

## **Practical No 3**

**Aim** : Execute the LINUX Commands - man, apropos, clear, ls, mkdir, cd, rmdir, pwd, rm, touch, mv, tr, wc, sort, grep, wall, write, who, chmod, useradd, usermod, kill, ssh, ftp, telnet

**Apparatus:** Computer System with Linux Operating System installed in it.

**Theory** :

### **What are Linux Commands?**

- The Linux command is a utility of the Linux Operating System.
- All basic and advanced tasks can be done by executing commands.
- The Linux command is a utility of the Linux operating system.
- The commands are executed on the Linux terminal.
- The terminal is a command-line interface to interact with the system, which is similar to the command prompt in the Windows OS.
- Commands in Linux are case-sensitive

..

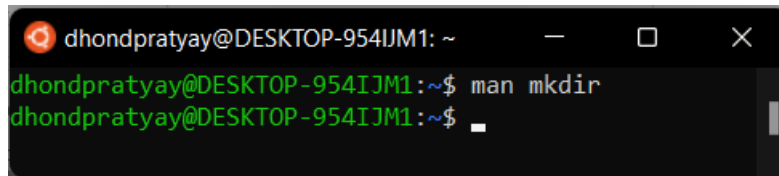
### **Commands:**

1. **man** – The man command is used to display the user manual of any command. To use this command the user just have to type ‘man’ and next to it the command which you want to see.  
Syntax : \$man [COMMAND NAME]
2. **apropos** - The apropos command is used to find the exact command from the keywords. Syntax : \$apropos [keyword]
3. **clear** - The apropos command is used to clear the terminal screen.  
Syntax : \$clear
4. **ls** - The ls command is a command line utility for listing the contents of a directory or directories given to it via standard input.  
Syntax : \$ls
5. **mkdir** - The mkdir command is a command used to create a new directory.  
Syntax : \$mkdir [directory\_name]
6. **cd** - The cd command is a command used to change the current working directory in Linux. Syntax: \$cd [directory\_name] or \$cd..
7. **rmdir** - The rmdir command is a command used to remove empty directories from the file system. Syntax : \$rmdir directory\_name
8. **pwd** - The pwd command is a command used to print the path of the working directory. PWD stands for Print working directory.

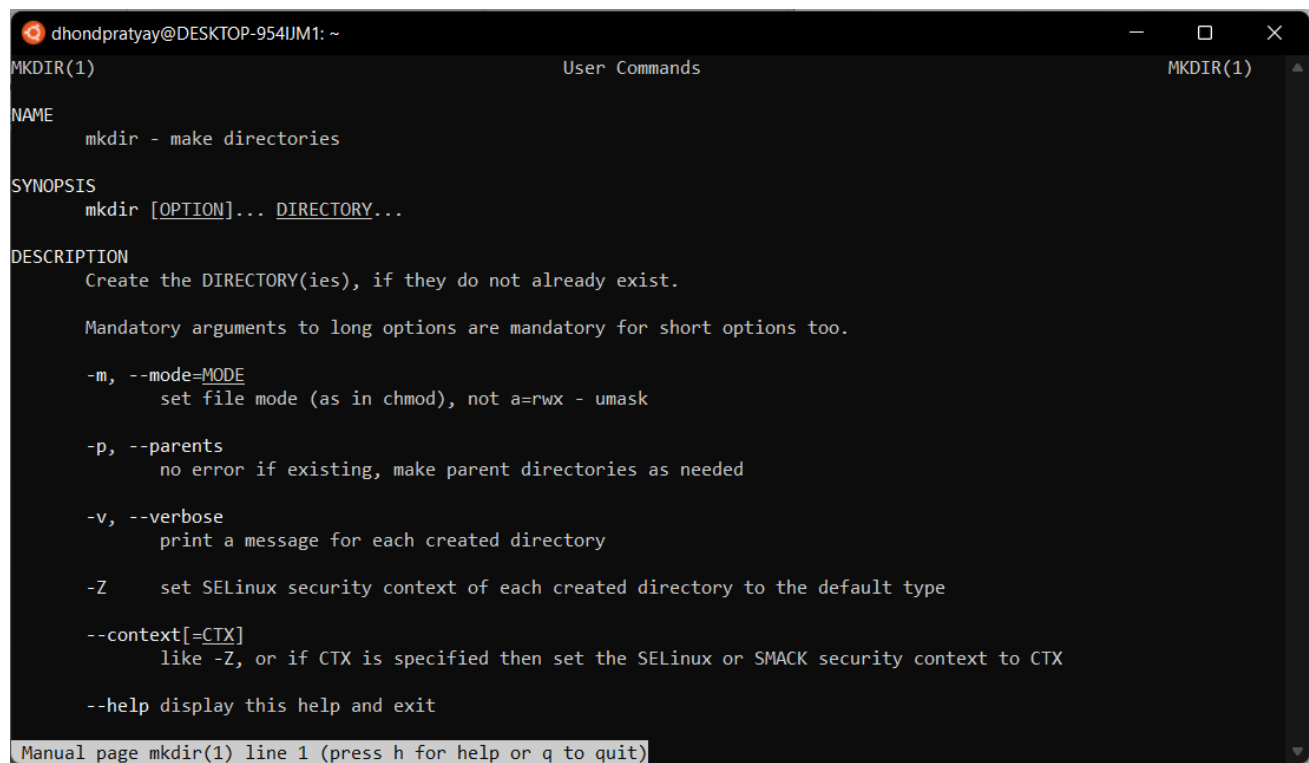
- 9. rm** - The rm command is a command used to remove objects such as files, symbolic links from the file system. Syntax : `$rm [file_name]`
- 10. touch** - The touch command is a command used to create, change or modify timespan of a file. Syntax : `$touch [file_name]`
- 11. mv** - The mv command is a command used to move one or more files from one location to other. Syntax : `$mv [file_name][location]`
- 12. tr** - The tr command is a command used to translate or delete characters. It is a linux command line utility. Syntax : `$tr [set1][set2]`
- 13. wc** - The wc command is a command used to count number of lines in a given file. Syntax: `$wc [file_name]`
- 14. sort** - The sort command is a command used to arrange records in particular order. Syntax : `$sort [file_name]`
- 15. grep** - The grep command is a command used to search specific string of character in specific file or directory.  
Syntax : `$grep string_name file_name`
- 16. wall** - The wall command is a command used to send message a message to other users. Syntax : `$wall [-n] [-t timeout] [message | file]`
- 17. write** - The write command is a command used to send message to other users.  
Syntax : `$write user [tty]`
- 18. who** - The who command is a command used to find time of last boot, logged in users, remote host name of user, run level of system and other information. Syntax : `$who [options][filename]`.
- 19. chmod** - The chmod command is a command used to change the mode of access. Syntax : `$chmod [reference][operator][mode] file`
- 20. useradd** - The useradd command is a command used to create a new user or to set the default information for new users.  
Syntax : `$useradd [options] username`
- 21. usermod** - Usermod is a command which has to be executed by the root user.  
Syntax : `$usermod [options] USER`
- 22. kill** - kill is a command used to terminate a process in Linux.  
Syntax : `[$kill -l]`
- 23. ssh** - ssh command instructs the system to establish an encrypted secure connection with the host machine.  
Syntax : `$ssh user_name@host(IP/Domain_name)`
- 24. ftp** - ftp stands for file transfer protocol. The ftp command in Linux is used to perform file transfer to/from a remote network.  
Syntax : `$ftp hostname/IP`
- 25. telnet** - The telnet command is used to create a remote connection with a system over a TCP/IP network.  
Syntax : `$ telnet ip_address port_number`

