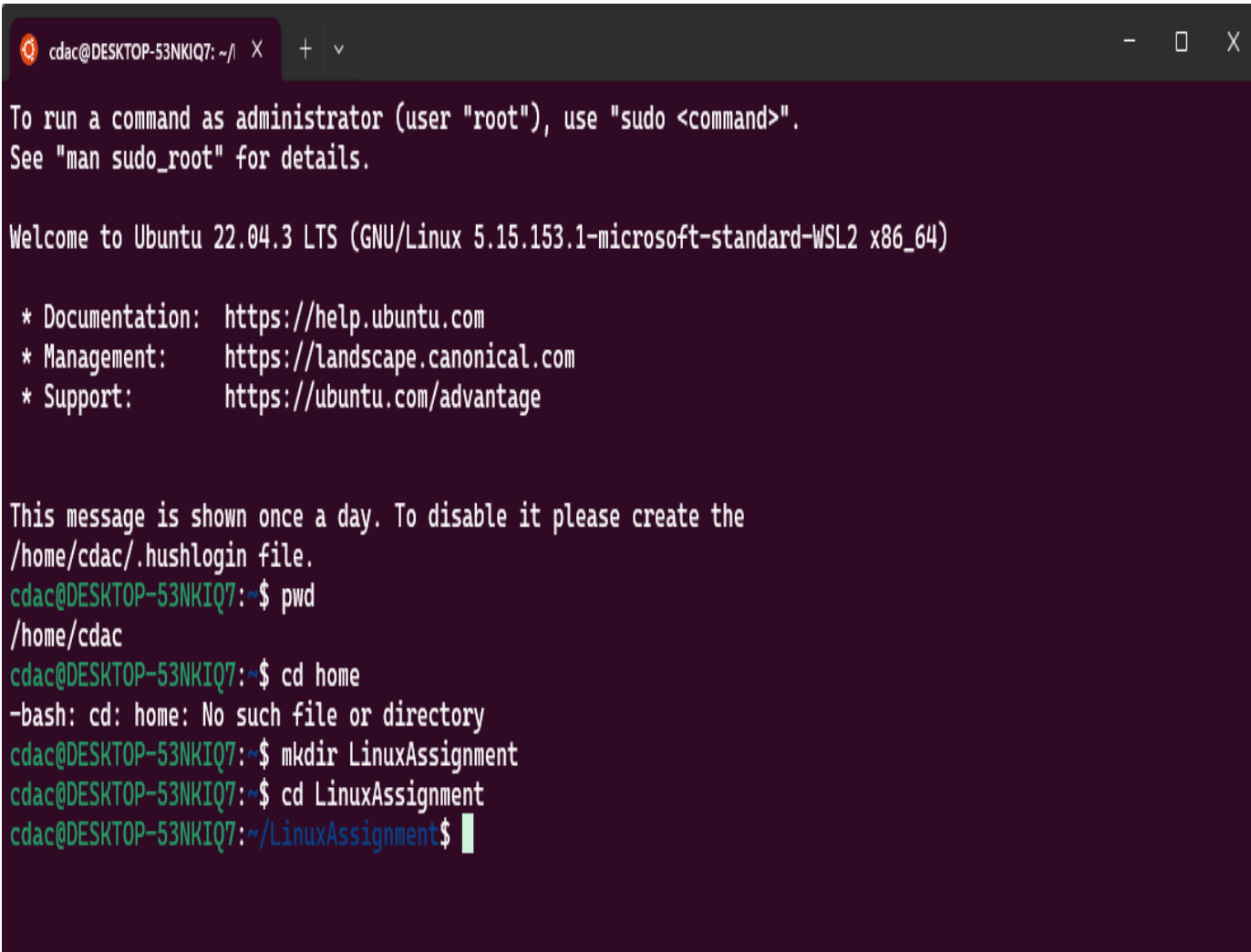


## a) Navigate and List-



```
cdac@DESKTOP-53NKIQ7: ~/ X + v
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

Welcome to Ubuntu 22.04.3 LTS (GNU/Linux 5.15.153.1-microsoft-standard-WSL2 x86_64)

* Documentation:  https://help.ubuntu.com
* Management:    https://landscape.canonical.com
* Support:       https://ubuntu.com/advantage

This message is shown once a day. To disable it please create the
/home/cdac/.hushlogin file.
cdac@DESKTOP-53NKIQ7:~$ pwd
/home/cdac
cdac@DESKTOP-53NKIQ7:~$ cd home
-bash: cd: home: No such file or directory
cdac@DESKTOP-53NKIQ7:~$ mkdir LinuxAssignment
cdac@DESKTOP-53NKIQ7:~$ cd LinuxAssignment
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$
```

