

Assignment 1

Problem 1

Problem 1: Read the instructions carefully and answer accordingly. If there is any need to insert some data then do that as well.

- 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.
- b) **File Management:**
 - a. Inside the "LinuxAssignment" directory, create a new file named "file1.txt". Display its contents.
- c) **Directory Management:**
 - a. Create a new directory named "docs" inside the "LinuxAssignment" directory.
- d) **Copy and Move Files:**
 - a. Copy the "file1.txt" file into the "docs" directory and rename it to "file2.txt".
- 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.
- f) **Final Checklist:**
 - a. Finally, list the contents of the "LinuxAssignment" directory and the root directory to ensure that all operations were performed correctly.
- 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).
- h) **System Information:**
 - a. Display the current system date and time.
- 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).
- j) **File Compression:**
 - a. Compress the "docs" directory into a zip file.
 - b. Extract the contents of the zip file into a new directory.
- 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).

Ans:-

```
cdac@Suraj:~$ whoami
cdac
cdac@Suraj:~$ mkdir LinuxAssignment
cdac@Suraj:~$ cd LinuxAssignment
cdac@Suraj:~/LinuxAssignment$ nano file1.txt
cdac@Suraj:~/LinuxAssignment$ cat file1.txt
Hello
My name is Suraj Ingale
cdac@Suraj:~/LinuxAssignment$ mkdir docs
cdac@Suraj:~/LinuxAssignment$ cp file1.txt docs
cdac@Suraj:~/LinuxAssignment$ cd docs
cdac@Suraj:~/LinuxAssignment/docs$ ls -l
total 4
-rw-r--r-- 1 cdac cdac 31 Aug 28 19:35 file1.txt
cdac@Suraj:~/LinuxAssignment/docs$ mv file1.txt file2.txt
cdac@Suraj:~/LinuxAssignment/docs$ ls -l
total 4
-rw-r--r-- 1 cdac cdac 31 Aug 28 19:35 file2.txt
cdac@Suraj:~/LinuxAssignment/docs$ chmod u+x file2.txt
cdac@Suraj:~/LinuxAssignment/docs$ ls -l
total 4
-rwxr--r-- 1 cdac cdac 31 Aug 28 19:35 file2.txt
cdac@Suraj:~/LinuxAssignment/docs$ whoami
cdac
cdac@Suraj:~/LinuxAssignment/docs$ chown cdac file2.txt
cdac@Suraj:~/LinuxAssignment/docs$ ls -l
total 4
-rwxr--r-- 1 cdac cdac 31 Aug 28 19:35 file2.txt
cdac@Suraj:~/LinuxAssignment/docs$ cd ..
cdac@Suraj:~/LinuxAssignment$ ls -l
total 8
drwxr-xr-x 2 cdac cdac 4096 Aug 28 19:36 docs
-rw-r--r-- 1 cdac cdac 31 Aug 28 19:31 file1.txt
cdac@Suraj:~/LinuxAssignment$ find . -name "*.txt"
./file1.txt
./docs/file2.txt
cdac@Suraj:~/LinuxAssignment$ grep Suraj file1.txt
```

```
cdac@Suraj: ~/LinuxAssignm x + v
./file1.txt
./docs/file2.txt
cdac@Suraj:~/LinuxAssignment$ grep Suraj file1.txt
My name is Suraj Ingale
cdac@Suraj:~/LinuxAssignment$ grep Suraj file1.txt file2.txt
file1.txt:My name is Suraj Ingale
grep: file2.txt: No such file or directory
cdac@Suraj:~/LinuxAssignment$ cd docs
cdac@Suraj:~/LinuxAssignment/docs$ grep Suraj file2.txt
My name is Suraj Ingale
cdac@Suraj:~/LinuxAssignment/docs$ date
Wed Aug 28 19:49:11 IST 2024
cdac@Suraj:~/LinuxAssignment/docs$ 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:fa:ee:cc brd ff:ff:ff:ff:ff:ff
    inet 172.29.23.6/20 brd 172.29.31.255 scope global eth0
        valid_lft forever preferred_lft forever
    inet6 fe80::215:5dff:fefa:eecc/64 scope link
        valid_lft forever preferred_lft forever
cdac@Suraj:~/LinuxAssignment/docs$ ip route
default via 172.29.16.1 dev eth0 proto kernel
172.29.16.0/20 dev eth0 proto kernel scope link src 172.29.23.6
cdac@Suraj:~/LinuxAssignment/docs$ curl ifconfig.me
cdac@Suraj:~/LinuxAssignment/docs$ gnmenhttps://surajingale.netlify.app/.netlify.app/
ping: https://surajingale.netlify.app/: Name or service not known
cdac@Suraj:~/LinuxAssignment/docs$ ping www.google.com
PING www.google.com (142.250.182.164) 56(84) bytes of data.
64 bytes from del11s10-in-f4.1e100.net (142.250.182.164): icmp_seq=1 ttl=112 time=88.0 ms
64 bytes from del11s10-in-f4.1e100.net (142.250.182.164): icmp_seq=2 ttl=112 time=86.7 ms
```

```

cdac@Suraj: ~/LinuxAssignment x + v
cdac@Suraj:~/LinuxAssignment/docs$ curl ifconfig.me
cdac@Suraj:~/LinuxAssignment/docs$ gnmehhttps://surajingale.netlify.app/.netlify.app/
ping: https://surajingale.netlify.app/: Name or service not known
cdac@Suraj:~/LinuxAssignment/docs$ ping www.google.com
PING www.google.com (142.250.182.164) 56(84) bytes of data.
64 bytes from dell1s10-in-f4.1e100.net (142.250.182.164): icmp_seq=1 ttl=112 time=88.0 ms
64 bytes from dell1s10-in-f4.1e100.net (142.250.182.164): icmp_seq=2 ttl=112 time=86.7 ms
64 bytes from dell1s10-in-f4.1e100.net (142.250.182.164): icmp_seq=3 ttl=112 time=306 ms
64 bytes from dell1s10-in-f4.1e100.net (142.250.182.164): icmp_seq=4 ttl=112 time=274 ms
64 bytes from dell1s10-in-f4.1e100.net (142.250.182.164): icmp_seq=5 ttl=112 time=290 ms
64 bytes from dell1s10-in-f4.1e100.net (142.250.182.164): icmp_seq=6 ttl=112 time=244 ms
64 bytes from dell1s10-in-f4.1e100.net (142.250.182.164): icmp_seq=7 ttl=112 time=252 ms
64 bytes from dell1s10-in-f4.1e100.net (142.250.182.164): icmp_seq=8 ttl=112 time=280 ms
64 bytes from dell1s10-in-f4.1e100.net (142.250.182.164): icmp_seq=9 ttl=112 time=361 ms
64 bytes from dell1s10-in-f4.1e100.net (142.250.182.164): icmp_seq=10 ttl=112 time=284 ms
^C
--- www.google.com ping statistics ---
11 packets transmitted, 10 received, 9.09091% packet loss, time 10014ms
rtt min/avg/max/mdev = 86.682/246.599/361.402/85.229 ms
cdac@Suraj:~/LinuxAssignment/docs$ cd ..
cdac@Suraj:~/LinuxAssignment$ sudo apt install zip
[sudo] password for cdac:
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  unzip
The following NEW packages will be installed:
  unzip zip
0 upgraded, 2 newly installed, 0 to remove and 0 not upgraded.
Need to get 350 kB of archives.
After this operation, 929 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 unzip amd64 6.0-26ubuntu3.1 [174 kB]
Get:2 http://archive.ubuntu.com/ubuntu jammy/main amd64 zip amd64 3.0-12build2 [176 kB]
Fetched 350 kB in 3s (123 kB/s)
Selecting previously unselected package unzip.