## Output :

1. **man -**  
\$man mkdir

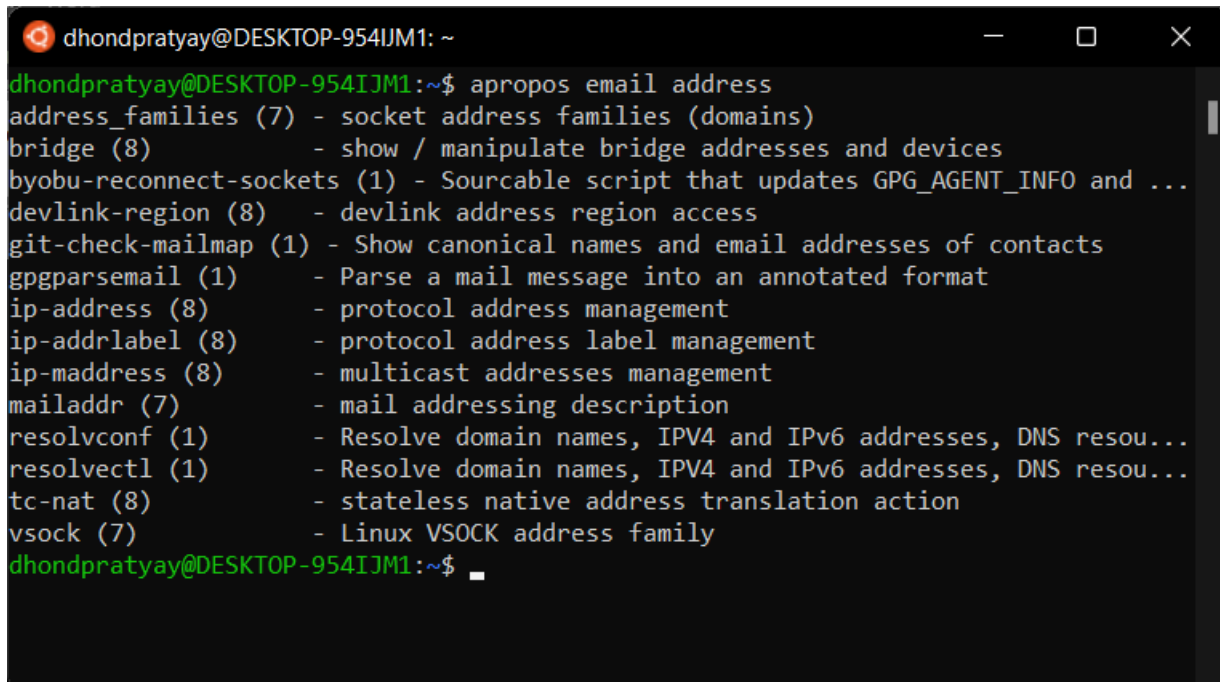


```
dhondpratyay@DESKTOP-954IJM1: ~  
dhondpratyay@DESKTOP-954IJM1:~$ man mkdir  
dhondpratyay@DESKTOP-954IJM1:~$
```



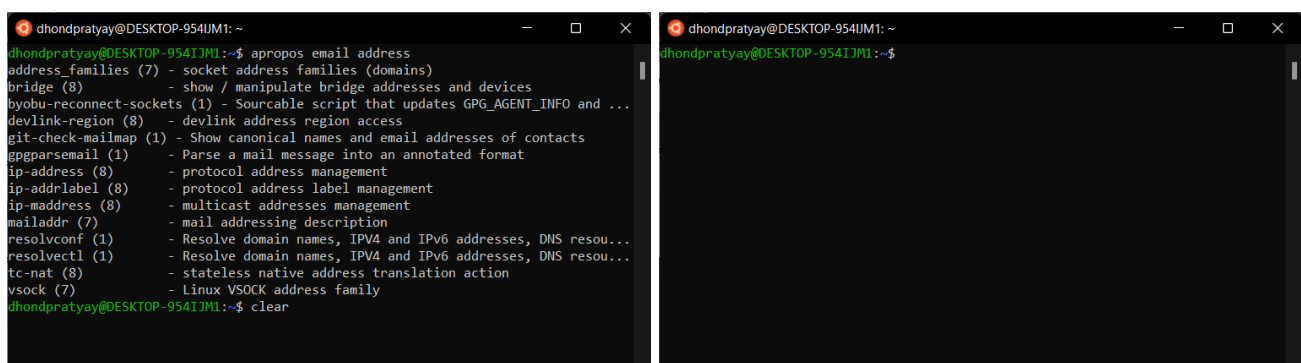
```
dhondpratyay@DESKTOP-954IJM1: ~  
MKDIR(1) User Commands MKDIR(1)  
  
NAME  
    mkdir - make directories  
  
SYNOPSIS  
    mkdir [OPTION]... DIRECTORY...  
  
DESCRIPTION  
    Create the DIRECTORY(ies), if they do not already exist.  
  
    Mandatory arguments to long options are mandatory for short options too.  
  
    -m, --mode=MODE  
        set file mode (as in chmod), not a=rwx - umask  
  
    -p, --parents  
        no error if existing, make parent directories as needed  
  
    -v, --verbose  
        print a message for each created directory  
  
    -Z      set SELinux security context of each created directory to the default type  
  
    --context[=CTX]  
        like -Z, or if CTX is specified then set the SELinux or SMACK security context to CTX  
  
    --help display this help and exit  
  
Manual page mkdir(1) line 1 (press h for help or q to quit)
```

