# Assignment 1

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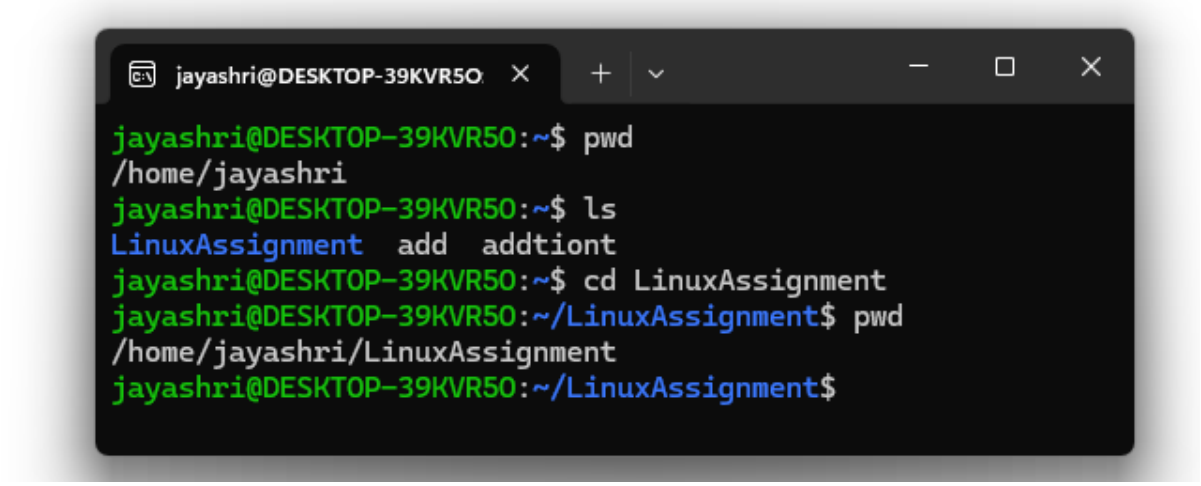
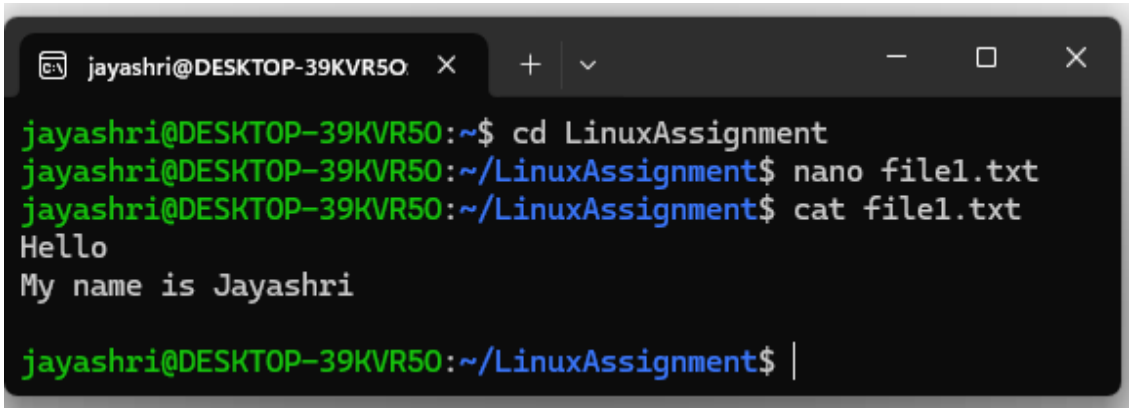
Module :Operating System

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.

