal screen.

Output :

```
ashis@Ashish-Vivobook MINGW64 ~  
$ echo "welcome to Linux"  
welcome to Linux  
  
ashis@Ashish-Vivobook MINGW64 ~  
$
```

1.15 Display the Disk usage of all mounted file system.

Command: df -h

Description: df command is used to check disk space usage of file system.

Output :

```
ashis@Ashish-Vivobook MINGW64 ~  
$ df -h  
Filesystem                Size      Used Avail Use% Mounted on  
C:/Program Files/Git     250G       83G   167G   34% /  
D:                        225G       1.8G   224G    1% /d  
  
ashis@Ashish-Vivobook MINGW64 ~  
$
```

1.16 Use a command to count lines , words ,and character in test.txt

Command: wc test.txt

Description: wc command is used to check lines , words and character in a file.

Output :

```
ashis@Ashish-Vivobook MINGW64 ~  
$ wc test.txt  
0 0 0 test.txt  
  
ashis@Ashish-Vivobook MINGW64 ~  
$
```

1.17 Display the current username.

Command: whoami

Description: whoami command is used to display the current username.

Output :

```
ashis@Ashish-Vivobook MINGW64 ~  
$ whoami  
ashis  
  
ashis@Ashish-Vivobook MINGW64 ~  
$ |
```

1.18 Command to sort the output of a file in reverse order.

Command: ls | sort -r

Description: ls | sort -r command is used to sort the output in reverse order.

Output :


```
ashis@Ashish-Vivobook MINGW64 ~  
$ ls | sort -r  
test.txt  
ntuser.ini  
ntuser.dat.LOG2  
ntuser.dat.LOG1  
jcef_9940.log  
jcef_7628.log
```