## 2. apropos – \$apropos email address



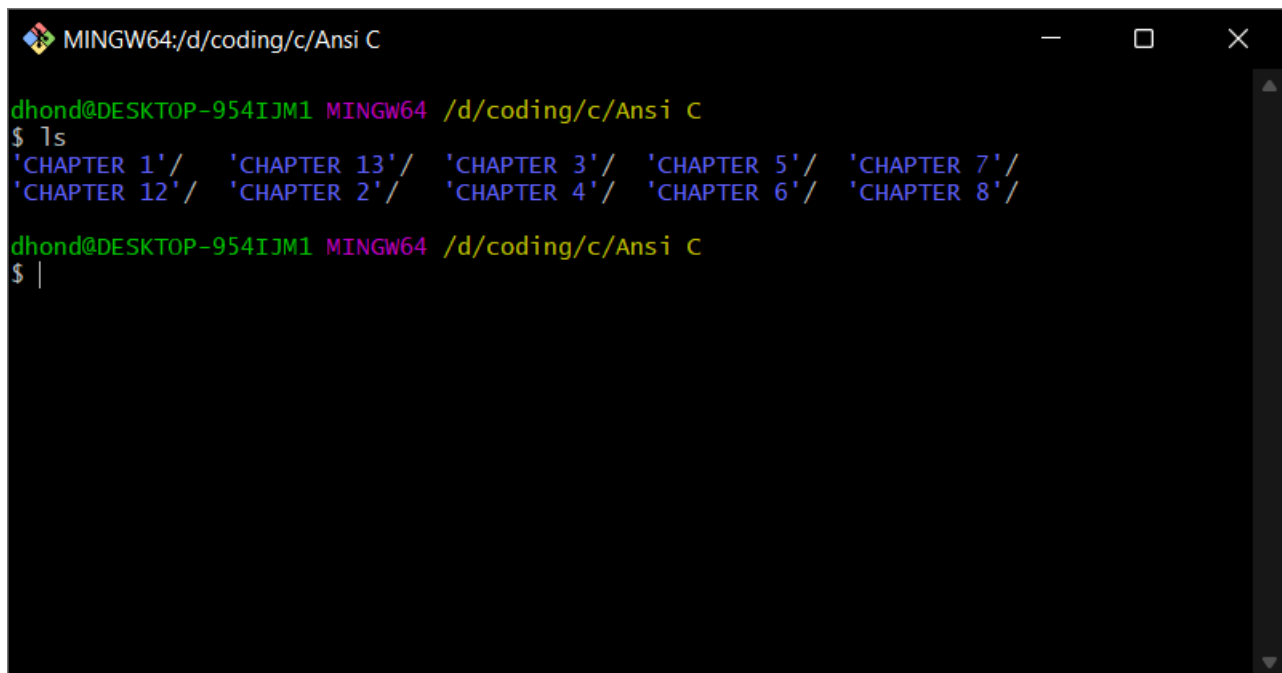
```
dhondpratyay@DESKTOP-954IJM1: ~  
dhondpratyay@DESKTOP-954IJM1:~$ apropos email address  
address_families (7) - socket address families (domains)  
bridge (8)           - show / manipulate bridge addresses and devices  
byobu-reconnect-sockets (1) - Sourcable script that updates GPG_AGENT_INFO and ...  
devlink-region (8)   - devlink address region access  
git-check-mailmap (1) - Show canonical names and email addresses of contacts  
gpgparsemail (1)     - Parse a mail message into an annotated format  
ip-address (8)        - protocol address management  
ip-addrlabel (8)      - protocol address label management  
ip-maddress (8)       - multicast addresses management  
mailaddr (7)          - mail addressing description  
resolvconf (1)        - Resolve domain names, IPV4 and IPV6 addresses, DNS resou...  
resolvectl (1)        - Resolve domain names, IPV4 and IPV6 addresses, DNS resou...  
tc-nat (8)            - stateless native address translation action  
vsock (7)             - Linux VSOCK address family  
dhondpratyay@DESKTOP-954IJM1:~$
```

## 3. clear – \$clear



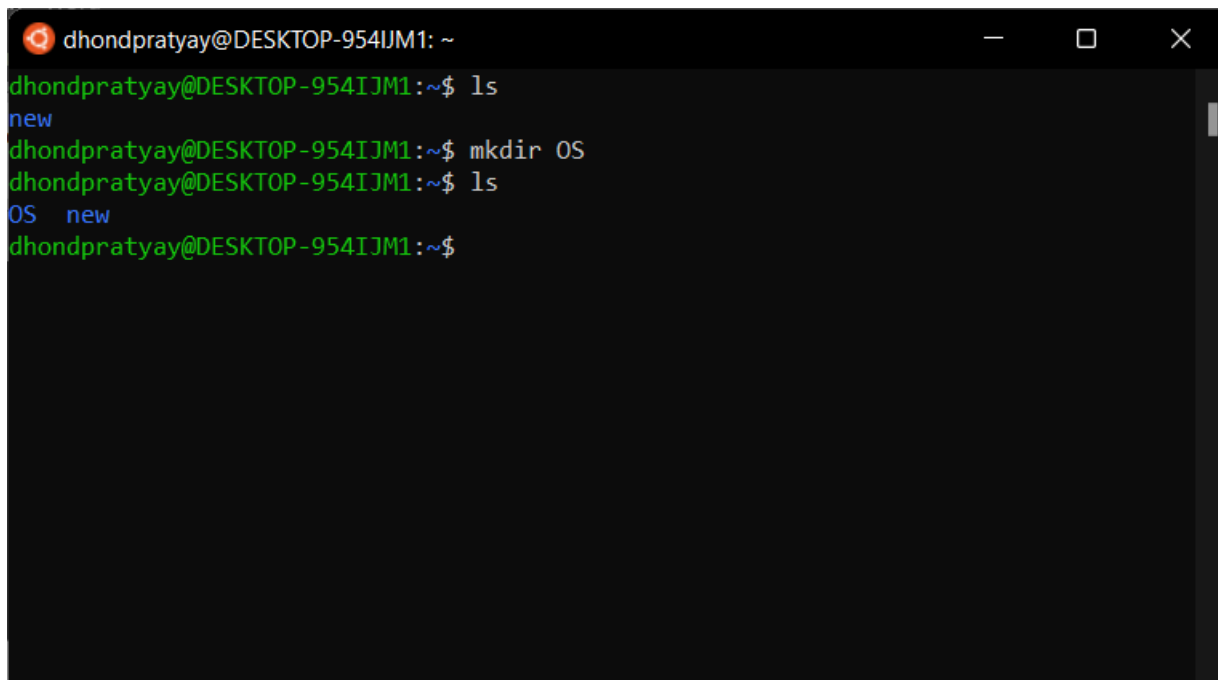
```
dhondpratyay@DESKTOP-954IJM1: ~  
dhondpratyay@DESKTOP-954IJM1:~$ apropos email address  
address_families (7) - socket address families (domains)  
bridge (8)           - show / manipulate bridge addresses and devices  
byobu-reconnect-sockets (1) - Sourcable script that updates GPG_AGENT_INFO and ...  
devlink-region (8)   - devlink address region access  
git-check-mailmap (1) - Show canonical names and email addresses of contacts  
gpgparsemail (1)     - Parse a mail message into an annotated format  
ip-address (8)        - protocol address management  
ip-addrlabel (8)      - protocol address label management  
ip-maddress (8)       - multicast addresses management  
mailaddr (7)          - mail addressing description  
resolvconf (1)        - Resolve domain names, IPV4 and IPV6 addresses, DNS resou...  
resolvectl (1)        - Resolve domain names, IPV4 and IPV6 addresses, DNS resou...  
tc-nat (8)            - stateless native address translation action  
vsock (7)             - Linux VSOCK address family  
dhondpratyay@DESKTOP-954IJM1:~$ clear  
dhondpratyay@DESKTOP-954IJM1:~$
```