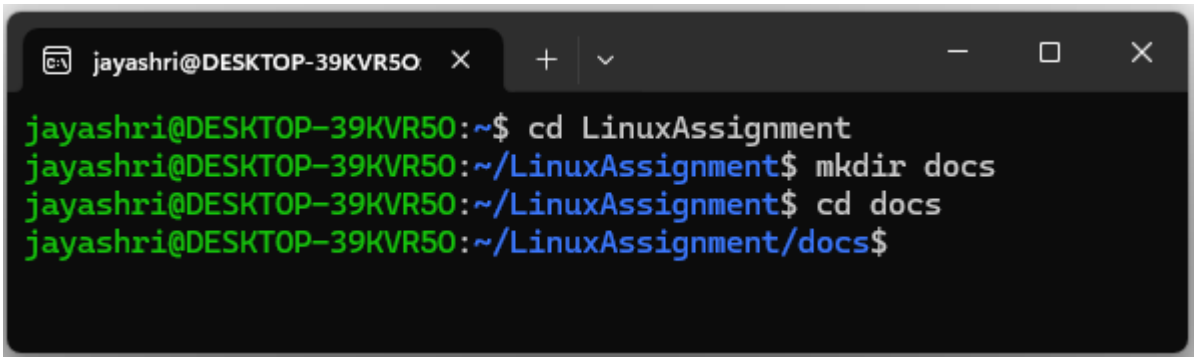



b) File Management: a. Inside the "LinuxAssignment" directory, create a new file named "file1.txt". Display its contents.



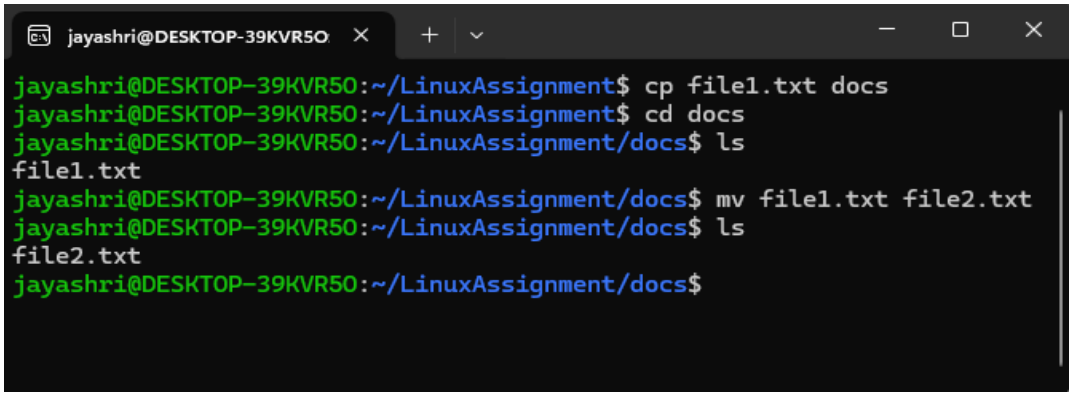

c) Directory Management:

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



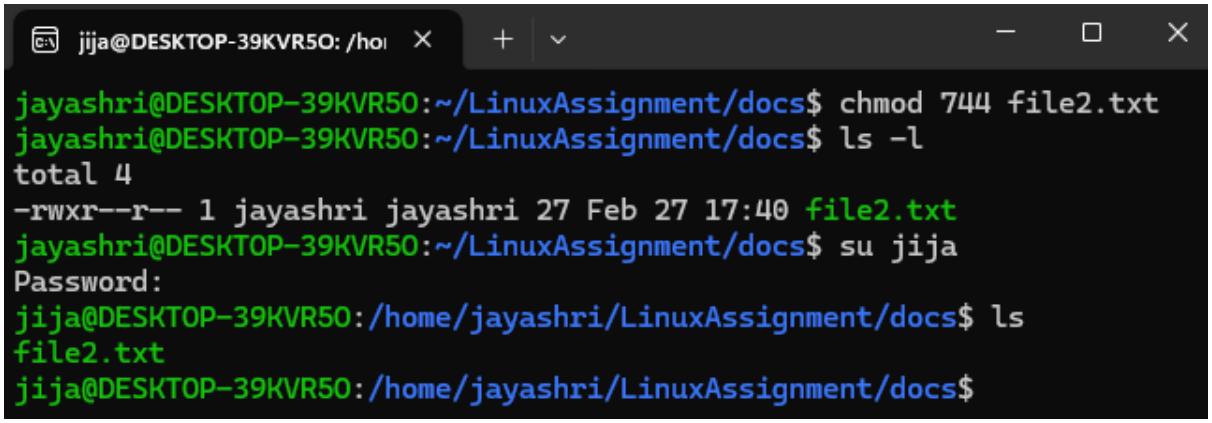
d) Copy and Move Files:

