

Assignment 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).

Solution:-

```
cdac@Pooja:~$ pwd
/home/cdac
cdac@Pooja:~$ ls
cdac@Pooja:~$ mkdir LinuxAssignment
cdac@Pooja:~$ ls
LinuxAssignment
cdac@Pooja:~$ cd LinuxAssignment/
cdac@Pooja:~/LinuxAssignment$ touch File1.txt
cdac@Pooja:~/LinuxAssignment$ cat File1.txt
cdac@Pooja:~/LinuxAssignment$ mkdir docs
cdac@Pooja:~/LinuxAssignment$ ls
File1.txt  docs
cdac@Pooja:~/LinuxAssignment$ cp file1.txt docs/file2.txt
cp: cannot stat 'file1.txt': No such file or directory
cdac@Pooja:~/LinuxAssignment$ cp File1.txt docs/file2.txt
cdac@Pooja:~/LinuxAssignment$ chmod 744 docs/file2.txt
cdac@Pooja:~/LinuxAssignment$ chown $USER docs/file2.txt
cdac@Pooja:~/LinuxAssignment$ ls -l LinuxAssignmen
ls: cannot access 'LinuxAssignmen': No such file or directory
cdac@Pooja:~/LinuxAssignment$ ls -l LinuxAssignment
ls: cannot access 'LinuxAssignment': No such file or directory
cdac@Pooja:~/LinuxAssignment$ ls -l LinuxAssignment
ls: cannot access 'LinuxAssignment': No such file or directory
cdac@Pooja:~/LinuxAssignment$ cd
cdac@Pooja:~$ ls -l LinuxAssignment
total 4
-rw-r--r-- 1 cdac cdac    0 Feb 27 18:18 File1.txt
drwxr-xr-x 2 cdac cdac 4096 Feb 27 19:00 docs
```

```

cdac@Pooja:~/LinuxAssignment$ cd
cdac@Pooja:~$ ls -l LinuxAssignment
total 4
-rw-r--r-- 1 cdac cdac 0 Feb 27 18:18 File1.txt
drwxr-xr-x 2 cdac cdac 4096 Feb 27 19:00 docs
cdac@Pooja:~$ ls -l /
total 2436
lrwxrwxrwx 1 root root 7 May 31 2023 bin -> usr/bin
drwxr-xr-x 2 root root 4096 May 31 2023 boot
drwxr-xr-x 16 root root 3580 Feb 27 14:59 dev
drwxr-xr-x 99 root root 4096 Feb 27 17:33 etc
drwxr-xr-x 3 root root 4096 Feb 24 20:10 home
-rwxrwxrwx 1 root root 2424984 Feb 12 06:29 init
lrwxrwxrwx 1 root root 7 May 31 2023 lib -> usr/lib
lrwxrwxrwx 1 root root 9 May 31 2023 lib32 -> usr/lib32
lrwxrwxrwx 1 root root 9 May 31 2023 lib64 -> usr/lib64
lrwxrwxrwx 1 root root 10 May 31 2023 libx32 -> usr/libx32
drwx----- 2 root root 16384 Feb 24 20:02 lost+found
drwxr-xr-x 2 root root 4096 May 31 2023 media
drwxr-xr-x 7 root root 4096 Feb 24 20:06 mnt
drwxr-xr-x 2 root root 4096 May 31 2023 opt
dr-xr-xr-x 211 root root 0 Feb 27 14:58 proc
drwx----- 4 root root 4096 Feb 24 20:10 root
drwxr-xr-x 24 root root 740 Feb 27 18:24 run
lrwxrwxrwx 1 root root 8 May 31 2023/sbin -> usr/sbin
drwxr-xr-x 6 root root 4096 May 31 2023 snap
drwxr-xr-x 2 root root 4096 May 31 2023 srv
dr-xr-xr-x 11 root root 0 Feb 27 14:57 sys
drwxrwxrwt 11 root root 4096 Feb 27 18:24 tmp
drwxr-xr-x 14 root root 4096 May 31 2023 usr