4. **ls** –  
\$ls



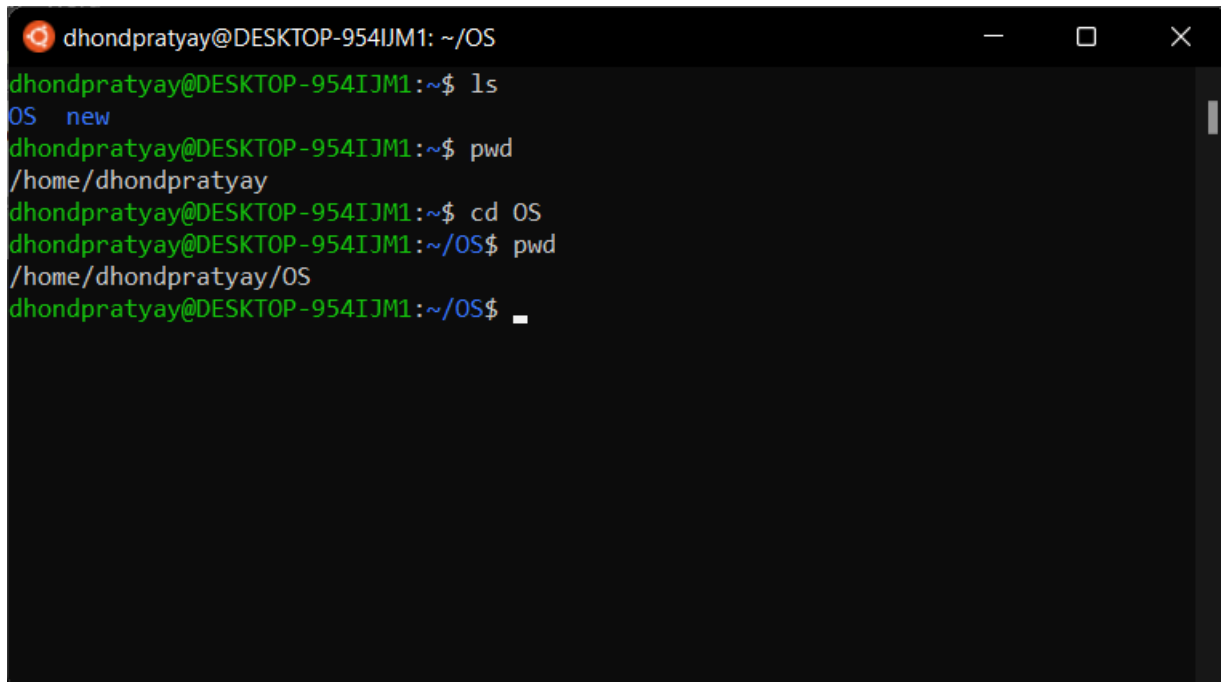
```
MINGW64:/d/coding/c/Ansi C
dhond@DESKTOP-954IJM1 MINGW64 /d/coding/c/Ansi C
$ ls
'CHAPTER 1'/'CHAPTER 13'/'CHAPTER 3'/'CHAPTER 5'/'CHAPTER 7'/'CHAPTER 12'/'CHAPTER 2'/'CHAPTER 4'/'CHAPTER 6'/'CHAPTER 8'
dhond@DESKTOP-954IJM1 MINGW64 /d/coding/c/Ansi C
$ |
```

5. **mkdir** –  
\$mkdir OS



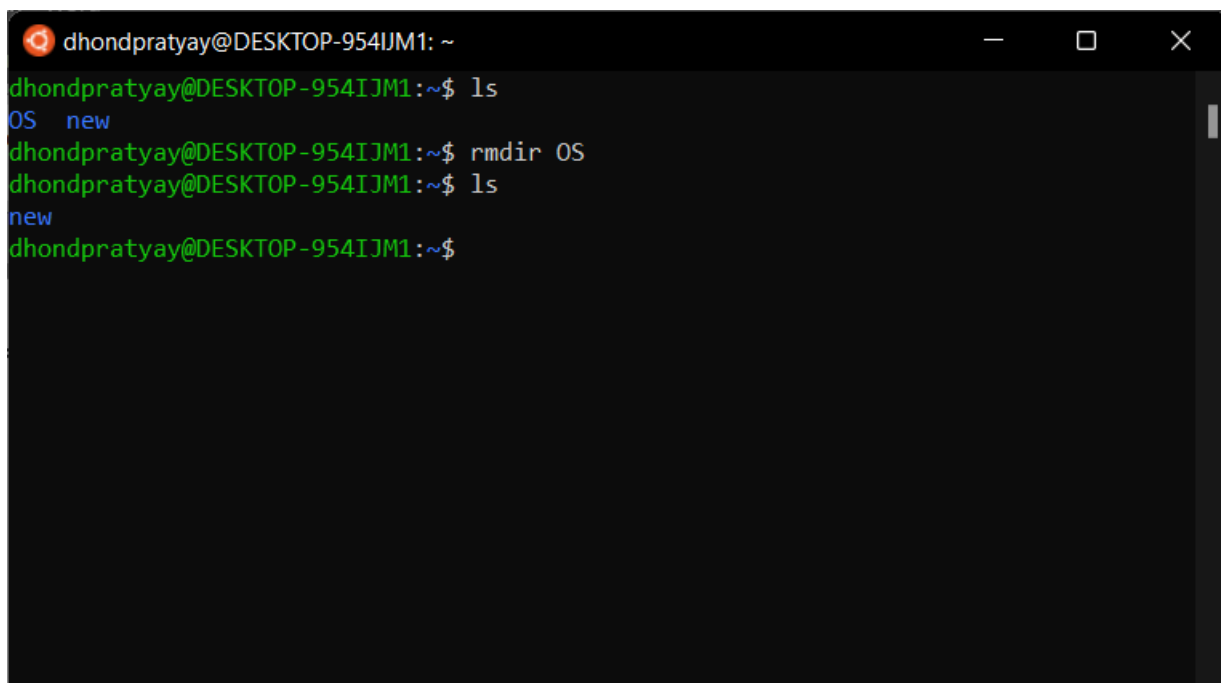
```
dhondpratyay@DESKTOP-954IJM1: ~
dhondpratyay@DESKTOP-954IJM1:~$ ls
new
dhondpratyay@DESKTOP-954IJM1:~$ mkdir OS
dhondpratyay@DESKTOP-954IJM1:~$ ls
OS new
dhondpratyay@DESKTOP-954IJM1:~$
```