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



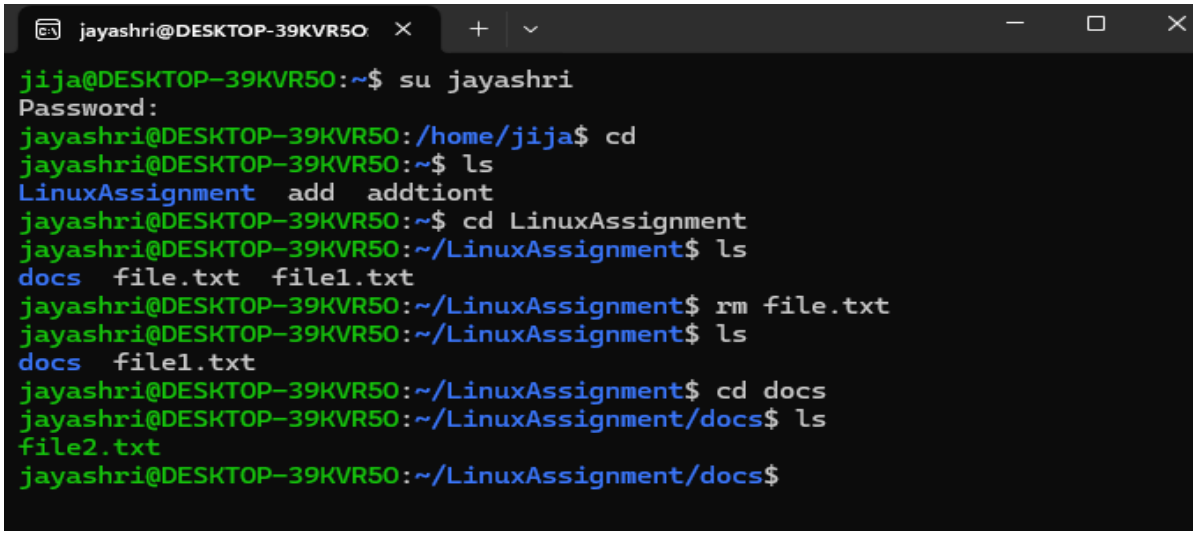

e) Permissions and Ownership:

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.



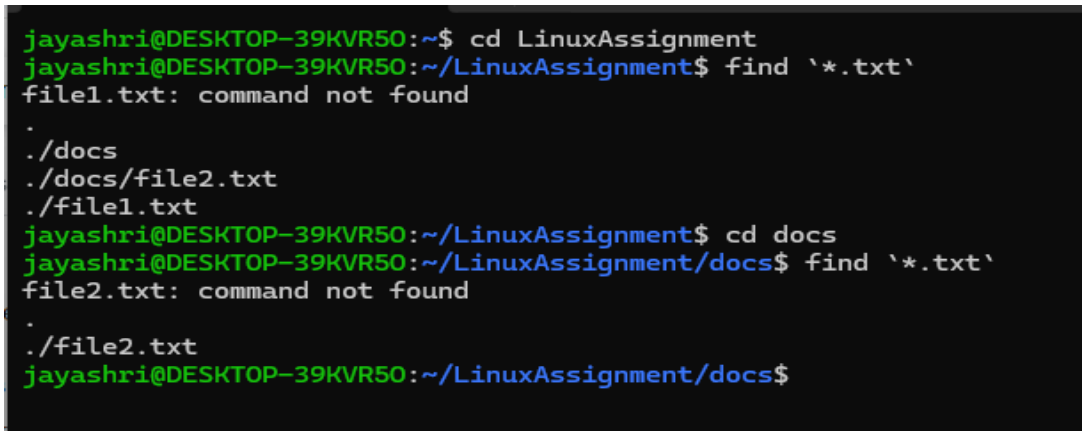

f) Final Checklist:

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

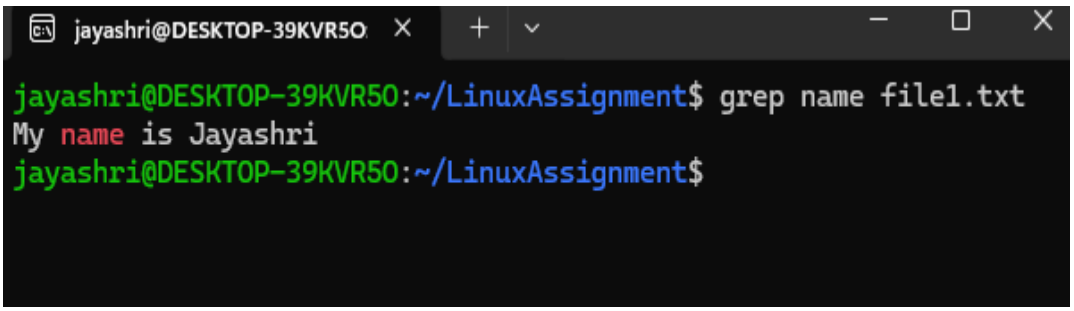



g) File Searching:

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.

```
jayashri@DESKTOP-39KVR5O:~$ date
Thu Feb 27 20:16:22 IST 2025
jayashri@DESKTOP-39KVR5O:~$ time

real    0m0.000s
user    0m0.000s
sys     0m0.000s
jayashri@DESKTOP-39KVR5O:~$
```

i) Networking:

a. Display the IP address of the system.

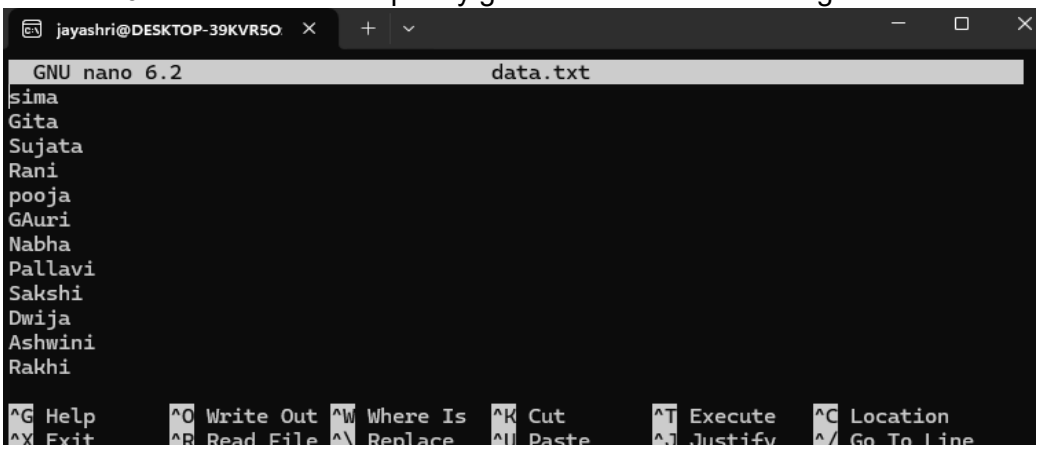
```
jayashri@DESKTOP-39KVR5O:~$ ip address
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
       valid_lft forever preferred_lft forever
    inet 10.255.255.254/32 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:4e:eb:bc brd ff:ff:ff:ff:ff:ff
    inet 172.29.217.186/20 brd 172.29.223.255 scope global eth0
       valid_lft forever preferred_lft forever
    inet6 fe80::215:5dff:fe4e:ebbc/64 scope link
       valid_lft forever preferred_lft forever
jayashri@DESKTOP-39KVR5O:~$
```