### Commands Used:

- i. cd – change directory
- ii. mkdir – make directory

## b) File Management-

```
cdac@DESKTOP-53NKIQ7:~$ mkdir LinuxAssignment
cdac@DESKTOP-53NKIQ7:~$ cd LinuxAssignment
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ ls
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ touch file1.txt
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ ls
file1.txt
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ nano file1.txt
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ cat file1.txt
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ nano file1.txt
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ cat file1.txt
Hello...
I am Nehal Kakade
This is my OS assignment
```

#### Commands Used:

- i. ls – shows files under directory
- ii. touch – creates new file
- iii. nano – opens/creates file
- iv. cat – shows content of file

#### c) Directory Management-

```
This is my OS assignment
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ mkdir docs
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$
```

#### Commands Used:

- i. mkdir – make directory

#### d) Copy and Move Files-

```

cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ mv file1.txt docs
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ cd
cdac@DESKTOP-53NKIQ7:~$ cd docs
-bash: cd: docs: No such file or directory
cdac@DESKTOP-53NKIQ7:~$ cd LinuxAssignment
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ cd docs
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment/docs$ ls
file1.txt
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment/docs$ cd
cdac@DESKTOP-53NKIQ7:~$ ls
LinuxAssignment
cdac@DESKTOP-53NKIQ7:~$ cd LinuxAssignment
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ ls
docs
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ cd docs
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment/docs$ mv file1.txt file2.txt
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment/docs$ ls
file2.txt
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment/docs$ █

```

Commands Used:

- i. ls – shows files under directory
- ii. mv – moves file to mentioned directory

e) Permission and Ownership:

```

cdac@DESKTOP-53NKIQ7:~/LinuxAssignment/docs$ chmod u+rw file2.txt
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment/docs$ ls -l
total 4
-rwxr--r-- 1 cdac cdac 53 Aug 28 19:09 file2.txt
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment/docs$ chmod o+r file2.txt
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment/docs$ ls -l
total 4
-rwxr--r-- 1 cdac cdac 53 Aug 28 19:09 file2.txt
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment/docs$ chown cdac
chown: missing operand after 'cdac'
Try 'chown --help' for more information.
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment/docs$ chown cdac file2.txt
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment/docs$ ls -l
total 4
-rwxr--r-- 1 cdac cdac 53 Aug 28 19:09 file2.txt
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment/docs$ █

```

Commands Used:

- i. chmod – change permissions for specified user

- ii. chown – changes owner for specific file

#### f) Final Checklist-

```
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment/docs$ cd ..
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ ls -l
total 4
drwxr-xr-x 2 cdac cdac 4096 Aug 28 19:37 docs
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ ls
docs
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ cd..
cd..: command not found
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ cd
cdac@DESKTOP-53NKIQ7:~$ ls
LinuxAssignment
cdac@DESKTOP-53NKIQ7:~$ ls -l
total 4
drwxr-xr-x 3 cdac cdac 4096 Aug 28 19:34 LinuxAssignment
```

#### Commands Used:

- i. cd – change directory
- ii. ls – shows files under directory
- iii. ls-l – shows each detail about files present in that directory

#### g) File Searching

```
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ find . -type f -name "*.txt"
./file.txt
./file1.txt
./docs/file2.txt
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ find . -type f -name "Nehal"
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ find . -type f -name "Nehal*"
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ grep -lir Nehal
file.txt
docs/file2.txt
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ grep -inr "Nehal" file1.txt
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ grep 'Nehal' file1.txt
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ grep 'Nehal' file.txt
This is Nehal Kakade
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$
```

