

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@SARANG-LAKADKAR: ~$ cd LinuxAssignment/  
cdac@SARANG-LAKADKAR:~/LinuxAssignment$ ls  
Assignment docs file.txt files2 files3  
cdac@SARANG-LAKADKAR:~/LinuxAssignment$ |
```

b) File Management:

a. Inside the "LinuxAssignment" directory, create a new file named "file1.txt". Display its contents.

```
cdac@SARANG-LAKADKAR:~/LinuxAssignment$ nano file1.txt  
cdac@SARANG-LAKADKAR:~/LinuxAssignment$ cat file1.txt  
Hello  
I'm Sarang Lakadkar  
Pg-dac Kharghar  
cdac@SARANG-LAKADKAR:~/LinuxAssignment$ |
```

c) Directory Management:

a. Create a new directory named "docs" inside the "LinuxAssignment" directory.

```
cdac@SARANG-LAKADKAR:~/LinuxAssignment$ mkdir docs  
cdac@SARANG-LAKADKAR:~/LinuxAssignment$ ls  
Assignment docs file.txt file1.txt files2 files3  
cdac@SARANG-LAKADKAR:~/LinuxAssignment$
```

d) Copy and Move Files:

- a. Copy the "file1.txt" file into the "docs" directory and rename it to "file2.txt".

```
cdac@SARANG-LAKADKAR: ~  
cdac@SARANG-LAKADKAR:~/LinuxAssignment$ cp file1.txt docs/file2.txt  
cdac@SARANG-LAKADKAR:~/LinuxAssignment$ cd docs  
cdac@SARANG-LAKADKAR:~/LinuxAssignment/docs$ ls  
file1.txt  file2.txt  
cdac@SARANG-LAKADKAR:~/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@SARANG-LAKADKAR: ~  
cdac@SARANG-LAKADKAR:~/LinuxAssignment$ ls -l file2.txt  
-rw-r--r-- 1 cdac cdac 17 Feb 27 18:02 file2.txt  
cdac@SARANG-LAKADKAR:~/LinuxAssignment$ chmod 744 file2.txt  
cdac@SARANG-LAKADKAR:~/LinuxAssignment$ ls -l file2.txt  
-rwxr--r-- 1 cdac cdac 17 Feb 27 18:02 file2.txt  
cdac@SARANG-LAKADKAR:~/LinuxAssignment$ chown $(whoami) file2.txt  
cdac@SARANG-LAKADKAR:~/LinuxAssignment$ ls -l file2.txt  
-rwxr--r-- 1 cdac cdac 17 Feb 27 18:02 file2.txt  
cdac@SARANG-LAKADKAR:~/LinuxAssignment$ |
```

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@SARANG-LAKADKAR: ~$ ls -l
total 4
drwxr-xr-x 4 cdac cdac 4096 Feb 27 13:18 LinuxAssignment
cdac@SARANG-LAKADKAR: ~$ ls -l LinuxAssignment
total 24
drwxr-xr-x 2 cdac cdac 4096 Feb 26 19:14 Assignment
drwxr-xr-x 2 cdac cdac 4096 Feb 27 13:25 docs
-rw-r--r-- 1 cdac cdac 180 Feb 27 12:14 file.txt
-rw-r--r-- 1 cdac cdac 43 Feb 27 13:11 file1.txt
-rw-r--r-- 1 cdac cdac 177 Feb 27 12:30 files2
-rw-r--r-- 1 cdac cdac 350 Feb 27 12:45 files3
cdac@SARANG-LAKADKAR: ~$
```

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@SARANG-LAKADKAR: ~/LinuxAssignment$ find . -type f -name "*.txt"
./file.txt
./file1.txt
./docs/file2.txt
./docs/file1.txt
cdac@SARANG-LAKADKAR: ~/LinuxAssignment$ nano file1.txt
cdac@SARANG-LAKADKAR: ~/LinuxAssignment$ grep "I'm Sarang Lakadkar" file1.txt
I'm Sarang Lakadkar
cdac@SARANG-LAKADKAR: ~/LinuxAssignment$
```

h) System Information:

- Display the current system date and time

```
cdac@SARANG-LAKADKAR: ~  
cdac@SARANG-LAKADKAR:~/LinuxAssignment$ date  
Thu Feb 27 14:23:23 UTC 2025  
cdac@SARANG-LAKADKAR:~/LinuxAssignment$ |
```

i) Networking:

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

```
cdac@SARANG-LAKADKAR:~/LinuxAssignment$ hostname -I  
172.23.57.231  
cdac@SARANG-LAKADKAR:~/LinuxAssignment$ ping -c 4 facebook.com  
PING facebook.com (163.70.140.35) 56(84) bytes of data.  
64 bytes from edge-star-mini-shv-01-hyd1.facebook.com (163.70.140.35): icmp_seq=1 ttl=49 time=25.5 ms  
64 bytes from edge-star-mini-shv-01-hyd1.facebook.com (163.70.140.35): icmp_seq=2 ttl=49 time=28.8 ms  
64 bytes from edge-star-mini-shv-01-hyd1.facebook.com (163.70.140.35): icmp_seq=3 ttl=49 time=32.2 ms  
64 bytes from edge-star-mini-shv-01-hyd1.facebook.com (163.70.140.35): icmp_seq=4 ttl=49 time=27.6 ms  
  