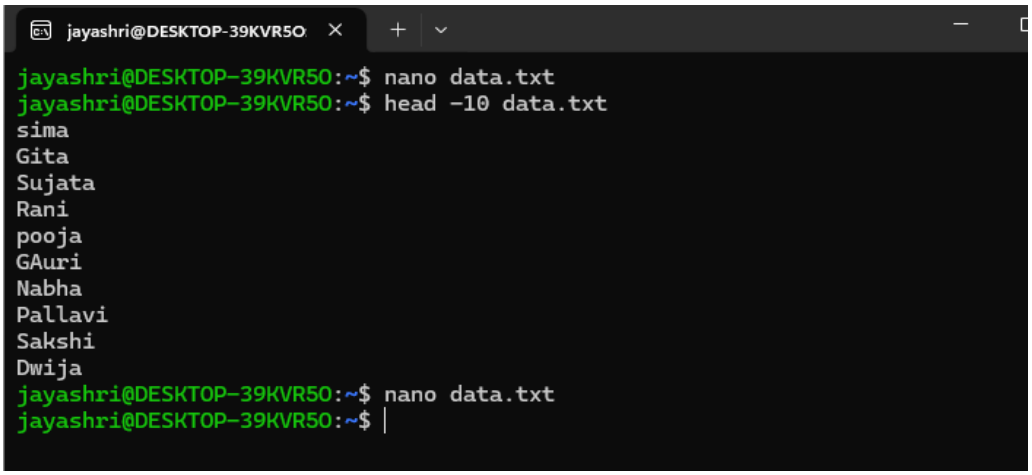
b. Ping a remote server to check connectivity (provide a remote server address to ping).

```
jayashri@DESKTOP-39KVR5O:~$ ping www.gmail.com
PING www.gmail.com (142.251.42.101) 56(84) bytes of data.
64 bytes from bom07s45-in-f5.1e100.net (142.251.42.101): icmp_seq=1 ttl=58 time=2.61 ms
64 bytes from bom07s45-in-f5.1e100.net (142.251.42.101): icmp_seq=2 ttl=58 time=3.21 ms
64 bytes from bom07s45-in-f5.1e100.net (142.251.42.101): icmp_seq=3 ttl=58 time=2.94 ms
64 bytes from bom07s45-in-f5.1e100.net (142.251.42.101): icmp_seq=4 ttl=58 time=5.91 ms
64 bytes from bom07s45-in-f5.1e100.net (142.251.42.101): icmp_seq=5 ttl=58 time=3.84 ms
^C
--- www.gmail.com ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4448ms
rtt min/avg/max/mdev = 2.607/3.701/5.909/1.175 ms
jayashri@DESKTOP-39KVR5O:~$
```

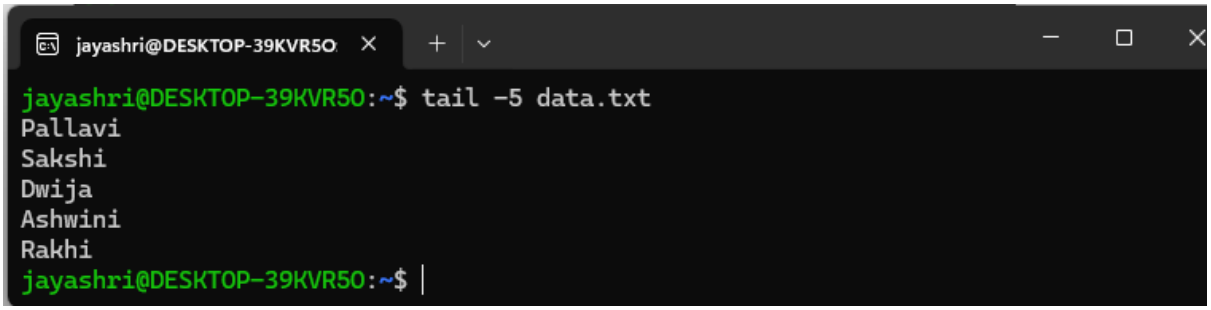
**Problem 2: Read the instructions carefully and answer accordingly. If there is any need to insert some data then do that as well.**

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.

