

Name :- Karan Mahajan

PG-DAC_JH

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@kvmahajan:~$ pwd
/home/cdac
cdac@kvmahajan:~$ mkdir LinuxAssignment
cdac@kvmahajan:~$ ls
LinuxAssignment cdac
cdac@kvmahajan:~$ cd LinuxAssignment
cdac@kvmahajan:~/LinuxAssignment$
```

b) File Management:

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

```
cdac@kvmahajan:~$ cd LinuxAssignment
cdac@kvmahajan:~/LinuxAssignment$ touch file1.txt
cdac@kvmahajan:~/LinuxAssignment$ ls
file1.txt
cdac@kvmahajan:~/LinuxAssignment$ vi file1.txt
cdac@kvmahajan:~/LinuxAssignment$ cat file1.txt
os is provide interface between user and hardware
hardware manager manage all the hardware resource or computer component
cdac@kvmahajan:~/LinuxAssignment$ |
```

c) Directory Management:

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

```
cdac@kvmahajan:~$ cd LinuxAssignment
cdac@kvmahajan:~/LinuxAssignment$ ls
file1.txt
cdac@kvmahajan:~/LinuxAssignment$ mkdir docs
cdac@kvmahajan:~/LinuxAssignment$ ls
docs  file1.txt
cdac@kvmahajan:~/LinuxAssignment$ |
```

d) Copy and Move Files:

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

```
cdac@kvmahajan:~$ cd LinuxAssignment
cdac@kvmahajan:~/LinuxAssignment$ ls
file1.txt
cdac@kvmahajan:~/LinuxAssignment$ mkdir docs
cdac@kvmahajan:~/LinuxAssignment$ ls
docs  file1.txt
cdac@kvmahajan:~/LinuxAssignment$ pwd
/home/cdac/LinuxAssignment
cdac@kvmahajan:~/LinuxAssignment$ cp file1.txt/home/cdac/LinuxAssignment/docs/file2.txt
cp: missing destination file operand after 'file1.txt/home/cdac/LinuxAssignment/docs/file2.txt'
Try 'cp --help' for more information.
cdac@kvmahajan:~/LinuxAssignment$ cp file1.txt /home/cdac/LinuxAssignment/docs/file2.txt
cdac@kvmahajan:~/LinuxAssignment$ cd docs
cdac@kvmahajan:~/LinuxAssignment/docs$ ls
file2.txt
cdac@kvmahajan:~/LinuxAssignment/docs$ cat file2.txt
os is provide interface between user and hardware
hardware manager manage all the hardware resource or computer component
cdac@kvmahajan:~/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@kvmahajan:~$ ls
LinuxAssignment cdac
cdac@kvmahajan:~$ ls -l
total 8
drwxr-xr-x 3 cdac cdac 4096 Feb 27 15:25 LinuxAssignment
drwxr-xr-x 2 cdac cdac 4096 Feb 27 20:36 cdac
cdac@kvmahajan:~$ ls -R
.:
LinuxAssignment cdac

./LinuxAssignment:
docs file1.txt

./LinuxAssignment/docs:
file2.txt

./cdac:
cdac@kvmahajan:~$
```

g) File Searching:

a. Search for all files with the extension ".txt" in the current directory and its subdirectories.

```
cdac@kvmahajan:~$ ls
LinuxAssignment
cdac@kvmahajan:~$ find -name '*.txt'
./LinuxAssignment/docs/file2.txt
./LinuxAssignment/file1.txt
cdac@kvmahajan:~$ |
```

b. Display lines containing a specific word in a file (provide a file name and the specific word to search).

```
cdac@kvmahajan:~$ ls
LinuxAssignment cdac
cdac@kvmahajan:~$ cd LinuxAssignment
cdac@kvmahajan:~/LinuxAssignment$ grep "os" file1.txt
os is provide interface between user and hardware
cdac@kvmahajan:~/LinuxAssignment$
```

h) System Information:

a. Display the current system date and time.

