

# Module 1 Assignment 1 (Vaibhav Ghangale)

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note of commands

mkdir - make new directory

cd- navigate to directory/ enter in to that directory

nano - to add content to file nano editor is used

cat- to display file content.

cp - copy

chmod - change permission

sudo chown - change owner

whoami- user name of current

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.

```
[root] login: Tue Aug 27 22:38:27 on ttys000
(base) vaibhavghangale@VAIBHAVs-MacBook-Air ~ % mkdir LinuxAssignment
(base) vaibhavghangale@VAIBHAVs-MacBook-Air ~ % cd LinuxAssignment
(base) vaibhavghangale@VAIBHAVs-MacBook-Air LinuxAssignment % ls
(base) vaibhavghangale@VAIBHAVs-MacBook-Air LinuxAssignment %
```

b)

File Management:

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

```
last login: Tue Aug 28 22:00:27 on ttys000
(base) vaibhavhangale@VAIBHAVs-MacBook-Air ~ % mkdir LinuxAssignment
(base) vaibhavhangale@VAIBHAVs-MacBook-Air ~ % cd LinuxAssignment
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % ls
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % cd LinuxAssignment
cd: no such file or directory: LinuxAssignment
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % touch file1.txt
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % ls
file1.txt
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % nano file1.txt
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % cat file1.txt
hellow
this is my file1 created by nano command which allows me to edit the file content.
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment %
```

c)

#### Directory Management:

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

```
last login: Tue Aug 28 22:00:27 on ttys000
(base) vaibhavhangale@VAIBHAVs-MacBook-Air ~ % mkdir LinuxAssignment
(base) vaibhavhangale@VAIBHAVs-MacBook-Air ~ % cd LinuxAssignment
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % ls
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % cd LinuxAssignment
cd: no such file or directory: LinuxAssignment
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % touch file1.txt
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % ls
file1.txt
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % nano file1.txt
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % cat file1.txt
hellow
this is my file1 created by nano command which allows me to edit the file content.
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % mkdir docs
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment %
```

d)

#### Copy and Move Files:

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

```
last login: Tue Aug 28 18:25:07 on ttys000
(base) vaibhavghangale@VAIBHAVs-MacBook-Air ~ % mkdir LinuxAssignment
(base) vaibhavghangale@VAIBHAVs-MacBook-Air ~ % cd LinuxAssignment
(base) vaibhavghangale@VAIBHAVs-MacBook-Air LinuxAssignment % ls
(base) vaibhavghangale@VAIBHAVs-MacBook-Air LinuxAssignment % cd LinuxAssignment
cd: no such file or directory: LinuxAssignment
(base) vaibhavghangale@VAIBHAVs-MacBook-Air LinuxAssignment % touch file1.txt
(base) vaibhavghangale@VAIBHAVs-MacBook-Air LinuxAssignment % ls
file1.txt
(base) vaibhavghangale@VAIBHAVs-MacBook-Air LinuxAssignment % nano file1.txt
(base) vaibhavghangale@VAIBHAVs-MacBook-Air LinuxAssignment % cat file1.txt
hellow
this is my file1 created by nano command which allows me to edit the file content.
(base) vaibhavghangale@VAIBHAVs-MacBook-Air LinuxAssignment % mkdir docs
(base) vaibhavghangale@VAIBHAVs-MacBook-Air LinuxAssignment % cp file1.txt docs/file2.txt

(base) vaibhavghangale@VAIBHAVs-MacBook-Air LinuxAssignment % ls
docs      file1.txt
(base) vaibhavghangale@VAIBHAVs-MacBook-Air LinuxAssignment % cd docs
(base) vaibhavghangale@VAIBHAVs-MacBook-Air docs % ls
file2.txt
(base) vaibhavghangale@VAIBHAVs-MacBook-Air 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.

```
last login: Tue Aug 28 18:25:07 on ttys000
(base) vaibhavghangale@VAIBHAVs-MacBook-Air ~ % mkdir LinuxAssignment
(base) vaibhavghangale@VAIBHAVs-MacBook-Air ~ % cd LinuxAssignment
(base) vaibhavghangale@VAIBHAVs-MacBook-Air LinuxAssignment % ls
(base) vaibhavghangale@VAIBHAVs-MacBook-Air LinuxAssignment % cd LinuxAssignment
cd: no such file or directory: LinuxAssignment
(base) vaibhavghangale@VAIBHAVs-MacBook-Air LinuxAssignment % touch file1.txt
(base) vaibhavghangale@VAIBHAVs-MacBook-Air LinuxAssignment % ls
file1.txt
(base) vaibhavghangale@VAIBHAVs-MacBook-Air LinuxAssignment % nano file1.txt
(base) vaibhavghangale@VAIBHAVs-MacBook-Air LinuxAssignment % cat file1.txt
hellow
this is my file1 created by nano command which allows me to edit the file content.
(base) vaibhavghangale@VAIBHAVs-MacBook-Air LinuxAssignment % mkdir docs
(base) vaibhavghangale@VAIBHAVs-MacBook-Air LinuxAssignment % cp file1.txt docs/file2.txt