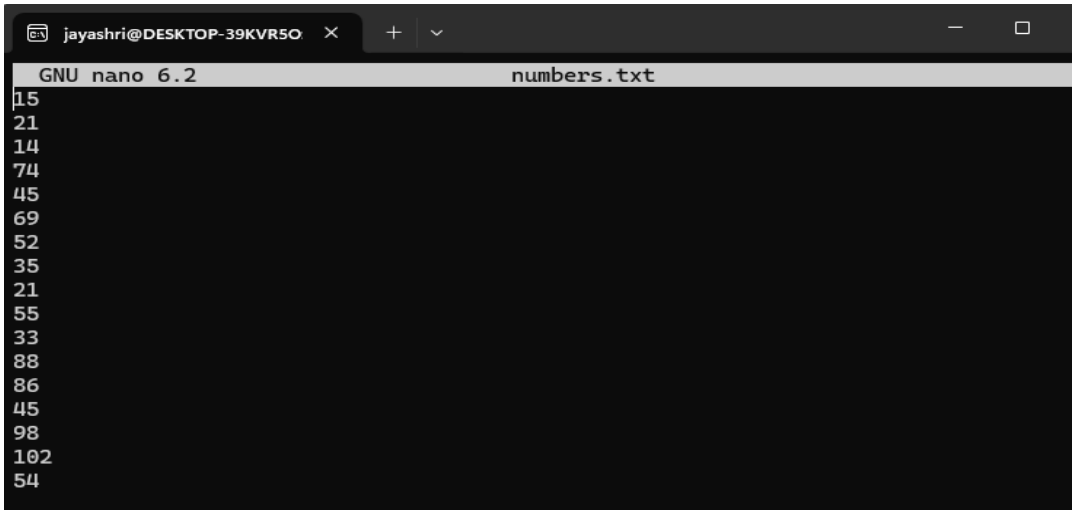


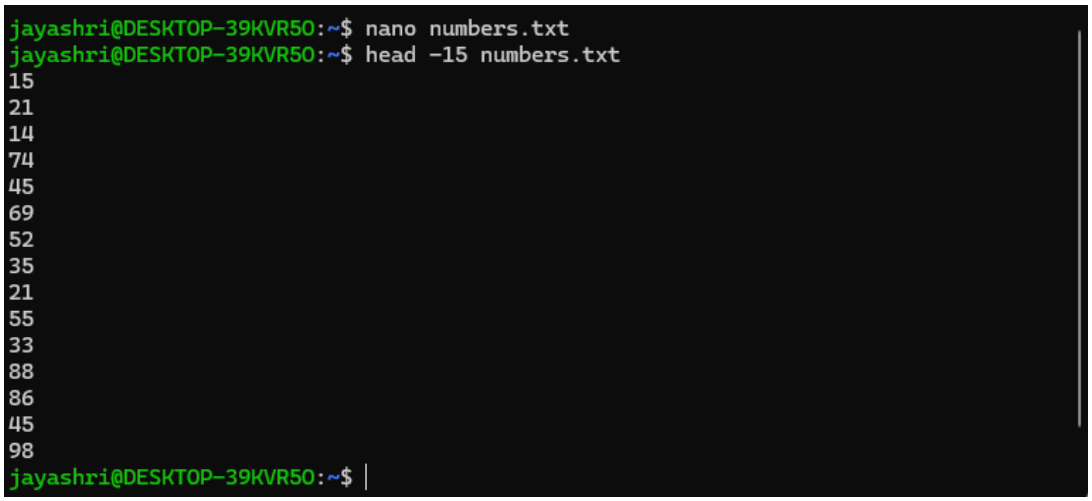




b. Now, to check the end of the file for any recent additions, display the last 5 lines of "data.txt" using another command.

