

Problem 1

- a) Navigate and List: a. Start by navigating to your home directory and list its contents. Then, move into a directory named "LinuxAssignment" if it exists; otherwise, create it.

```
cdac@Bhagyashri:~/ASS2$ cd ~
cdac@Bhagyashri:~$ ls
ASS2 LinuxAssignment cd file.txt file1.txt file2.txt moved mydir script.sh
cdac@Bhagyashri:~$ cd LinuxAssignment/
cdac@Bhagyashri:~/LinuxAssignment$
```

- b) File Management: a. Inside the "LinuxAssignment" directory, create a new file named "file1.txt". Display its contents.

```
cdac@Bhagyashri:~/LinuxAssignment$ touch file1.txt
cdac@Bhagyashri:~/LinuxAssignment$ ls
ASS2 docs file1.txt
cdac@Bhagyashri:~/LinuxAssignment$
```

- c) Directory Management: a. Create a new directory named "docs" inside the "LinuxAssignment" directory.

```
cdac@Bhagyashri:~/LinuxAssignment$ ls
ASS2 file1.txt
cdac@Bhagyashri:~/LinuxAssignment$ mkdir docs
cdac@Bhagyashri:~/LinuxAssignment$ ls
ASS2 docs file1.txt
cdac@Bhagyashri:~/LinuxAssignment$
```

- d) Copy and Move Files: a. Copy the "file1.txt" file into the "docs" directory and rename it to "file2.txt"

```
cdac@Bhagyashri:~/LinuxAssignment$ cp file1.txt docs/file2.txt
cdac@Bhagyashri:~/LinuxAssignment$ ls
ASS2 docs file1.txt
cdac@Bhagyashri:~/LinuxAssignment$ cd docs/
cdac@Bhagyashri:~/LinuxAssignment/docs$ ls
file2.txt
cdac@Bhagyashri:~/LinuxAssignment/docs$
```

- e) Permissions and Ownership: a. Change the permissions of "file2.txt" to allow read, write, and execute permissions for the owner and only read permissions for others. Then, change the owner of "file2.txt" to the current user.

```

cdac@Bhagyashri:~/LinuxAssignment/docs$ ls -l file2.txt
-rw-rw-r-- 1 cdac cdac 0 Aug 31 15:59 file2.txt
cdac@Bhagyashri:~/LinuxAssignment/docs$ chmod 744 file2.txt
cdac@Bhagyashri:~/LinuxAssignment/docs$ ls -l file2.txt
-rwxr--r-- 1 cdac cdac 0 Aug 31 15:59 file2.txt
cdac@Bhagyashri:~/LinuxAssignment/docs$ sudo chown $(whoami) file2.txt
[sudo] password for cdac:
cdac is not in the sudoers file. This incident will be reported.
cdac@Bhagyashri:~/LinuxAssignment/docs$ chown $(whoami) file2.txt
cdac@Bhagyashri:~/LinuxAssignment/docs$ ls -l file2.txt
-rwxr--r-- 1 cdac cdac 0 Aug 31 15:59 file2.txt
cdac@Bhagyashri:~/LinuxAssignment/docs$ █

```

- f) Final Checklist: a. Finally, list the contents of the "LinuxAssignment" directory and the root directory to ensure that all operations were performed correctly.

```

cdac@Bhagyashri:~$ ls -l LinuxAssignment
total 8
drwxrwxr-x 2 cdac cdac 4096 Aug 28 19:31 ASS2
drwxrwxr-x 2 cdac cdac 4096 Aug 31 15:59 docs
-rw-rw-r-- 1 cdac cdac 0 Aug 31 15:58 file1.txt
cdac@Bhagyashri:~$ ls -l /
total 792
lrwxrwxrwx 1 root root 7 Nov 23 2023 bin -> usr/bin
drwxr-xr-x 2 root root 4096 Apr 18 2022 boot
drwxr-xr-x 9 root root 3000 Aug 31 15:03 dev
drwxr-xr-x 73 root root 4096 Aug 31 15:03 etc
drwxr-xr-x 3 root root 4096 Aug 27 18:10 home
-rwxr-xr-x 2 root root 1440152 May 7 2022 init
lrwxrwxrwx 1 root root 7 Nov 23 2023 lib -> usr/lib
lrwxrwxrwx 1 root root 9 Nov 23 2023 lib32 -> usr/lib32
lrwxrwxrwx 1 root root 9 Nov 23 2023 lib64 -> usr/lib64
lrwxrwxrwx 1 root root 10 Nov 23 2023 libx32 -> usr/libx32
drwx----- 2 root root 16384 Apr 10 2019 lost+found
drwxr-xr-x 2 root root 4096 Nov 23 2023 media
drwxr-xr-x 6 root root 4096 Aug 27 17:48 mnt
drwxr-xr-x 2 root root 4096 Nov 23 2023 opt
dr-xr-xr-x 181 root root 0 Aug 31 15:03 proc
drwx----- 3 root root 4096 Aug 28 10:11 root
drwxr-xr-x 7 root root 160 Aug 31 16:01 run
lrwxrwxrwx 1 root root 8 Nov 23 2023/sbin -> usr/sbin
drwxr-xr-x 8 root root 4096 Nov 23 2023 snap
drwxr-xr-x 2 root root 4096 Nov 23 2023 srv
dr-xr-xr-x 11 root root 0 Aug 31 15:03 sys
drwxrwxrwt 2 root root 4096 Aug 31 15:03 tmp
drwxr-xr-x 14 root root 4096 Nov 23 2023 usr
drwxr-xr-x 13 root root 4096 Nov 23 2023 var