## Commands Used:

- i. find – to find [. –type – type of file] [ -name – name of file to be found]
- ii. grep – to search for specific expression

## h) System Information

```
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ date
Wed Aug 28 20:05:59 IST 2024
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$
```

## Commands Used:

- i. date – to show current date and time

## i) Networking

```
cdac@DESKTOP-53NKIQ7:~$ ip addr
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet 10.255.255.254/32 brd 10.255.255.254 scope global lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc mq state UP group default qlen 1000
    link/ether 00:15:5d:b1:31:47 brd ff:ff:ff:ff:ff:ff
    inet 172.19.121.168/20 brd 172.19.127.255 scope global eth0
        valid_lft forever preferred_lft forever
    inet6 fe80::215:5dff:feb1:3147/64 scope link
        valid_lft forever preferred_lft forever
cdac@DESKTOP-53NKIQ7:~$ hostname -I
172.19.121.168
```

```

cdac@DESKTOP-53NKIQ7:~$ ping google.com
PING google.com (142.250.183.14) 56(84) bytes of data.
64 bytes from bom07s30-in-f14.1e100.net (142.250.183.14): icmp_seq=1 ttl=117
64 bytes from bom07s30-in-f14.1e100.net (142.250.183.14): icmp_seq=2 ttl=117
64 bytes from bom07s30-in-f14.1e100.net (142.250.183.14): icmp_seq=3 ttl=117
64 bytes from bom07s30-in-f14.1e100.net (142.250.183.14): icmp_seq=4 ttl=117
64 bytes from bom07s30-in-f14.1e100.net (142.250.183.14): icmp_seq=5 ttl=117
64 bytes from bom07s30-in-f14.1e100.net (142.250.183.14): icmp_seq=6 ttl=117
64 bytes from bom07s30-in-f14.1e100.net (142.250.183.14): icmp_seq=7 ttl=117
64 bytes from bom07s30-in-f14.1e100.net (142.250.183.14): icmp_seq=8 ttl=117
64 bytes from bom07s30-in-f14.1e100.net (142.250.183.14): icmp_seq=9 ttl=117
64 bytes from bom07s30-in-f14.1e100.net (142.250.183.14): icmp_seq=11 ttl=117
64 bytes from bom07s30-in-f14.1e100.net (142.250.183.14): icmp_seq=12 ttl=117
64 bytes from bom07s30-in-f14.1e100.net (142.250.183.14): icmp_seq=13 ttl=117
64 bytes from bom07s30-in-f14.1e100.net (142.250.183.14): icmp_seq=14 ttl=117
64 bytes from bom07s30-in-f14.1e100.net (142.250.183.14): icmp_seq=16 ttl=117
64 bytes from bom07s30-in-f14.1e100.net (142.250.183.14): icmp_seq=17 ttl=117
64 bytes from bom07s30-in-f14.1e100.net (142.250.183.14): icmp_seq=18 ttl=117
64 bytes from bom07s30-in-f14.1e100.net (142.250.183.14): icmp_seq=19 ttl=117
64 bytes from bom07s30-in-f14.1e100.net (142.250.183.14): icmp_seq=21 ttl=117
64 bytes from bom07s30-in-f14.1e100.net (142.250.183.14): icmp_seq=22 ttl=117
64 bytes from bom07s30-in-f14.1e100.net (142.250.183.14): icmp_seq=23 ttl=117
64 bytes from bom07s30-in-f14.1e100.net (142.250.183.14): icmp_seq=24 ttl=117
64 bytes from bom07s30-in-f14.1e100.net (142.250.183.14): icmp_seq=26 ttl=117
64 bytes from bom07s30-in-f14.1e100.net (142.250.183.14): icmp_seq=28 ttl=117
^C64 bytes from 142.250.183.14: icmp_seq=29 ttl=117 time=8.79 ms

--- google.com ping statistics ---
29 packets transmitted, 24 received, 17.2414% packet loss, time 28240ms
rtt min/avg/max/mdev = 5.455/9.171/14.597/2.053 ms
cdac@DESKTOP-53NKIQ7:~$ █

```

Commands Used:

- i. ip addr – to show ip address of all configured links
- ii. hostname –I – shows current host
- iii. ping – test connectivity

## j) File Compression



```
cdac@DESKTOP-53NKIQ7:~$ cd LinuxAssignment
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ touch abc.zip
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ cd
cdac@DESKTOP-53NKIQ7:~$ tar -zcvf /LinuxAssignment/docs abc.zip
tar: tar (child): abc.zip: Cannot stat/LinuxAssignment/docs: Cannot open: No
tar (child): Error is not recoverable: exiting now
tar: Child returned status 2
tar: Error is not recoverable: exiting now
cdac@DESKTOP-53NKIQ7:~$ tar cf abc.zip --use-compress-prog=pbzip2 docs
tar: docs: Cannot stat: No such file or directory
/bin/sh: 1: pbzip2: not found
tar: Child returned status 127
tar: Error is not recoverable: exiting now
cdac@DESKTOP-53NKIQ7:~$ tar cf abc.zip --use-compress-prog=abc docs
tar: docs: Cannot stat: No such file or directory
/bin/sh: 1: abc: not found
tar: Child returned status 127
tar: Error is not recoverable: exiting now
cdac@DESKTOP-53NKIQ7:~$ tar cf abc.zip --use-compress-prog=abc.zip docs
tar: docs: Cannot stat: No such file or directory
/bin/sh: 1: abc.zip: not found
tar: Child returned status 127
tar: Error is not recoverable: exiting now
cdac@DESKTOP-53NKIQ7:~$ tar -czvf abc.zip docs
tar: docs: Cannot stat: No such file or directory
tar: Exiting with failure status due to previous errors
cdac@DESKTOP-53NKIQ7:~$ cd LinuxAssignment
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ tar -czvf abc.zip docs
docs/
docs/file2.txt
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ mkdir newD
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ unzip abc.zip -d newD
Command 'unzip' not found, but can be installed with:
sudo apt install unzip
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ sudo apt install unzip
[sudo] password for cdac:
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Suggested packages:
  zip
The following NEW packages will be installed:
  unzip
0 upgraded, 1 newly installed, 0 to remove and 0 not upgraded.
Need to get 174 kB of archives.
After this operation, 385 kB of additional disk space will be used.
Get:1 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 unzip amd64 6
Fetched 174 kB in 1s (146 kB/s)
```

```
sudo apt install unzip
```

```
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ sudo apt install unzip
```

```
[sudo] password for cdac:
```

```
Reading package lists... Done
```

```
Building dependency tree... Done
```

```
Reading state information... Done
```

```
Suggested packages:
```

```
zip
```

```
The following NEW packages will be installed:
```

```
unzip
```

```
0 upgraded, 1 newly installed, 0 to remove and 0 not upgraded.
```

```
Need to get 174 kB of archives.
```

```
After this operation, 385 kB of additional disk space will be used.
```

```
Get:1 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 unzip amd64
```

```
Fetch 174 kB in 1s (146 kB/s)
```

```
Selecting previously unselected package unzip.
```

```
(Reading database ... 24208 files and directories currently installed.)
```

```
Preparing to unpack .../unzip_6.0-26ubuntu3.1_amd64.deb ...
```

```
Unpacking unzip (6.0-26ubuntu3.1) ...
```

```
Setting up unzip (6.0-26ubuntu3.1) ...
```

```
Processing triggers for man-db (2.10.2-1) ...
```

```
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ unzip abc.zip -d newD
```

```
Archive: abc.zip
```

```
End-of-central-directory signature not found. Either this file is not  
a zipfile, or it constitutes one disk of a multi-part archive. In the  
latter case the central directory and zipfile comment will be found on  
the last disk(s) of this archive.
```

```
unzip: cannot find zipfile directory in one of abc.zip or  
abc.zip.zip, and cannot find abc.zip.ZIP, period.
```

```
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ ls
```

```
abc.zip docs file.txt file1.txt newD
```

```
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ cd newD
```

```
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment/newD$ ls
```

```
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment/newD$ cd ..
```

```
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ rm abc.zip
```

```
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ ls
```

```
docs file.txt file1.txt newD
```

```
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ zip -r abc
```

```
Command 'zip' not found, but can be installed with:
```

```
sudo apt install zip
```

```
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ sudo apt install zip
