Linux Assignment 1

Problem 1: Linux Assignment

a) Navigate and List
Task: 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@Shru:~$ pwd /home/cdac

cdac@Shru:~$ ls LinuxAssignment cdac dir file1.txt
cdac@Shru:~$ cd LinuxAssignment

b) File Management
Task: Inside the "LinuxAssignment" directory, create a new file named "file1.txt". Display its contents.

cdac@Shru:~/LinuxAssignment$ cat > file.txt Welcome to File in LinuxAssignment Directory !!! cdac@Shru:~/LinuxAssignment$ cat file.txt Welcome to File in LinuxAssignment Directory !!!

c) Directory Management
Task: Create a new directory named "docs" inside the "LinuxAssignment" directory.

cdac@Shru:~/LinuxAssignment$ mkdir docs
cdac@Shru:~/LinuxAssignment$ ls docs file.txt file1.txt

d) Copy and Move Files
Task: Copy the "file1.txt" file into the "docs" directory and rename it to "file2.txt".

cdac@Shru:~/LinuxAssignment$ cp ~/LinuxAssignment/file.txt ~/LinuxAssignment/docs/file2.txt cdac@Shru:~/LinuxAssignment$ ls docs file.txt file1.txt
cdac@Shru:~/LinuxAssignment$ cd docs
cdac@Shru:~/LinuxAssignment/docs$ ls file.txt file2.txt
cdac@Shru:~/LinuxAssignment/docs$ cat file2.txt Welcome to File in LinuxAssignment Directory !!!

e) Permissions and Ownership
Task: 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.

chmod 744 file2.txt
chown $USER file2.txt

f) Final Checklist

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

cdac@Shru:~/LinuxAssignment/docs$ ls *.txt file.txt file2.txt

g) File Searching
Task: Search for all files with the extension ".txt" in the current directory and its subdirectories.

cdac@Shru:~/LinuxAssignment/docs$ find ~ -type f -name "*.txt"

/home/cdac/file1.txt
/home/cdac/output.txt /home/cdac/input.txt /home/cdac/LinuxAssignment/file.txt
/home/cdac/LinuxAssignment/file1.txt /home/cdac/LinuxAssignment/docs/file.txt
/home/cdac/LinuxAssignment/docs/file2.txt /home/cdac/duplicate.txt
/home/cdac/cdac/xyz.txt
/home/cdac/cdac/file1.txt /home/cdac/cdac/file2.txt /home/cdac/cdac/file3.txt
/home/cdac/cdac/birds.txt /home/cdac/cdac/numbers.txt /home/cdac/data.txt
/home/cdac/numbers.txt

Task: Display lines containing a specific word in a file.

grep "Welcome" file2.txt

h) System Information
Task: Display the current system date and
time.

cdac@Shru:~/LinuxAssignment/docs$ date Tue Aug 19 14:04:45 UTC 2025

i) Networking
Task: Display the IP address of the system.

ifconfig

Task: Ping a remote server to check connectivity.

ping google.com

j) File Compression

Task: Compress the "docs" directory into a zip file.

zip -r docs.zip docs

Task: Extract the contents of the zip file into a new directory.

unzip docs.zip -d docs_new

k) File Editing

Task: Open the "file1.txt" file in a text editor and add some text to it.

nano file1.txt

Task: Replace a specific word in the "file1.txt" file with another word.
sed -i 's/Welcome/Hello/g' file1.txt

Problem 2

a) Display first 10 lines of data.txt
cdac@Shru:~$ head -10 data.txt

Apple Banana Orange Pineapple Custurdapple Grapes Cherry Papaya Mango Watermelon

b) Display last 5 lines of data.txt

cdac@Shru:~$ tail -5 data.txt

Peach Plum Blueberry Blackberry Dragon fruit

c) Create numbers.txt and display first 15 lines
cdac@Shru:~$ cat > numbers.txt

10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300

cdac@Shru:~$ head -15 numbers.txt

10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

d) Display last 3 lines of numbers.txt

cdac@Shru:~$ tail -3 numbers.txt

280 290 300

e) Convert lowercase to uppercase in input.txt and save to output.txt

cdac@Shru:~$ cat > input.txt

Black Red Pink White Green Orange Blue Violet Grey Yellow

cdac@Shru:~$ tr 'a-z' 'A-Z' < input.txt > output.txt

cdac@Shru:~$ cat output.txt

BLACK RED PINK WHITE GREEN ORANGE BLUE VIOLET GREY YELLOW

f) Display only unique lines from duplicate.txt

cdac@Shru:~$ cat > duplicate.txt

Hello Hello Everyone Welcome Welcome To CDAC CDAC

cdac@Shru:~$ sort -u duplicate.txt

CDAC Everyone Hello To Welcome

cdac@Shru:~$ uniq -u duplicate.txt

Everyone To

cdac@Shru:~$ uniq -d duplicate.txt Hello Welcome CDAC