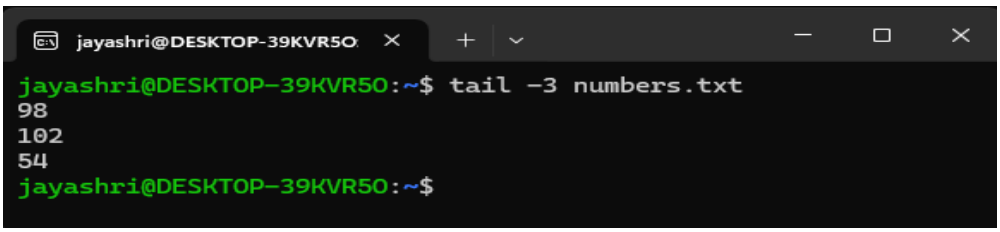



c. In a file named "numbers.txt," there are a series of numbers. Display the first 15 lines of this file to analyze the initial data set.

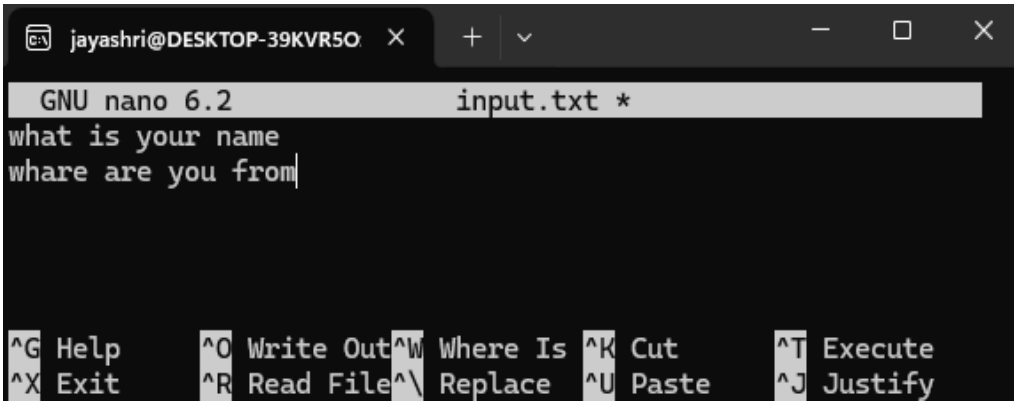


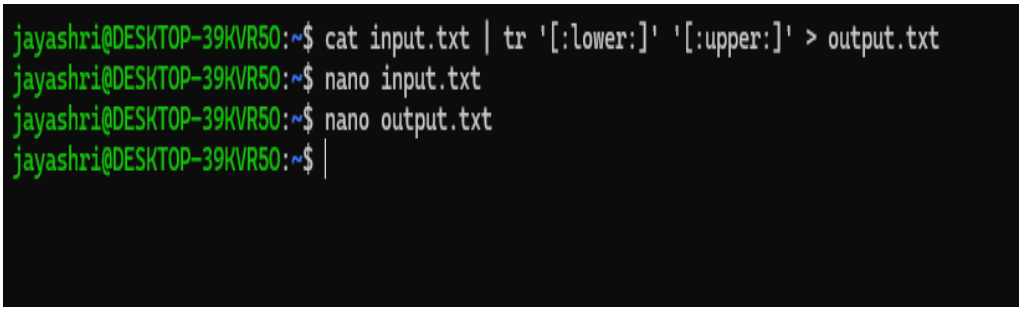



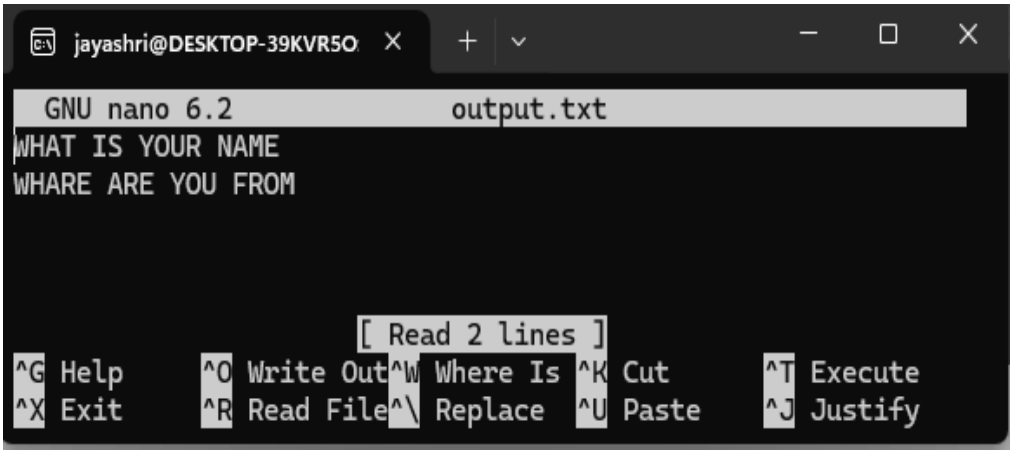

d. To focus on the last few numbers of the dataset, display the last 3 lines of "numbers.txt".