```

```
cdac@Suraj: ~/LinuxAssignment x + v
Do you want to continue? [Y/n] y
Get:1 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 unzip amd64 6.0-26ubuntu3.1 [174 kB]
Get:2 http://archive.ubuntu.com/ubuntu jammy/main amd64 zip amd64 3.0-12build2 [176 kB]
Fetched 350 kB in 3s (123 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) ...
Selecting previously unselected package zip.
Preparing to unpack .../zip_3.0-12build2_amd64.deb ...
Unpacking zip (3.0-12build2) ...
Setting up unzip (6.0-26ubuntu3.1) ...
Setting up zip (3.0-12build2) ...
Processing triggers for man-db (2.10.2-1) ...
cdac@Suraj:~/LinuxAssignment$ zip -r docs.zip/LinuxAssignment/docs

zip error: Nothing to do! (docs.zip/LinuxAssignment/docs.zip)
cdac@Suraj:~/LinuxAssignment$ zip docs.zip docs
  adding: docs/ (stored 0%)
cdac@Suraj:~/LinuxAssignment$ ls -l
total 12
drwxr-xr-x 2 cdac cdac 4096 Aug 28 19:36 docs
-rw-r--r-- 1 cdac cdac 160 Aug 28 20:16 docs.zip
-rw-r--r-- 1 cdac cdac 31 Aug 28 19:31 file1.txt
cdac@Suraj:~/LinuxAssignment$ mkdir newdir
cdac@Suraj:~/LinuxAssignment$ cd newdir
cdac@Suraj:~/LinuxAssignment/newdir$ unzip docs.zip
unzip: cannot find or open docs.zip, docs.zip.zip or docs.zip.ZIP.
cdac@Suraj:~/LinuxAssignment/newdir$ cd ..
cdac@Suraj:~/LinuxAssignment$ cp docs.zip newdir
cdac@Suraj:~/LinuxAssignment$ cd newdir
cdac@Suraj:~/LinuxAssignment/newdir$ unzip docs.zip
Archive: docs.zip
  creating: docs/
cdac@Suraj:~/LinuxAssignment/newdir$ ls -l
total 8
drwxr-xr-x 2 cdac cdac 4096 Aug 28 19:36 docs
```

```
cdac@Suraj: ~/LinuxAssignment X + v
Default: cdac@Suraj: ~/LinuxAssignment (0%)
ctrl+alt+1
cdac@Suraj:~/LinuxAssignment$ ls -l
total 12
drwxr-xr-x 2 cdac cdac 4096 Aug 28 19:36 docs
-rw-r--r-- 1 cdac cdac 160 Aug 28 20:16 docs.zip
-rw-r--r-- 1 cdac cdac 31 Aug 28 19:31 file1.txt
cdac@Suraj:~/LinuxAssignment$ mkdir newdir
cdac@Suraj:~/LinuxAssignment$ cd newdir
cdac@Suraj:~/LinuxAssignment/newdir$ unzip docs.zip
unzip: cannot find or open docs.zip, docs.zip.zip or docs.zip.ZIP.
cdac@Suraj:~/LinuxAssignment/newdir$ cd ..
cdac@Suraj:~/LinuxAssignment$ cp docs.zip newdir
cdac@Suraj:~/LinuxAssignment$ cd newdir
cdac@Suraj:~/LinuxAssignment/newdir$ unzip docs.zip
Archive: docs.zip
  creating: docs/
cdac@Suraj:~/LinuxAssignment/newdir$ ls -l
total 8
drwxr-xr-x 2 cdac cdac 4096 Aug 28 19:36 docs
-rw-r--r-- 1 cdac cdac 160 Aug 28 20:22 docs.zip
cdac@Suraj:~/LinuxAssignment/newdir$ cd ..
cdac@Suraj:~/LinuxAssignment$ ls -l
total 16
drwxr-xr-x 2 cdac cdac 4096 Aug 28 19:36 docs
-rw-r--r-- 1 cdac cdac 160 Aug 28 20:16 docs.zip
-rw-r--r-- 1 cdac cdac 31 Aug 28 19:31 file1.txt
drwxr-xr-x 3 cdac cdac 4096 Aug 28 20:22 newdir
cdac@Suraj:~/LinuxAssignment$ nano file1.txt
cdac@Suraj:~/LinuxAssignment$ cat file1.txt
```