--- facebook.com ping statistics ---  
4 packets transmitted, 4 received, 0% packet loss, time 3020ms  
rtt min/avg/max/mdev = 25.469/28.507/32.154/2.416 ms  
cdac@SARANG-LAKADKAR:~/LinuxAssignment$ |
```

j) File Compression:

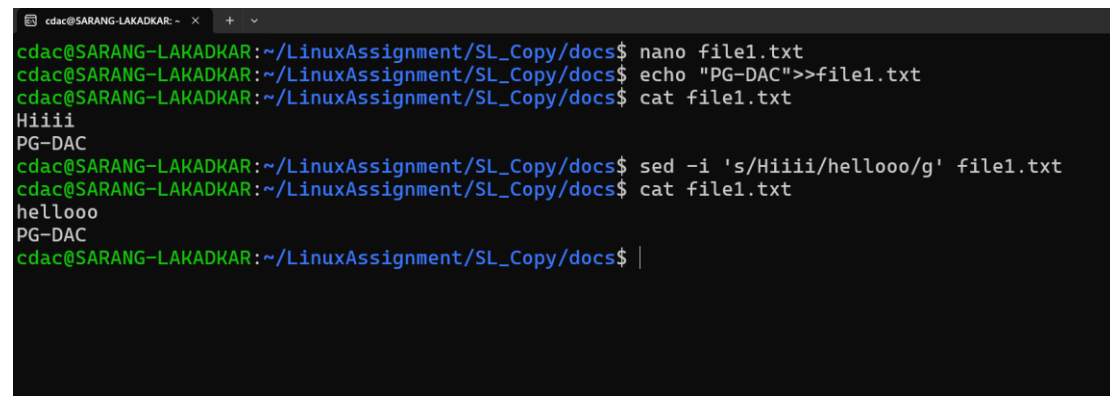
- Compress the "docs" directory into a zip file.
- Extract the contents of the zip file into a new directory

```
cdac@SARANG-LAKADKAR:~/LinuxAssignment$ zip -r docs.zip docs  
adding: docs/ (stored 0%)  
adding: docs/file2.txt (stored 0%)  
adding: docs/file1.txt (stored 0%)  
cdac@SARANG-LAKADKAR:~/LinuxAssignment$ unzip docs.zip -d SL_Copy  
Archive: docs.zip  
creating: SL_Copy/docs/  
extracting: SL_Copy/docs/file2.txt  
extracting: SL_Copy/docs/file1.txt  
cdac@SARANG-LAKADKAR:~/LinuxAssignment$ ls  
Assignment SL_Copy docs docs.zip file.txt file1.txt files2 files3  
cdac@SARANG-LAKADKAR:~/LinuxAssignment$ cd SL_Copy/  
cdac@SARANG-LAKADKAR:~/LinuxAssignment/SL_Copy$ ls  
docs  
cdac@SARANG-LAKADKAR:~/LinuxAssignment/SL_Copy$ cd docs  
cdac@SARANG-LAKADKAR:~/LinuxAssignment/SL_Copy/docs$ ls  
file1.txt file2.txt  
cdac@SARANG-LAKADKAR:~/LinuxAssignment/SL_Copy/docs$ |
```

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).

-->>>

A terminal window with a dark background and green text. The window title is 'cdac@SARANG-LAKADKAR: ~'. The terminal shows a sequence of commands and their outputs. First, 'nano file1.txt' is run. Then, 'echo "PG-DAC">>file1.txt' is run. Next, 'cat file1.txt' is run, showing the output 'Hiiii' and 'PG-DAC'. Then, 'sed -i 's/Hiiii/hellooo/g' file1.txt' is run. Finally, 'cat file1.txt' is run again, showing the output 'hellooo' and 'PG-DAC'. The prompt 'cdac@SARANG-LAKADKAR:~/LinuxAssignment/SL_Copy/docs\$' is visible at the end of the last line.

```
cdac@SARANG-LAKADKAR:~/LinuxAssignment/SL_Copy/docs$ nano file1.txt
cdac@SARANG-LAKADKAR:~/LinuxAssignment/SL_Copy/docs$ echo "PG-DAC">>file1.txt
cdac@SARANG-LAKADKAR:~/LinuxAssignment/SL_Copy/docs$ cat file1.txt
Hiiii
PG-DAC
cdac@SARANG-LAKADKAR:~/LinuxAssignment/SL_Copy/docs$ sed -i 's/Hiiii/hellooo/g' file1.txt
cdac@SARANG-LAKADKAR:~/LinuxAssignment/SL_Copy/docs$ cat file1.txt
hellooo
PG-DAC
cdac@SARANG-LAKADKAR:~/LinuxAssignment/SL_Copy/docs$ |
```