(base) vaibhavghangale@VAIBHAVs-MacBook-Air LinuxAssignment % ls
docs      file1.txt
(base) vaibhavghangale@VAIBHAVs-MacBook-Air LinuxAssignment % cd docs
(base) vaibhavghangale@VAIBHAVs-MacBook-Air docs % ls
file2.txt
(base) vaibhavghangale@VAIBHAVs-MacBook-Air docs % ls -l
total 8
-rw-r--r--  1 vaibhavghangale  staff  90 Aug 28 18:25 file2.txt
(base) vaibhavghangale@VAIBHAVs-MacBook-Air docs % $(whoami)
zsh: command not found: vaibhavghangale
(base) vaibhavghangale@VAIBHAVs-MacBook-Air docs % chmod u=rwx,g=r,o=r file2.txt

(base) vaibhavghangale@VAIBHAVs-MacBook-Air docs % ls -l
total 8
-rwxr--r--  1 vaibhavghangale  staff  90 Aug 28 18:25 file2.txt
(base) vaibhavghangale@VAIBHAVs-MacBook-Air docs %
```

```

last login: Tue Aug 28 18:25:07 on ttys000
(base) vaibhavhangale@VAIBHAVs-MacBook-Air ~ % mkdir LinuxAssignment
(base) vaibhavhangale@VAIBHAVs-MacBook-Air ~ % cd LinuxAssignment
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % ls
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % cd LinuxAssignment
cd: no such file or directory: LinuxAssignment
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % touch file1.txt
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % ls
file1.txt
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % nano file1.txt
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % cat file1.txt
hellow
this is my file1 created by nano command which allows me to edit the file content.
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % mkdir docs
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % cp file1.txt docs/file2.txt

(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % ls
docs      file1.txt
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % cd docs
(base) vaibhavhangale@VAIBHAVs-MacBook-Air docs % ls
file2.txt
(base) vaibhavhangale@VAIBHAVs-MacBook-Air docs % ls -l
total 8
-rw-r--r-- 1 vaibhavhangale staff 90 Aug 28 18:25 file2.txt
(base) vaibhavhangale@VAIBHAVs-MacBook-Air docs % $(whoami)
zsh: command not found: vaibhavhangale
(base) vaibhavhangale@VAIBHAVs-MacBook-Air docs % chmod u=rwx,g=r,o=r file2.txt

(base) vaibhavhangale@VAIBHAVs-MacBook-Air docs % ls -l
total 8
-rwxr--r-- 1 vaibhavhangale staff 90 Aug 28 18:25 file2.txt
(base) vaibhavhangale@VAIBHAVs-MacBook-Air docs % sudo chown $(whoami) file2.txt

>Password:
(base) vaibhavhangale@VAIBHAVs-MacBook-Air docs % ls -l
total 8
-rw-r--r-- 1 vaibhavhangale staff 90 Aug 28 18:25 file2.txt
(base) vaibhavhangale@VAIBHAVs-MacBook-Air docs %

```

f)

#### Final Checklist:

- Finally, list the contents of the "LinuxAssignment" directory and the root directory to ensure that all operations were performed correctly.

```

(base) vaibhavhangale@VAIBHAVs-MacBook-Air docs % ls -l
total 8
-rw-r--r-- 1 vaibhavhangale staff 90 Aug 28 18:25 file2.txt
(base) vaibhavhangale@VAIBHAVs-MacBook-Air docs % $(whoami)
zsh: command not found: vaibhavhangale
(base) vaibhavhangale@VAIBHAVs-MacBook-Air docs % chmod u=rwx,g=r,o=r file2.txt

(base) vaibhavhangale@VAIBHAVs-MacBook-Air docs % ls -l
total 8
-rwxr--r-- 1 vaibhavhangale staff 90 Aug 28 18:25 file2.txt
(base) vaibhavhangale@VAIBHAVs-MacBook-Air docs % sudo chown $(whoami) file2.txt