**6. cd –**  
\$cd OS



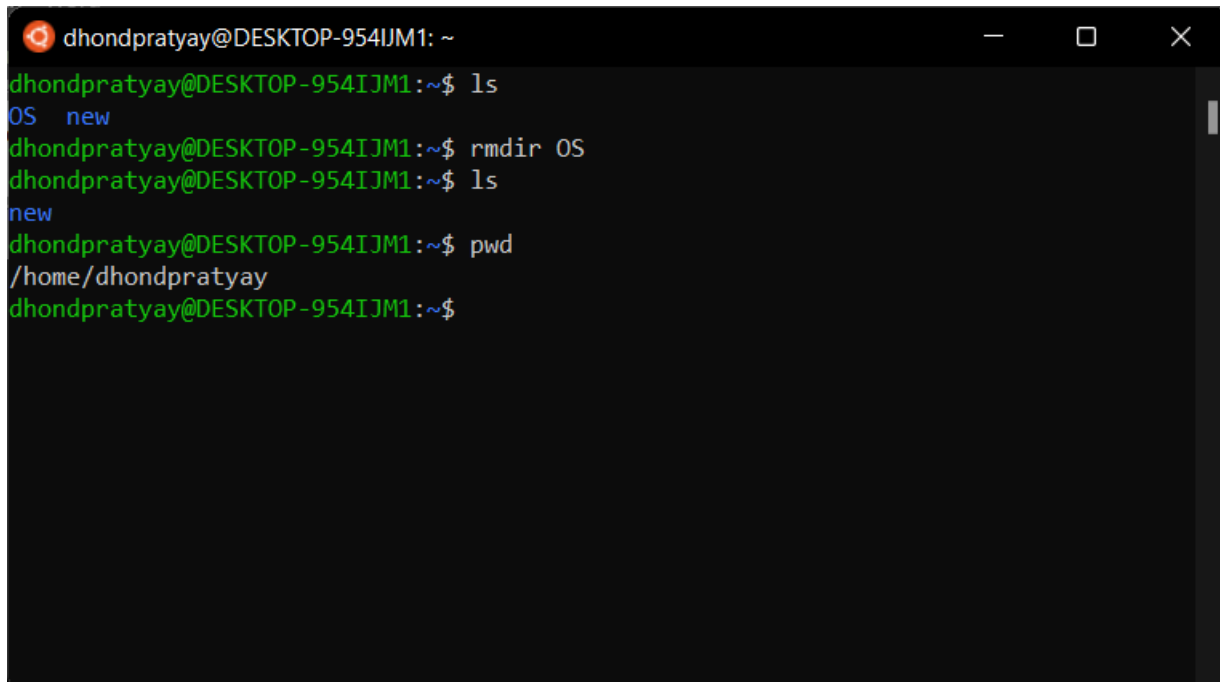
```
dhondpratyay@DESKTOP-954IJM1: ~/OS
dhondpratyay@DESKTOP-954IJM1:~$ ls
OS  new
dhondpratyay@DESKTOP-954IJM1:~$ pwd
/home/dhondpratyay
dhondpratyay@DESKTOP-954IJM1:~$ cd OS
dhondpratyay@DESKTOP-954IJM1:~/OS$ pwd
/home/dhondpratyay/OS
dhondpratyay@DESKTOP-954IJM1:~/OS$ _
```

**7. rmdir –**  
\$rmdir OS



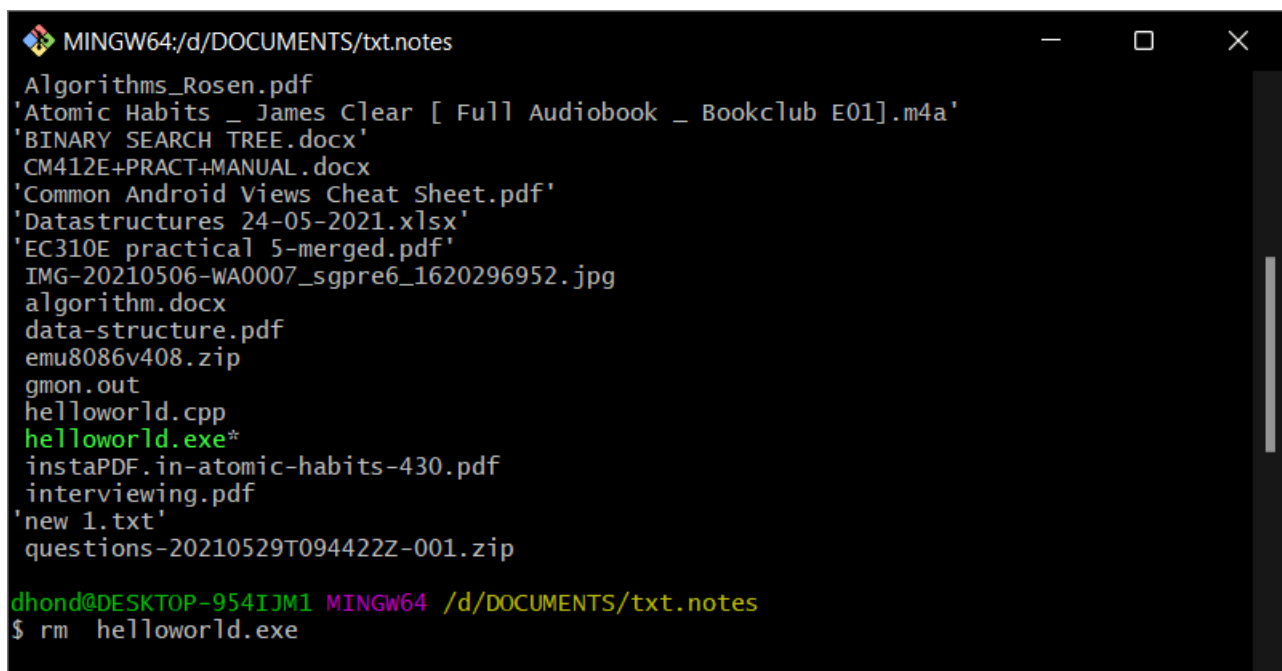
```
dhondpratyay@DESKTOP-954IJM1: ~
dhondpratyay@DESKTOP-954IJM1:~$ ls
OS  new
dhondpratyay@DESKTOP-954IJM1:~$ rmdir OS
dhondpratyay@DESKTOP-954IJM1:~$ ls
new
dhondpratyay@DESKTOP-954IJM1:~$
```