```

```
Reading package lists... Done
```

```
Building dependency tree... Done
```

```
Reading state information... Done
```

```
The following NEW packages will be installed:
```

```
zip
```

```
0 upgraded, 1 newly installed, 0 to remove and 0 not upgraded.
```

```
Need to get 176 kB of archives.
```

```
After this operation, 544 kB of additional disk space will be used.
```

```
Get:1 http://archive.ubuntu.com/ubuntu jammy/main amd64 zip amd64 3.0-12bui
```

```
Fetch 176 kB in 1s (259 kB/s)
```



```
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ zip -r abc LinuxAssignment
zip warning: name not matched: LinuxAssignment

zip error: Nothing to do! (try: zip -r abc . -i LinuxAssignment)
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ zip -r abc docs
  adding: docs/ (stored 0%)
  adding: docs/file2.txt (deflated 2%)
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ cd docs
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment/docs$ ls
file2.txt
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment/docs$ unzip abc.zip -d newD
unzip: cannot find or open abc.zip, abc.zip.zip or abc.zip.ZIP.
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment/docs$ cd ..
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ ls
abc.zip  docs  file.txt  file1.txt  newD
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ unzip abc.gz -d newD
unzip: cannot find or open abc.gz, abc.gz.zip or abc.gz.ZIP.
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ tar -jcvf abc.tar docs
docs/
docs/file2.txt
/bin/sh: 1: bzip2: not found
tar: Child returned status 127
tar: Error is not recoverable: exiting now
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ ls
abc.tar  abc.zip  docs  file.txt  file1.txt  newD
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ tar -xvf abc.tar
tar: This does not look like a tar archive
tar: Exiting with failure status due to previous errors
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ tar -xvf docs.tar
tar: docs.tar: Cannot open: No such file or directory
tar: Error is not recoverable: exiting now
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ zip -r abc.zip docs
updating: docs/ (stored 0%)
updating: docs/file2.txt (deflated 2%)
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ unzip abc.zip
Archive:  abc.zip
replace docs/file2.txt? [y]es, [n]o, [A]ll, [N]one, [r]ename: n
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ cd docs
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment/docs$ ls
file2.txt
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment/docs$ cd ..
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ ls
abc.tar  abc.zip  docs  file.txt  file1.txt  newD
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ rm abc.tar
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ ls
abc.zip  docs  file.txt  file1.txt  newD
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ zip -r abc newD
  adding: newD/ (stored 0%)
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ zip -r abc docs
updating: docs/ (stored 0%)
updating: docs/file2.txt (deflated 2%)
```

```

cdac@DESKTOP-53NKIQ7:~$ ls
LinuxAssignment  abc.zip
cdac@DESKTOP-53NKIQ7:~$ rm abc.zip
cdac@DESKTOP-53NKIQ7:~$ rm file1
rm: cannot remove 'file1': No such file or directory
cdac@DESKTOP-53NKIQ7:~$ cd LinuxAssignment
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ rm file1
rm: cannot remove 'file1': No such file or directory
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ rm file1.txt
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ ls
abc.zip  docs  file.txt  newD
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ unzip abc.zip -d newD
Archive:  abc.zip
  creating: newD/docs/
  inflating: newD/docs/file2.txt
  creating: newD/newD/
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ ls
abc.zip  docs  file.txt  newD
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ cd newD
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment/newD$ ls
docs  newD
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment/newD$ █

```

## Commands Used:

- i. zip – to create zip file
- ii. unzip – to extract zip file in specified directory

## k) File Editing

```

cdac@DESKTOP-53NKIQ7:~/LinuxAssignment/newD$ cat file.txt
Hello...
This is Nehal Kakade
This is my OS assignment
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ sed 's/Hello/Good Morning/g' file.txt
Good Morning...
This is Nehal Kakade
This is my OS assignment
cdac@DESKTOP-53NKIQ7:~/LinuxAssignment$ █

```

## Commands Used:

- i. sed – it is stream editor to edit stream of characters