>Password:
(base) vaibhavhangale@VAIBHAVs-MacBook-Air docs % ls -l
total 8
-rw-r--r-- 1 vaibhavhangale staff 90 Aug 28 18:25 file2.txt
(base) vaibhavhangale@VAIBHAVs-MacBook-Air docs % ls
file2.txt
(base) vaibhavhangale@VAIBHAVs-MacBook-Air docs % cd ..
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % cd..
zsh: command not found: cd..
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % cd LinuxAssignment
cd: no such file or directory: LinuxAssignment
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % cd LinuxAssignment
cd: no such file or directory: LinuxAssignment
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % ls
docs      file1.txt
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % cd doc
cd: no such file or directory: doc
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % ls
docs      file1.txt
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % cd docs
(base) vaibhavhangale@VAIBHAVs-MacBook-Air docs % ls
file2.txt
(base) vaibhavhangale@VAIBHAVs-MacBook-Air docs % cd..
zsh: command not found: cd..
(base) vaibhavhangale@VAIBHAVs-MacBook-Air docs % cd ..
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % ls -l
total 8
drwxr-xr-x 3 vaibhavhangale staff 96 Aug 28 18:25 docs

```

g)

#### File Searching:

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

```
(base) vaibhavhangale@VAIBHAVs-MacBook-Air docs % cd ./LinuxAssignment
zsh: command not found: vaibhavhangale
(base) vaibhavhangale@VAIBHAVs-MacBook-Air docs % chmod u=rwx,g=r,o=r file2.txt
(base) vaibhavhangale@VAIBHAVs-MacBook-Air docs % ls -l
total 8
-rw-r--r-- 1 vaibhavhangale staff 90 Aug 28 18:25 file2.txt
(base) vaibhavhangale@VAIBHAVs-MacBook-Air docs % sudo chown $(whoami) file2.txt
>Password:
(base) vaibhavhangale@VAIBHAVs-MacBook-Air docs % ls -l
total 8
-rw-r--r-- 1 vaibhavhangale staff 90 Aug 28 18:25 file2.txt
(base) vaibhavhangale@VAIBHAVs-MacBook-Air docs % ls
file2.txt
(base) vaibhavhangale@VAIBHAVs-MacBook-Air docs % cd ..
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % cd LinuxAssignment
zsh: command not found: cd..
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % cd LinuxAssignment
cd: no such file or directory: LinuxAssignment
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % cd LinuxAssignment
cd: no such file or directory: LinuxAssignment
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % ls
docs      file1.txt
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % cd doc
cd: no such file or directory: doc
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % ls
docs      file1.txt
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % cd docs
(base) vaibhavhangale@VAIBHAVs-MacBook-Air docs % ls
file2.txt
(base) vaibhavhangale@VAIBHAVs-MacBook-Air docs % cd..
zsh: command not found: cd..
(base) vaibhavhangale@VAIBHAVs-MacBook-Air docs % cd ..
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % ls -l
total 8
drwxr-xr-x 3 vaibhavhangale staff 96 Aug 28 18:25 docs
-rw-r--r-- 1 vaibhavhangale staff 90 Aug 28 18:15 file1.txt
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % find . -type f -name "*.txt"
./file1.txt
```

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

```
(base) vaibhavhangale@VAIBHAVs-MacBook-Air docs % chmod u=rwx,g=r,o=r file2.txt
(base) vaibhavhangale@VAIBHAVs-MacBook-Air docs % ls -l
total 8
-rw-r--r-- 1 vaibhavhangale staff 90 Aug 28 18:25 file2.txt
(base) vaibhavhangale@VAIBHAVs-MacBook-Air docs % sudo chown $(whoami) file2.txt
>Password:
(base) vaibhavhangale@VAIBHAVs-MacBook-Air docs % ls -l
total 8
-rw-r--r-- 1 vaibhavhangale staff 90 Aug 28 18:25 file2.txt
(base) vaibhavhangale@VAIBHAVs-MacBook-Air docs % ls
file2.txt
(base) vaibhavhangale@VAIBHAVs-MacBook-Air docs % cd ..
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % cd LinuxAssignment
zsh: command not found: cd..
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % cd LinuxAssignment
cd: no such file or directory: LinuxAssignment
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % cd LinuxAssignment
cd: no such file or directory: LinuxAssignment
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % ls
docs      file1.txt
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % cd doc
cd: no such file or directory: doc
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % ls
docs      file1.txt
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % cd docs
(base) vaibhavhangale@VAIBHAVs-MacBook-Air docs % ls
file2.txt
(base) vaibhavhangale@VAIBHAVs-MacBook-Air docs % cd..
zsh: command not found: cd..
(base) vaibhavhangale@VAIBHAVs-MacBook-Air docs % cd ..
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % ls -l
total 8
drwxr-xr-x 3 vaibhavhangale staff 96 Aug 28 18:25 docs
-rw-r--r-- 1 vaibhavhangale staff 90 Aug 28 18:15 file1.txt
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % find . -type f -name "*.txt"
./file1.txt
./docs/file2.txt
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % grep "hellow" file1.txt
```

h)