```

- g) File Searching: a. Search for all files with the extension ".txt" in the current directory and its subdirectories. b. Display lines containing a specific word in a file (provide a file name and the specific word to search).

```
cdac@Bhagyashri:~$ find . -type f -name "*.txt"
./moved/file.txt
./file.txt
./LinuxAssignment/docs/file2.txt
./LinuxAssignment/file1.txt
./LinuxAssignment/ASS2/data.txt
./mydir/file.txt
./mydir/LinuxAssignment/docs/file2.txt
./mydir/LinuxAssignment/file1.txt
./mydir/LinuxAssignment/ASS2/data.txt
./file1.txt
./file2.txt
cdac@Bhagyashri:~$ grep "Hello" file1.txt
Hello
cdac@Bhagyashri:~$ grep "Assignment" file1.txt
```

- h) System Information: a. Display the current system date and time.

```
cdac@Bhagyashri:~$ date
Sat Aug 31 16:09:07 IST 2024
cdac@Bhagyashri:~$ █
```

- i) Networking: a. Display the IP address of the system. b. Ping a remote server to check connectivity (provide a remote server address to ping).

```
cdac@Bhagyashri:~$ ifconfig
Command 'ifconfig' not found, but can be installed with:
apt install net-tools
Please ask your administrator.
cdac@Bhagyashri:~$ ip addr show
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
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: bond0: <BROADCAST,MULTICAST,MASTER> mtu 1500 qdisc noop state DOWN group default qlen 1000
    link/ether 26:20:58:57:c1:94 brd ff:ff:ff:ff:ff:ff
3: dummy0: <BROADCAST,NOARP> mtu 1500 qdisc noop state DOWN group default qlen 1000
    link/ether d6:b1:22:d9:ac:a0 brd ff:ff:ff:ff:ff:ff
4: tunl0@NONE: <NOARP> mtu 1480 qdisc noop state DOWN group default qlen 1000
    link/ipip 0.0.0.0 brd 0.0.0.0
5: sit0@NONE: <NOARP> mtu 1480 qdisc noop state DOWN group default qlen 1000
    link/sit 0.0.0.0 brd 0.0.0.0
6: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc mq state UP group default qlen 1000
    link/ether 00:15:5d:dd:c7:dc brd ff:ff:ff:ff:ff:ff
    inet 172.24.170.37/20 brd 172.24.175.255 scope global eth0
        valid_lft forever preferred_lft forever
    inet6 fe80::215:5dff:fedd:c7dc/64 scope link
        valid_lft forever preferred_lft forever
```

```

cdac@Bhagyashri:~$ ping www.google.com
PING www.google.com (142.250.195.196) 56(84) bytes of data:
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=1 ttl=59 time=30.9 ms
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=2 ttl=59 time=30.5 ms
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=3 ttl=59 time=32.6 ms
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=4 ttl=59 time=30.5 ms
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=5 ttl=59 time=31.2 ms
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=6 ttl=59 time=30.4 ms
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=7 ttl=59 time=36.7 ms
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=8 ttl=59 time=31.6 ms
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=9 ttl=59 time=32.2 ms
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=10 ttl=59 time=31.8 ms
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=11 ttl=59 time=30.2 ms
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=12 ttl=59 time=30.8 ms
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=13 ttl=59 time=30.4 ms
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=14 ttl=59 time=40.1 ms
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=15 ttl=59 time=30.5 ms
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=16 ttl=59 time=31.5 ms
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=17 ttl=59 time=30.8 ms
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=18 ttl=59 time=30.4 ms
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=19 ttl=59 time=30.4 ms
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=20 ttl=59 time=30.7 ms
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=21 ttl=59 time=31.4 ms
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=22 ttl=59 time=30.7 ms
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=23 ttl=59 time=31.2 ms
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=24 ttl=59 time=33.1 ms
64 bytes from maa03s42-in-f4.1e100.net (142.250.195.196): icmp_seq=25 ttl=59 time=31.2 ms

```

- j) File Compression: a. Compress the "docs" directory into a zip file. b. Extract the contents of the zip file into a new directory

```

cdac@Bhagyashri:~$ zip -r docs.zip docs
Command 'zip' not found, but can be installed with:
apt install zip
Please ask your administrator.
cdac@Bhagyashri:~$ tar -czvf docs.tar.gz docs
tar: docs: Cannot stat: No such file or directory
tar: Exiting with failure status due to previous errors
cdac@Bhagyashri:~$ cd LinuxAssignment/
cdac@Bhagyashri:~/LinuxAssignment$ tar -czvf docs.tar.gz docs
docs/
docs/file2.txt
cdac@Bhagyashri:~/LinuxAssignment$ ls
ASS2  docs  docs.tar.gz  file1.txt
cdac@Bhagyashri:~/LinuxAssignment$ mkdir newDir
cdac@Bhagyashri:~/LinuxAssignment$ ls
ASS2  docs  docs.tar.gz  file1.txt  newDir

```

- k) File Editing: a. Open the "file1.txt" file in a text editor and add some text to it. b. Replace a specific word in the "file1.txt" file with another word (provide the original word and the word to replace it with).

```
cdac@Bhagyashri:~/LinuxAssignment$ ls
ASS2 docs docs.tar.gz file1.txt newDir
cdac@Bhagyashri:~/LinuxAssignment$ cat file1.txt
Hiii
Hello
How are you!!!

cdac@Bhagyashri:~/LinuxAssignment$ sed -i 's/Hello/Byeeee/g' file1.txt
cdac@Bhagyashri:~/LinuxAssignment$ cat file1.txt
Hiii
Byeeee
How are you!!!

cdac@Bhagyashri:~/LinuxAssignment$ █
```