8. **pwd** –  
\$pwd

A terminal window titled 'dhondpratyay@DESKTOP-954IJM1: ~' with standard window controls. It shows a sequence of commands: 'ls' (output: 'OS new'), 'rmdir OS', 'ls' (output: 'new'), and 'pwd' (output: '/home/dhondpratyay').

```
dhondpratyay@DESKTOP-954IJM1: ~  
dhondpratyay@DESKTOP-954IJM1:~$ ls  
OS  new  
dhondpratyay@DESKTOP-954IJM1:~$ rmdir OS  
dhondpratyay@DESKTOP-954IJM1:~$ ls  
new  
dhondpratyay@DESKTOP-954IJM1:~$ pwd  
/home/dhondpratyay  
dhondpratyay@DESKTOP-954IJM1:~$
```

9. **rm** –  
10. \$rm helloworld.exe

A terminal window titled 'MINGW64:/d/DOCUMENTS/txt.notes' with standard window controls. It displays a directory listing of various files and folders, including 'helloworld.exe'. The command '\$ rm helloworld.exe' is entered at the bottom.

```
MINGW64:/d/DOCUMENTS/txt.notes  
Algorithms_Rosen.pdf  
'Atomic Habits _ James Clear [ Full Audiobook _ Bookclub E01].m4a'  
'BINARY SEARCH TREE.docx'  
CM412E+PRACT+MANUAL.docx  
'Common Android Views Cheat Sheet.pdf'  
'Datastructures 24-05-2021.xlsx'  
'EC310E practical 5-merged.pdf'  
IMG-20210506-WA0007_sgpre6_1620296952.jpg  
algorithm.docx  
data-structure.pdf  
emu8086v408.zip  
gmon.out  
helloworld.cpp  
helloworld.exe*  
instaPDF.in-atomic-habits-430.pdf  
interviewing.pdf  
'new 1.txt'  
questions-20210529T094422Z-001.zip  
  
dhond@DESKTOP-954IJM1 MINGW64 /d/DOCUMENTS/txt.notes  
$ rm helloworld.exe
```

## 11. touch –

\$touch --version

```
MINGW64:/d/DOCUMENTS/txt.notes

dhond@DESKTOP-954IJM1 MINGW64 /d/DOCUMENTS/txt.notes
$ touch --version
touch (GNU coreutils) 8.32
Copyright (C) 2020 Free Software Foundation, Inc.
License GPLv3+: GNU GPL version 3 or later <https://gnu.org/licenses/gpl.html>.
This is free software: you are free to change and redistribute it.
There is NO WARRANTY, to the extent permitted by law.

Written by Paul Rubin, Arnold Robbins, Jim Kingdon,
David MacKenzie, and Randy Smith.

dhond@DESKTOP-954IJM1 MINGW64 /d/DOCUMENTS/txt.notes
$ |
```

## 12. mv –

\$mv mv KandiwaliAdmin/ new

```
MINGW64:/d/coding/new

C/                                KandiwaliAdmin/                'hackerrank more exceptions.exe'*
CPP/                              'New folder'/'                  'qyeye and stack hackerrank.cpp'
'Competitive practice'/'         PracticalExamCode.cpp          'qyeye and stack hackerrank.exe'*
'DHCP Server and DNS Server.pptx' PracticalExamCode.exe*         tictactoe.cpp
DataStructures/                  SQL/                            zTryingSites/
Flutter/                          _Ausam/
Git/                              _Hackathon/

dhond@DESKTOP-954IJM1 MINGW64 /d/coding
$ mv KandiwaliAdmin/ _Ausam/
mv: cannot move 'KandiwaliAdmin/' to '_Ausam/KandiwaliAdmin': Directory not empty

dhond@DESKTOP-954IJM1 MINGW64 /d/coding
$ mkdir new

dhond@DESKTOP-954IJM1 MINGW64 /d/coding
$ mv KandiwaliAdmin/ new

dhond@DESKTOP-954IJM1 MINGW64 /d/coding
$ cd new

dhond@DESKTOP-954IJM1 MINGW64 /d/coding/new
$ ls
KandiwaliAdmin/

dhond@DESKTOP-954IJM1 MINGW64 /d/coding/new
$
```



### 13. tr –

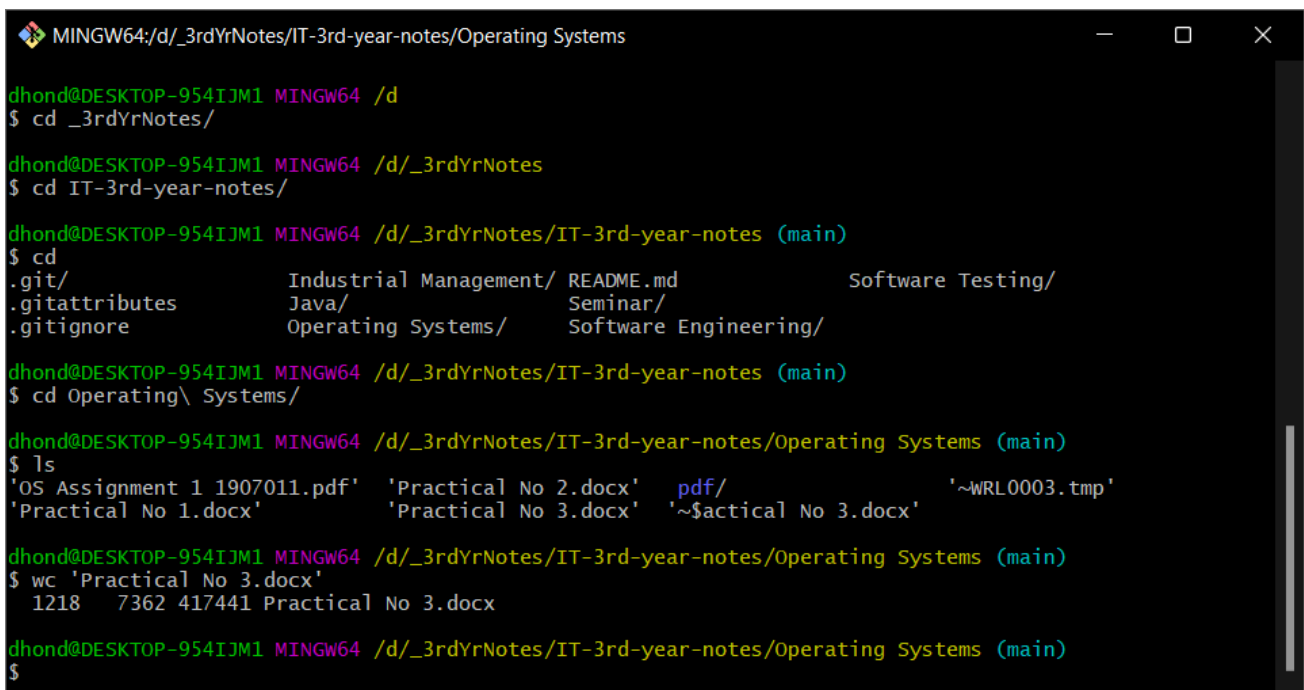
\$tr -d "hello" < XD.txt



```
MINGW64:/d/coding
dhond@DESKTOP-954IJM1 MINGW64 /d/coding
$ tr -d "hello" < XD.txt
H Frm Txt Fi XD
dhond@DESKTOP-954IJM1 MINGW64 /d/coding
$ tr -d "" < XD.txt
Hello From Text File XD
dhond@DESKTOP-954IJM1 MINGW64 /d/coding
$ tr -d "abcdefg" < XD.txt
Hllo From Txt Fil XD
dhond@DESKTOP-954IJM1 MINGW64 /d/coding
$
```