```

(base) vaibhavhangale@VAIBHAVs-MacBook-Air:~/docs% ls -l
total 8
-rw-r--r-- 1 vaibhavhangale staff 90 Aug 28 18:25 file2.txt
(base) vaibhavhangale@VAIBHAVs-MacBook-Air:~/docs% sudo chown $(whoami) file2.txt

>Password:
(base) vaibhavhangale@VAIBHAVs-MacBook-Air:~/docs% ls -l
total 8
-rw-r--r-- 1 vaibhavhangale staff 90 Aug 28 18:25 file2.txt
(base) vaibhavhangale@VAIBHAVs-MacBook-Air:~/docs% ls
file2.txt
(base) vaibhavhangale@VAIBHAVs-MacBook-Air:~/docs% cd ..
(base) vaibhavhangale@VAIBHAVs-MacBook-Air:~/LinuxAssignment% cd..
zsh: command not found: cd..
(base) vaibhavhangale@VAIBHAVs-MacBook-Air:~/LinuxAssignment% cd LinuxAssignment
cd: no such file or directory: LinuxAssignment
(base) vaibhavhangale@VAIBHAVs-MacBook-Air:~/LinuxAssignment% cd LinuxAssignment
cd: no such file or directory: LinuxAssignment
(base) vaibhavhangale@VAIBHAVs-MacBook-Air:~/LinuxAssignment% ls
docs      file1.txt
(base) vaibhavhangale@VAIBHAVs-MacBook-Air:~/LinuxAssignment% cd doc
cd: no such file or directory: doc
(base) vaibhavhangale@VAIBHAVs-MacBook-Air:~/LinuxAssignment% ls
docs      file1.txt
(base) vaibhavhangale@VAIBHAVs-MacBook-Air:~/LinuxAssignment% cd docs
(base) vaibhavhangale@VAIBHAVs-MacBook-Air:~/docs% ls
file2.txt
(base) vaibhavhangale@VAIBHAVs-MacBook-Air:~/docs% cd..
zsh: command not found: cd..
(base) vaibhavhangale@VAIBHAVs-MacBook-Air:~/docs% cd ..
(base) vaibhavhangale@VAIBHAVs-MacBook-Air:~/LinuxAssignment% ls -l
total 8
drwxr-xr-x 3 vaibhavhangale staff 96 Aug 28 18:25 docs
-rw-r--r-- 1 vaibhavhangale staff 90 Aug 28 18:15 file1.txt
(base) vaibhavhangale@VAIBHAVs-MacBook-Air:~/LinuxAssignment% find . -type f -name "*.txt"
./file1.txt
./docs/file2.txt
(base) vaibhavhangale@VAIBHAVs-MacBook-Air:~/LinuxAssignment% grep "hellow" file1.txt
hellow
(base) vaibhavhangale@VAIBHAVs-MacBook-Air:~/LinuxAssignment% date

```

i)

a. Display the IP address of the system.