```

```

cdac@Pooja:~$ find . -type f -name "*.txt"
./LinuxAssignment/File1.txt
./LinuxAssignment/docs/file2.txt
cdac@Pooja:~$ grep "specific_word" file1.txt
grep: file1.txt: No such file or directory
cdac@Pooja:~$ date
Thu Feb 27 20:19:14 IST 2025
cdac@Pooja:~$ ip a | grep "inet"
> ^C
cdac@Pooja:~$ ip a | grep "inet"
    inet 127.0.0.1/8 scope host lo
    inet 10.255.255.254/32 brd 10.255.255.254 scope global lo
    inet6 ::1/128 scope host
    inet 172.28.134.180/20 brd 172.28.143.255 scope global eth0
    inet6 fe80::215:5dff:fe32:1be5/64 scope link
cdac@Pooja:~$ zip -r docs.zip docs

```

Command 'zip' not found, but can be installed with:

```
sudo apt install zip
```

```
cdac@Pooja:~$ sudo apt install zip
```

```
cdac@Pooja:~$ zip -r docs.zip docs
zip warning: name not matched: docs

zip error: Nothing to do! (try: zip -r docs.zip . -i docs)
cdac@Pooja:~$ zip -r docs.zip . -i docs
zip warning: zip file empty
cdac@Pooja:~$ mkdir extracted_docs
cdac@Pooja:~$ unzip docs.zip -d extracted_docs
Archive:  docs.zip
warning [docs.zip]:  zipfile is empty
cdac@Pooja:~$ ^C
cdac@Pooja:~$ nano file1.txt
cdac@Pooja:~$ sed -i 's/original/replacement/g'
sed: no input files
cdac@Pooja:~$ |
```

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."

Solution

```
cdac@Pooja:~$ pwd
/home/cdac
cdac@Pooja:~$ ls
LinuxAssignment docs.zip extracted_docs
cdac@Pooja:~$ mkdir Assignment2
cdac@Pooja:~$ cd Assignment2/
cdac@Pooja:~/Assignment2$ touch data.txt
cdac@Pooja:~/Assignment2$ ls
data.txt
cdac@Pooja:~/Assignment2$ nano data.txt
cdac@Pooja:~/Assignment2$ head -n 10 data.tx
head: cannot open 'data.tx' for reading: No such file or directory
cdac@Pooja:~/Assignment2$ head -n 10 data.txt
Pooja
AkruL
NaLawade
Nikhil
Jagtap
Dhruvika
Nikhil
Rukmini
Baramati
Pune
cdac@Pooja:~/Assignment2$ tail -n 5 data.txt
Dhruvika
Nikhil
Rukmini
Baramati
Pune
```



```
cdac@Pooja:~/Assignment2$ ls
data.txt  number.txt
cdac@Pooja:~/Assignment2$ head -n 15 number.txt
1
2
3
4
5
6
7
8
9
10
12
13
14
15
16
cdac@Pooja:~/Assignment2$ tail -n 3 number.txt
15
16
17
cdac@Pooja:~/Assignment2$ touch input.txt
cdac@Pooja:~/Assignment2$ nano input.txt
cdac@Pooja:~/Assignment2$ cat input.txt
India
Capital
Manager
Text
cdac@Pooja:~/Assignment2$ touch output.txt
cdac@Pooja:~/Assignment2$ ls
data.txt  input.txt  number.txt  output.txt
cdac@Pooja:~/Assignment2$ tr '[:lower:]' '[:upper:]' < input.txt > output.txt
cdac@Pooja:~/Assignment2$ cat output.txt
INDIA
CAPITAL
MANAGER
TEXT
cdac@Pooja:~/Assignment2$ nano duplicate.txt
```

```
cdac@Pooja:~/Assignment2$ cat duplicate.txt
Pooja
pooja
Pooja
Akrul
Nalawade
Nalawade
Nikhil
Nikhil
cdac@Pooja:~/Assignment2$ sort duplicate.txt | uniq
Akrul
Nalawade
Nikhil
Pooja
pooja
cdac@Pooja:~/Assignment2$ nano fruit.txt
cdac@Pooja:~/Assignment2$ cat fruit.txt
Apple
Orange
Mango
Apple
Orange
Orange

cdac@Pooja:~/Assignment2$ sort fruit.txt | uniq

Apple
Mango
Orange
Orange
```