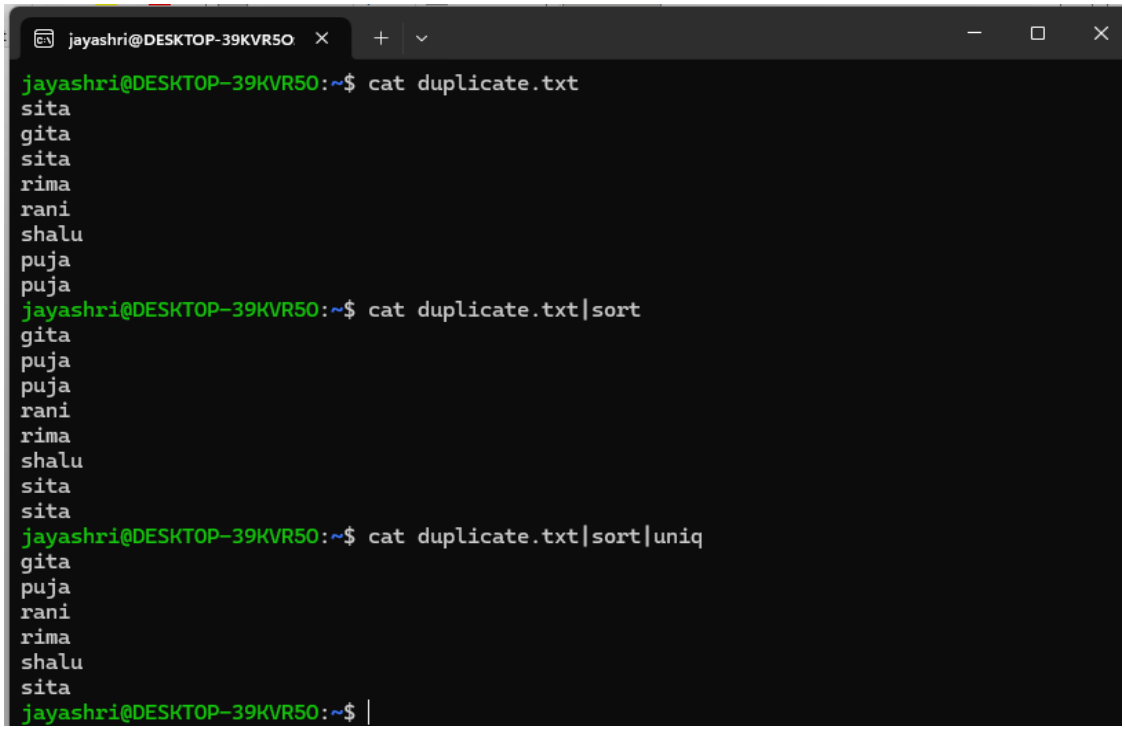

e. Imagine you have a file named "input.txt" with text content. Use a command to translate all lowercase letters to uppercase in "input.txt" and save the modified text in a new file named "output.txt."




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."




//NOTE:- uniq command should be use always after sort command

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."