```

(base) vaibhavhangale@VAIBHAVs-MacBook-Air:~/LinuxAssignment% cd LinuxAssignment
cd: no such file or directory: LinuxAssignment
(base) vaibhavhangale@VAIBHAVs-MacBook-Air:~/LinuxAssignment% ls -l
total 8
drwxr-xr-x 3 vaibhavhangale staff 96 Aug 28 18:25 docs
-rw-r--r-- 1 vaibhavhangale staff 90 Aug 28 18:15 file1.txt
(base) vaibhavhangale@VAIBHAVs-MacBook-Air:~/LinuxAssignment% ls
docs      file1.txt
(base) vaibhavhangale@VAIBHAVs-MacBook-Air:~/LinuxAssignment% ifconfig
lo0: flags=8049<UP,LOOPBACK,RUNNING,MULTICAST> mtu 16384
    options=1203<RXCSUM,TXCSUM,TXSTATUS,SW_TIMESTAMP>
    inet 127.0.0.1 netmask 0xffffffff
        inet6 ::1 prefixlen 128
            nd6 options=201<PERFORMNUD,DAD>
gif0: flags=8010<POINTOPOINT,MULTICAST> mtu 1280
stf0: flags=0<> mtu 1280
anpii: flags=8863<UP,BROADCAST,SMART,RUNNING,SIMPLEX,MULTICAST> mtu 1500
    options=400<CHANNEL_ID>
    ether b2:47:90:93:b5:52
    media: none
    status: inactive
anpii0: flags=8863<UP,BROADCAST,SMART,RUNNING,SIMPLEX,MULTICAST> mtu 1500
    options=400<CHANNEL_ID>
    ether b2:47:90:93:b5:51
    media: none
    status: inactive
en3: flags=8863<UP,BROADCAST,SMART,RUNNING,SIMPLEX,MULTICAST> mtu 1500
    options=400<CHANNEL_ID>
    ether b2:47:90:93:b5:31
    nd6 options=201<PERFORMNUD,DAD>
    media: none
    status: inactive
en4: flags=8863<UP,BROADCAST,SMART,RUNNING,SIMPLEX,MULTICAST> mtu 1500
    options=400<CHANNEL_ID>
    ether b2:47:90:93:b5:32
    nd6 options=201<PERFORMNUD,DAD>
    media: none
    status: inactive
en1: flags=8963<UP,BROADCAST,SMART,RUNNING,PROMISC,SIMPLEX,MULTICAST> mtu 1500
    options=460<TS04,TS06,CHANNEL_IO>

```

```

configuration:
    id 0:0:0:0:0:0 priority 0 hellotime 0 fwddelay 0
    maxage 0 holdcnt 0 proto stp maxaddr 100 timeout 1200
    root id 0:0:0:0:0:0 priority 0 ifcost 0 port 0
    ipfilter disabled flags 0x0
    member: en1 flags=3<LEARNING,DISCOVER>
        ifmaxaddr 0 port 8 priority 0 path cost 0
    member: en2 flags=3<LEARNING,DISCOVER>
        ifmaxaddr 0 port 9 priority 0 path cost 0
    nd6 options=201<PERFORMNUD,DAD>
    media: <unknown type>
    status: inactive
ap1: flags=8843<UP,BROADCAST,RUNNING,SIMPLEX,MULTICAST> mtu 1500
    options=6400<TS04,TS06,CHANNEL_IO,PARTIAL_CSUM,ZEROINVERT_CSUM>
    ether 2:e4:41:ef:c8:c7
    inet6 fe80::2e4:41ff:fe:c8c7%ap1 prefixlen 64 scopeid 0xb
        nd6 options=201<PERFORMNUD,DAD>
    media: autoselect (<unknown type>)
    status: inactive
en0: flags=8863<UP,BROADCAST,SMART,RUNNING,SIMPLEX,MULTICAST> mtu 1500
    options=6400<TS04,TS06,CHANNEL_IO,PARTIAL_CSUM,ZEROINVERT_CSUM>
    ether 0:c:e4:41:ef:c8:7
    inet6 fe80::cce:bb42:e0d5:6949%en0 prefixlen 64 secured scopeid 0xc
        inet 192.168.29.117 netmask 0xffffffff broadcast 192.168.29.255
    inet6 2405:201:1004:608e:1b0:4127:52:1a6 prefixlen 64 autoconf secured
    inet6 2405:201:1004:608e:1016:65e4:7bed:6e41 prefixlen 64 autoconf temporary
        nd6 options=201<PERFORMNUD,DAD>
    media: autoselect
    status: active
awdl0: flags=8843<UP,BROADCAST,RUNNING,SIMPLEX,MULTICAST> mtu 1500
    options=6400<TS04,TS06,CHANNEL_IO,PARTIAL_CSUM,ZEROINVERT_CSUM>
    ether 6e:62:fb:7c:af:02
    inet6 fe80::6c62:fbff:fe7c:af02%awdl0 prefixlen 64 scopeid 0xd
        nd6 options=201<PERFORMNUD,DAD>
    media: autoselect
    status: active
llw0: flags=8863<UP,BROADCAST,SMART,RUNNING,SIMPLEX,MULTICAST> mtu 1500
    options=400<CHANNEL_IO>
    ether 6e:62:fb:7c:af:02
    inet6 fe80::6c62:fbff:fe7c:af02%llw0 prefixlen 64 scopeid 0xe
        nd6 options=201<PERFORMNUD,DAD>

```

b)