```
cdac@kvmahajan:~$ date
Thu Feb 27 21:02:26 IST 2025
cdac@kvmahajan:~$ man date
cdac@kvmahajan:~$
cdac@kvmahajan:~$ date "+%T"
21:03:31
cdac@kvmahajan:~$
```

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@kvmahajan:~$ 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:82:63:3f brd ff:ff:ff:ff:ff:ff
    inet 172.23.74.36/20 brd 172.23.79.255 scope global eth0
        valid_lft forever preferred_lft forever
    inet6 fe80::215:5dff:fe82:633f/64 scope link
        valid_lft forever preferred_lft forever
cdac@kvmahajan:~$ hostname -I
172.23.74.36
cdac@kvmahajan:~$
```

```
cdac@kvmahajan:~$ ping google.com
PING google.com (142.250.206.110) 56(84) bytes of data:
64 bytes from dell1s20-in-f14.1e100.net (142.250.206.110): icmp_seq=1 ttl=110 time=247 ms
64 bytes from dell1s20-in-f14.1e100.net (142.250.206.110): icmp_seq=2 ttl=110 time=304 ms
64 bytes from dell1s20-in-f14.1e100.net (142.250.206.110): icmp_seq=3 ttl=110 time=84.4 ms
64 bytes from dell1s20-in-f14.1e100.net (142.250.206.110): icmp_seq=4 ttl=110 time=83.9 ms
64 bytes from dell1s20-in-f14.1e100.net (142.250.206.110): icmp_seq=5 ttl=110 time=86.3 ms
^C
--- google.com ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4000ms
rtt min/avg/max/mdev = 83.881/160.966/303.551/94.944 ms
cdac@kvmahajan:~$
```

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@kvmahajan:~$ cd LinuxAssignment
cdac@kvmahajan:~/LinuxAssignment$ ls
docs  file1.txt
cdac@kvmahajan:~/LinuxAssignment$ zip -r docs.zip docs
  adding: docs/ (stored 0%)
  adding: docs/file2.txt (deflated 30%)
cdac@kvmahajan:~/LinuxAssignment$ mkdir extrac_docs
cdac@kvmahajan:~/LinuxAssignment$ unzip docs.zip -d extrac_docs
Archive:  docs.zip
  creating: extrac_docs/docs/
  inflating: extrac_docs/docs/file2.txt
cdac@kvmahajan:~/LinuxAssignment$ ls
docs  docs.zip  extrac_docs  file1.txt
cdac@kvmahajan:~/LinuxAssignment$ cd extrac_docs
cdac@kvmahajan:~/LinuxAssignment/extrac_docs$ ls
docs
cdac@kvmahajan:~/LinuxAssignment/extrac_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).

```
cdac@kvmahajan:~/LinuxAssignment$ cat file1.txt
os is provide interface between user and hardware
hardware manager mange all the hradware resource or computer component
cdac@kvmahajan:~/LinuxAssignment$ nano file1.txt
cdac@kvmahajan:~/LinuxAssignment$ cat file1.txt
1 os is provide interface between user and hardware.
2 hardware manager mange all the hradware resource or computer component.
3 process manager supervice all the process/task/job thar executed by peocessor
cdac@kvmahajan:~/LinuxAssignment$ |
```

```
cdac@kvmahajan:~/LinuxAssignment$ cat file1.txt
1 os is provide interface between user and hardware.
2 hardware manager mange all the hradware resource or computer component.
3 process manager supervice all the process/task/job thar executed by peocessor
cdac@kvmahajan:~/LinuxAssignment$ sed -i 's/os/operating system/g' file1.txt
cdac@kvmahajan:~/LinuxAssignment$ cat file1.txt
1 operating system is provide interface between user and hardware.
2 hardware manager mange all the hradware resource or computer component.
3 process manager supervice all the process/task/job thar executed by peocessor
cdac@kvmahajan:~/LinuxAssignment$
```