### 14. wc –

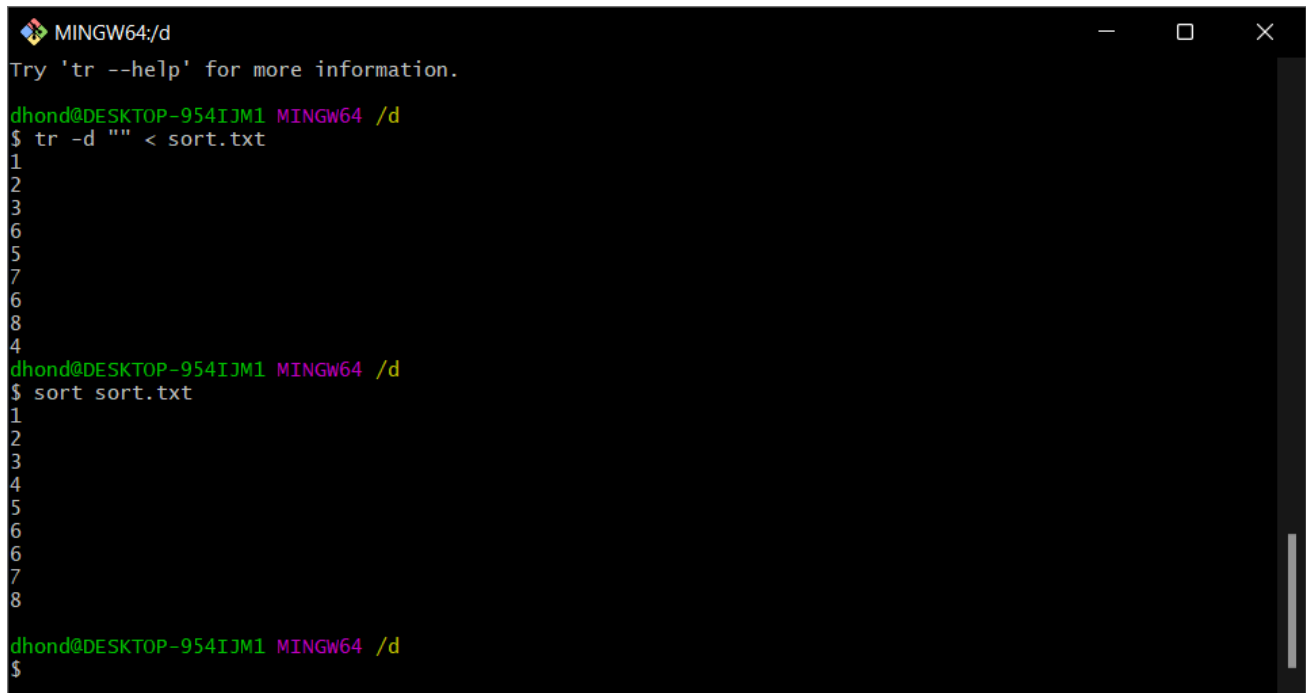
\$wc 'Practical No 3.docx'



```
MINGW64:/d/_3rdYrNotes/IT-3rd-year-notes/Operating Systems
dhond@DESKTOP-954IJM1 MINGW64 /d
$ cd _3rdYrNotes/
dhond@DESKTOP-954IJM1 MINGW64 /d/_3rdYrNotes
$ cd IT-3rd-year-notes/
dhond@DESKTOP-954IJM1 MINGW64 /d/_3rdYrNotes/IT-3rd-year-notes (main)
$ cd
. .git/ Industrial Management/ README.md Software Testing/
. .gitattributes Java/ Seminar/
. .gitignore Operating Systems/ Software Engineering/
dhond@DESKTOP-954IJM1 MINGW64 /d/_3rdYrNotes/IT-3rd-year-notes (main)
$ cd Operating\ Systems/
dhond@DESKTOP-954IJM1 MINGW64 /d/_3rdYrNotes/IT-3rd-year-notes/Operating Systems (main)
$ ls
'OS Assignment 1 1907011.pdf' 'Practical No 2.docx' pdf/ '~WRL0003.tmp'
'Practical No 1.docx' 'Practical No 3.docx' '~$actical No 3.docx'
dhond@DESKTOP-954IJM1 MINGW64 /d/_3rdYrNotes/IT-3rd-year-notes/Operating Systems (main)
$ wc 'Practical No 3.docx'
1218 7362 417441 Practical No 3.docx
dhond@DESKTOP-954IJM1 MINGW64 /d/_3rdYrNotes/IT-3rd-year-notes/Operating Systems (main)
$
```

## 15. sort –

\$sort sort.txt



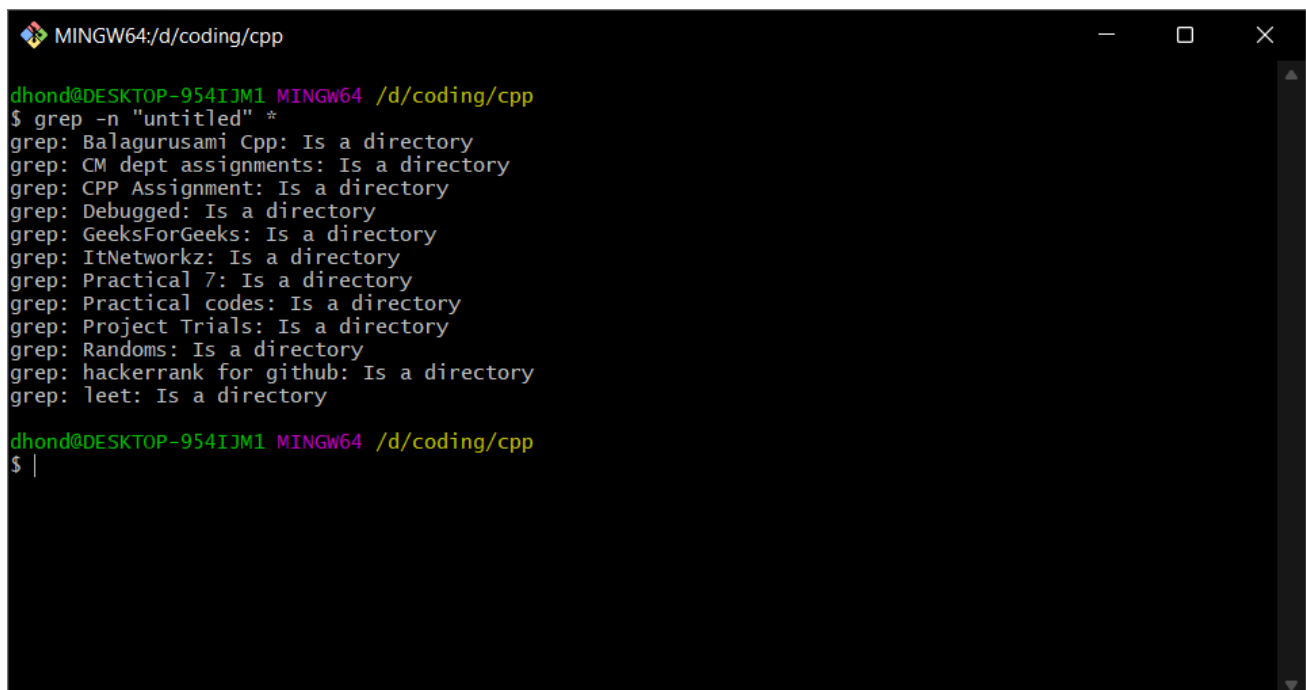
```
MINGW64:/d
Try 'tr --help' for more information.

dhond@DESKTOP-954IJM1 MINGW64 /d
$ tr -d "" < sort.txt
1
2
3
6
5
7
6
8
4
dhond@DESKTOP-954IJM1 MINGW64 /d
$ sort sort.txt
1
2
3
4
5
6
6
7
8

dhond@DESKTOP-954IJM1 MINGW64 /d
$
```