```

llw0: flags=8863<UP,BROADCAST,SMART,RUNNING,SIMPLEX,MULTICAST> mtu 1500
    inet6 fe80::d178:774b:94af:2b9f%utun5 prefixlen 64 scopeid 0x14
        nd6 options=201<PERFORMNUD,DAD>
(base) vaibhavhangale@VAIBHAVs-MacBook-Air:~/LinuxAssignment % ping google.com
PING google.com (142.250.183.78): 56 data bytes
64 bytes from 142.250.183.78: icmp_seq=0 ttl=53 time=23.078 ms
64 bytes from 142.250.183.78: icmp_seq=1 ttl=53 time=80.159 ms
64 bytes from 142.250.183.78: icmp_seq=2 ttl=53 time=28.001 ms
64 bytes from 142.250.183.78: icmp_seq=3 ttl=53 time=28.269 ms
64 bytes from 142.250.183.78: icmp_seq=4 ttl=53 time=20.707 ms
64 bytes from 142.250.183.78: icmp_seq=5 ttl=53 time=26.474 ms
64 bytes from 142.250.183.78: icmp_seq=6 ttl=53 time=29.612 ms
64 bytes from 142.250.183.78: icmp_seq=7 ttl=53 time=27.119 ms
64 bytes from 142.250.183.78: icmp_seq=8 ttl=53 time=29.099 ms
64 bytes from 142.250.183.78: icmp_seq=9 ttl=53 time=28.666 ms
64 bytes from 142.250.183.78: icmp_seq=10 ttl=53 time=23.117 ms
64 bytes from 142.250.183.78: icmp_seq=11 ttl=53 time=28.605 ms
64 bytes from 142.250.183.78: icmp_seq=12 ttl=53 time=50.088 ms
64 bytes from 142.250.183.78: icmp_seq=13 ttl=53 time=51.239 ms
64 bytes from 142.250.183.78: icmp_seq=14 ttl=53 time=20.401 ms
64 bytes from 142.250.183.78: icmp_seq=15 ttl=53 time=100.435 ms
64 bytes from 142.250.183.78: icmp_seq=16 ttl=53 time=29.894 ms
64 bytes from 142.250.183.78: icmp_seq=17 ttl=53 time=29.068 ms
64 bytes from 142.250.183.78: icmp_seq=18 ttl=53 time=73.418 ms
64 bytes from 142.250.183.78: icmp_seq=19 ttl=53 time=82.539 ms
64 bytes from 142.250.183.78: icmp_seq=20 ttl=53 time=24.997 ms
64 bytes from 142.250.183.78: icmp_seq=21 ttl=53 time=29.073 ms
64 bytes from 142.250.183.78: icmp_seq=22 ttl=53 time=39.548 ms
64 bytes from 142.250.183.78: icmp_seq=23 ttl=53 time=28.149 ms
64 bytes from 142.250.183.78: icmp_seq=24 ttl=53 time=22.116 ms
64 bytes from 142.250.183.78: icmp_seq=25 ttl=53 time=28.018 ms
64 bytes from 142.250.183.78: icmp_seq=26 ttl=53 time=28.381 ms

64 bytes from 142.250.183.78: icmp_seq=27 ttl=53 time=26.641 ms
64 bytes from 142.250.183.78: icmp_seq=28 ttl=53 time=26.189 ms
64 bytes from 142.250.183.78: icmp_seq=29 ttl=53 time=30.040 ms
64 bytes from 142.250.183.78: icmp_seq=30 ttl=53 time=27.388 ms
64 bytes from 142.250.183.78: icmp_seq=31 ttl=53 time=28.809 ms
^[[64 bytes from 142.250.183.78: icmp_seq=32 ttl=53 time=28.907 ms
64 bytes from 142.250.183.78: icmp_seq=33 ttl=53 time=29.606 ms

```

j) a. Compress the "docs" directory into a zip file.