Hello

My name is Suraj Ingale

Hello everyone Good evening

```
cdac@Suraj:~/LinuxAssignment$
```

```
cdac@Suraj: ~/LinuxAssignment × + v
cdac@Suraj:~/LinuxAssignment$ cd newdir
cdac@Suraj:~/LinuxAssignment/newdir$ unzip docs.zip
unzip: cannot find or open docs.zip, docs.zip.zip or docs.zip.ZIP.
cdac@Suraj:~/LinuxAssignment/newdir$ cd ..
cdac@Suraj:~/LinuxAssignment$ cp docs.zip newdir
cdac@Suraj:~/LinuxAssignment$ cd newdir
cdac@Suraj:~/LinuxAssignment/newdir$ unzip docs.zip
Archive: docs.zip
creating: docs/
cdac@Suraj:~/LinuxAssignment/newdir$ ls -l
total 8
drwxr-xr-x 2 cdac cdac 4096 Aug 28 19:36 docs
-rw-r--r-- 1 cdac cdac 160 Aug 28 20:22 docs.zip
cdac@Suraj:~/LinuxAssignment/newdir$ cd ..
cdac@Suraj:~/LinuxAssignment$ ls -l
total 16
drwxr-xr-x 2 cdac cdac 4096 Aug 28 19:36 docs
-rw-r--r-- 1 cdac cdac 160 Aug 28 20:16 docs.zip
-rw-r--r-- 1 cdac cdac 31 Aug 28 19:31 file1.txt
drwxr-xr-x 3 cdac cdac 4096 Aug 28 20:22 newdir
cdac@Suraj:~/LinuxAssignment$ nano file1.txt
cdac@Suraj:~/LinuxAssignment$ cat file1.txt

Hello
My name is Suraj Ingale

Hello everyone Good evening
cdac@Suraj:~/LinuxAssignment$ sed -i 's/Suraj/Boss/g' file1.txt
cdac@Suraj:~/LinuxAssignment$ cat file1.txt

Hello
My name is Boss Ingale

Hello everyone Good evening
cdac@Suraj:~/LinuxAssignment$ |
```