## 16. grep –

\$grep -n "untitled" \*



```
MINGW64:/d/coding/cpp

dhond@DESKTOP-954IJM1 MINGW64 /d/coding/cpp
$ grep -n "untitled" *
grep: Balagurusami Cpp: Is a directory
grep: CM dept assignments: Is a directory
grep: CPP Assignment: Is a directory
grep: Debugged: Is a directory
grep: GeeksForGeeks: Is a directory
grep: ItNetworkz: Is a directory
grep: Practical 7: Is a directory
grep: Practical codes: Is a directory
grep: Project Trials: Is a directory
grep: Randoms: Is a directory
grep: hackerrank for github: Is a directory
grep: leet: Is a directory

dhond@DESKTOP-954IJM1 MINGW64 /d/coding/cpp
$ |
```

## 17. wall – \$wall “Hello Everyone”

```
dhondpratyay@DESKTOP-954IJM1: ~  
  
Usage:  
wall [options] [<file> | <message>]  
  
Write a message to all users.  
  
Options:  
-g, --group <group>      only send message to group  
-n, --nobanner            do not print banner, works only for root  
-t, --timeout <timeout> write timeout in seconds  
  
-h, --help                display this help  
-V, --version              display version  
  
For more details see wall(1).  
dhondpratyay@DESKTOP-954IJM1:~$ wall --version  
wall from util-linux 2.34  
dhondpratyay@DESKTOP-954IJM1:~$ wall group user  
dhondpratyay@DESKTOP-954IJM1:~$ wall -n "Hello Everyone"  
wall: --nobanner is available only for root  
dhondpratyay@DESKTOP-954IJM1:~$ wall "Hello Everyone"  
dhondpratyay@DESKTOP-954IJM1:~$ wall  
^C
```

## 18. write – \$write user [tty]

```
dhondpratyay@DESKTOP-954IJM1: ~  
  
dhondpratyay@DESKTOP-954IJM1:~$ write -help  
write: invalid option -- 'h'  
usage: write user [tty]  
dhondpratyay@DESKTOP-954IJM1:~$ write user [tty]  
write: user is not logged in on [tty]  
dhondpratyay@DESKTOP-954IJM1:~$
```

## 19. chmod –

\$chmod g=r main.class

```
MINGW64:/c/Users/dhond/Desktop
dhond@DESKTOP-954IJM1 MINGW64 ~/Desktop (master)
$ ls
'Beautiful native apps in record time _ Flutter.html'
'Beautiful native apps in record time _ Flutter_files'/
Discord.lnk*
'Everything Is Fcked by Manson, Mark (z-lib.org).azw3'
'Java Notes for Professionals by GoalKicker.com (z-lib.org).pdf'
Java.pdf
Java.pdf
Main.class
Main.java
MyThread.class
'New folder'/
Notion.lnk*
'Programming with Java a Primer by E Balagurusamy (z-lib.org).pdf'
desktop.ini

dhond@DESKTOP-954IJM1 MINGW64 ~/Desktop (master)
$ chmod g=r main.class

dhond@DESKTOP-954IJM1 MINGW64 ~/Desktop (master)
$
```

## 20. kill –

\$kill -help

```
dhondpratyay@DESKTOP-954IJM1: ~
dhondpratyay@DESKTOP-954IJM1:~$ kill -help
-bash: kill: help: invalid signal specification
dhondpratyay@DESKTOP-954IJM1:~$ kill
kill: usage: kill [-s sigspec | -n signum | -sigspec] pid | jobspec ... or kill -l [sigspec]
dhondpratyay@DESKTOP-954IJM1:~$
```

## 21. ssh –

\$ssh -help

```
dhondpratyay@DESKTOP-954IJM1: ~  
dhondpratyay@DESKTOP-954IJM1:~$ ssh -help  
unknown option -- h  
usage: ssh [-46AaCfGgKkMnNqsTtVvXxYy] [-B bind_interface]  
          [-b bind_address] [-c cipher_spec] [-D [bind_address:]port]  
          [-E log_file] [-e escape_char] [-F configfile] [-I pkcs11]  
          [-i identity_file] [-J [user@]host[:port]] [-L address]  
          [-l login_name] [-m mac_spec] [-O ctl_cmd] [-o option] [-p port]  
          [-Q query_option] [-R address] [-S ctl_path] [-W host:port]  
          [-w local_tun[:remote_tun]] destination [command]  
dhondpratyay@DESKTOP-954IJM1:~$
```

## 22. telnet –

\$telnet 192.168.0.1 443

```
dhondpratyay@DESKTOP-954IJM1: ~  
dhondpratyay@DESKTOP-954IJM1:~$ telnet 192.168.0.1 443  
Trying 192.168.0.1...  
Connected to 192.168.0.1.  
Escape character is '^['.  
  
^CConnection closed by foreign host.  
dhondpratyay@DESKTOP-954IJM1:~$ telnet www.google.com 443  
Trying 216.239.32.10...
```

**Conclusion:**

Hence, by performing this practical I got to know about the various commands of the Linux operating system such as man, ls, pwd, wall, write, and various other commands of the Linux operating system which can be executed with the help of the command line interface using shell programming. I also executed the given commands of the Linux operating system using the Linux terminal.