```

64 bytes from 142.250.183.78: icmp_seq=46 ttl=53 time=20.567 ms
64 bytes from 142.250.183.78: icmp_seq=47 ttl=53 time=27.850 ms
64 bytes from 142.250.183.78: icmp_seq=48 ttl=53 time=27.628 ms
64 bytes from 142.250.183.78: icmp_seq=49 ttl=53 time=20.834 ms
64 bytes from 142.250.183.78: icmp_seq=50 ttl=53 time=23.441 ms
64 bytes from 142.250.183.78: icmp_seq=51 ttl=53 time=29.157 ms
64 bytes from 142.250.183.78: icmp_seq=52 ttl=53 time=29.925 ms
64 bytes from 142.250.183.78: icmp_seq=53 ttl=53 time=20.984 ms
64 bytes from 142.250.183.78: icmp_seq=54 ttl=53 time=31.079 ms
64 bytes from 142.250.183.78: icmp_seq=55 ttl=53 time=20.786 ms
64 bytes from 142.250.183.78: icmp_seq=56 ttl=53 time=28.697 ms
64 bytes from 142.250.183.78: icmp_seq=57 ttl=53 time=27.415 ms
64 bytes from 142.250.183.78: icmp_seq=58 ttl=53 time=75.363 ms
64 bytes from 142.250.183.78: icmp_seq=59 ttl=53 time=63.067 ms
64 bytes from 142.250.183.78: icmp_seq=60 ttl=53 time=42.071 ms
64 bytes from 142.250.183.78: icmp_seq=61 ttl=53 time=22.257 ms
64 bytes from 142.250.183.78: icmp_seq=62 ttl=53 time=29.077 ms
64 bytes from 142.250.183.78: icmp_seq=63 ttl=53 time=29.392 ms
64 bytes from 142.250.183.78: icmp_seq=64 ttl=53 time=22.488 ms
64 bytes from 142.250.183.78: icmp_seq=65 ttl=53 time=27.128 ms
64 bytes from 142.250.183.78: icmp_seq=66 ttl=53 time=21.348 ms
64 bytes from 142.250.183.78: icmp_seq=67 ttl=53 time=25.335 ms
64 bytes from 142.250.183.78: icmp_seq=68 ttl=53 time=28.698 ms
64 bytes from 142.250.183.78: icmp_seq=69 ttl=53 time=20.168 ms
64 bytes from 142.250.183.78: icmp_seq=70 ttl=53 time=28.919 ms
64 bytes from 142.250.183.78: icmp_seq=71 ttl=53 time=21.017 ms
64 bytes from 142.250.183.78: icmp_seq=72 ttl=53 time=55.577 ms
64 bytes from 142.250.183.78: icmp_seq=73 ttl=53 time=21.830 ms
64 bytes from 142.250.183.78: icmp_seq=74 ttl=53 time=23.214 ms
64 bytes from 142.250.183.78: icmp_seq=75 ttl=53 time=20.268 ms
64 bytes from 142.250.183.78: icmp_seq=76 ttl=53 time=29.434 ms
64 bytes from 142.250.183.78: icmp_seq=77 ttl=53 time=28.825 ms
^C
--- google.com ping statistics ---
78 packets transmitted, 78 packets received, 0.0% packet loss
round-trip min/avg/max/stddev = 19.792/31.853/100.435/15.366 ms
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % ls
docs      file1.txt
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % zip -r docs.zip docs/
  adding: docs/ (stored 0%)

```

b. Extract the contents of the zip file into a new directory.

```

64 bytes from 142.250.183.78: icmp_seq=63 ttl=53 time=29.392 ms
64 bytes from 142.250.183.78: icmp_seq=64 ttl=53 time=22.488 ms
64 bytes from 142.250.183.78: icmp_seq=65 ttl=53 time=27.128 ms
64 bytes from 142.250.183.78: icmp_seq=66 ttl=53 time=21.348 ms
64 bytes from 142.250.183.78: icmp_seq=67 ttl=53 time=25.335 ms
64 bytes from 142.250.183.78: icmp_seq=68 ttl=53 time=28.698 ms
64 bytes from 142.250.183.78: icmp_seq=69 ttl=53 time=20.168 ms
64 bytes from 142.250.183.78: icmp_seq=70 ttl=53 time=28.919 ms
64 bytes from 142.250.183.78: icmp_seq=71 ttl=53 time=21.017 ms
64 bytes from 142.250.183.78: icmp_seq=72 ttl=53 time=55.577 ms
64 bytes from 142.250.183.78: icmp_seq=73 ttl=53 time=21.830 ms
64 bytes from 142.250.183.78: icmp_seq=74 ttl=53 time=23.214 ms
64 bytes from 142.250.183.78: icmp_seq=75 ttl=53 time=20.268 ms
64 bytes from 142.250.183.78: icmp_seq=76 ttl=53 time=29.434 ms
64 bytes from 142.250.183.78: icmp_seq=77 ttl=53 time=28.825 ms
^C
--- google.com ping statistics ---
78 packets transmitted, 78 packets received, 0.0% packet loss
round-trip min/avg/max/stddev = 19.792/31.853/100.435/15.366 ms
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % ls
docs      file1.txt
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % zip -r docs.zip docs/
  adding: docs/ (stored 0%)
  adding: docs/file2.txt (deflated 17%)
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % mkdir newdir
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % cd newdir
(base) vaibhavhangale@VAIBHAVs-MacBook-Air newdir % unzip docs.zip -d extracted_docs
unzip:  cannot find or open docs.zip, docs.zip.zip or docs.zip.ZIP.
(base) vaibhavhangale@VAIBHAVs-MacBook-Air newdir % cd ..
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % ls
docs      docs.zip      file1.txt      newdir
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % cd newdir
(base) vaibhavhangale@VAIBHAVs-MacBook-Air newdir % unzip docs.zip -d newdir
unzip:  cannot find or open docs.zip, docs.zip.zip or docs.zip.ZIP.
(base) vaibhavhangale@VAIBHAVs-MacBook-Air newdir % cd..
zsh: command not found: cd..
(base) vaibhavhangale@VAIBHAVs-MacBook-Air newdir % cd ..
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % unzip docs.zip -d newdir
Archive:  docs.zip
  creating: newdir/docs/

```

k)