Problem 2

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.
- b. Now, to check the end of the file for any recent additions, display the last 5 lines of "data.txt" using another command.
- 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.
- d. To focus on the last few numbers of the dataset, display the last 3 lines of "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."
- 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."
- 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."

ANS:-


```
cdac@Suraj: ~/LinuxAssignme  ×  cdac@Suraj: ~/q2  ×  +  ▾  -  □  ×

cdac@Suraj:~$ ls -l
total 12
drwxr-xr-x 4 cdac cdac 4096 Aug 28 21:36 LinuxAssignment
drwxr-xr-x 2 cdac cdac 4096 Aug 28 00:05 cpp
drwxr-xr-x 2 cdac cdac 4096 Aug 28 09:02 demo
-rw-r--rw- 1 cdac cdac 0 Aug 27 23:37 demo.txt
-rwxr-xr-x 1 cdac cdac 0 Aug 27 23:37 demo1.txt
-rw-rwxr-- 1 cdac cdac 0 Aug 27 23:26 ingale.cpp
cdac@Suraj:~$ mkdir q2
cdac@Suraj:~$ cd q2
cdac@Suraj:~/q2$ nano data.txt
cdac@Suraj:~/q2$ head data.txt
hello
I am suraj ingale
i like playing hockey
i like cricket
i am introvert student
i dejijj
biiihf
kbsafisbivb
sbigsifgi
svnbiasvisbvo
cdac@Suraj:~/q2$ tail -5 data.txt
sbvisbvo
nibsibvi
nivbsovb
sdnsdvdsov
lnsonsovn
cdac@Suraj:~/q2$ nano numbers.txt
cdac@Suraj:~/q2$ head -15 number.txt
head: cannot open 'number.txt' for reading: No such file or directory
cdac@Suraj:~/q2$ head -15 numbers.txt
1
2
```

```
cdac@Suraj: ~/LinuxAssignme X cdac@Suraj: ~/q2 X + v - □  
lnsonsovn  
cdac@Suraj:~/q2$ nano numbers.txt  
cdac@Suraj:~/q2$ head -15 number.txt  
head: cannot open 'number.txt' for reading: No such file or directory  
cdac@Suraj:~/q2$ head -15 numbers.txt  
1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
cdac@Suraj:~/q2$ tail -3 numbers.txt  
18  
19  
20  
cdac@Suraj:~/q2$ nano input.txt  
cdac@Suraj:~/q2$ cat input.txt  
i am suraj ingale  
cdac@Suraj:~/q2$ tr 'a-z' 'A-Z' <input.txt> output.txt  
cdac@Suraj:~/q2$ cat output.txt  
I AM SURAJ INGALE  
cdac@Suraj:~/q2$ █
```

```
cdac@Suraj:~/q2$ nano duplicate.txt
cdac@Suraj:~/q2$ cat dupliacte.txt
cat: dupliacte.txt: No such file or directory
cdac@Suraj:~/q2$ cat duplicate.txt
i am suraj ingale
i am ingale
i am boss
i am hero
i am suraj ingale
i am superstar
cdac@Suraj:~/q2$ sort duplicate.txt | uniq -d
i am suraj ingale
```

```
cdac@Suraj:~/q2$ nano fruit.txt
cdac@Suraj:~/q2$ cat fruit.txt
apple
blackberry
banana
grapes
orange
blackberry
orange
apple
cdac@Suraj:~/q2$ sort fruit.txt | uniq -c
      2 apple
      1 banana
      2 blackberry
      1 grapes
      1 orange
      1 orange
cdac@Suraj:~/q2$ |
```