```

64 bytes from 142.250.183.78: icmp_seq=71 ttl=53 time=21.827 ms
64 bytes from 142.250.183.78: icmp_seq=72 ttl=53 time=55.577 ms
64 bytes from 142.250.183.78: icmp_seq=73 ttl=53 time=21.830 ms
64 bytes from 142.250.183.78: icmp_seq=74 ttl=53 time=23.214 ms
64 bytes from 142.250.183.78: icmp_seq=75 ttl=53 time=20.268 ms
64 bytes from 142.250.183.78: icmp_seq=76 ttl=53 time=29.434 ms
64 bytes from 142.250.183.78: icmp_seq=77 ttl=53 time=28.825 ms
^C
--- google.com ping statistics ---
78 packets transmitted, 78 packets received, 0.0% packet loss
round-trip min/avg/max/stddev = 19.792/31.853/100.435/15.366 ms
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % ls
docs          file1.txt
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % zip -r docs.zip docs/
  adding: docs/ (stored 0%)
  adding: docs/file2.txt (deflated 17%)
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % mkdir newdir
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % cd newdir
(base) vaibhavhangale@VAIBHAVs-MacBook-Air newdir % unzip docs.zip -d extracted_docs
unzip:  cannot find or open docs.zip, docs.zip.zip or docs.zip.ZIP.
(base) vaibhavhangale@VAIBHAVs-MacBook-Air newdir % cd ..
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % ls
docs          file1.txt      newdir
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % cd newdir
(base) vaibhavhangale@VAIBHAVs-MacBook-Air newdir % unzip docs.zip -d newdir
unzip:  cannot find or open docs.zip, docs.zip.zip or docs.zip.ZIP.
(base) vaibhavhangale@VAIBHAVs-MacBook-Air newdir % cd..
zsh: command not found: cd..
(base) vaibhavhangale@VAIBHAVs-MacBook-Air newdir % cd ..
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % unzip docs.zip -d newdir
Archive: docs.zip
  creating: newdir/docs/
  inflating: newdir/docs/file2.txt
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % nano file1.txt
(base) vaibhavhangale@VAIBHAVs-MacBook-Air LinuxAssignment % cat file1.txt
hellow
this is my file1 created by nano command which allows me to edit the file content.
adding text to file1
a
b
c

```

Problem 2: Read the instructions carefully and answer accordingly. If there is any need to insert some data then do that as well.

a. Suppose you have a file named "data.txt" containing important information. Display the first 10 lines of this file to quickly glance at its contents using a command.

`head file1.txt`

b. Now, to check the end of the file for any recent additions, display the last 5 lines of "data.txt" using another command.

`tail -n 5 file1.txt`

c. In a file named "numbers.txt," there are a series of numbers. Display the first 15 lines of this file to analyze the initial data set.

`head -n 15 numbers.txt`

d. To focus on the last few numbers of the dataset, display the last 3 lines of "numbers.txt".

`tail -n 3 numbers.txt`

e. Imagine you have a file named "input.txt" with text content. Use a command to translate all lowercase letters to uppercase in "input.txt" and save the modified text in a new file named "output.txt."

`tr '[lower:]' '[upper:]' < input.txt > output.txt`

f. In a file named "duplicate.txt," there are several lines of text, some of which are duplicates. Use a command to display only the unique lines from "duplicate.txt."

```
sort duplicate.txt | uniq
```

g. In a file named "fruit.txt," there is a list of fruits, but some fruits are repeated. Use a command to display each unique fruit along with the count of its occurrences in "fruit.txt."

```
sort fruit.txt | uniq -c | awk '{$1=$1; print}'
```