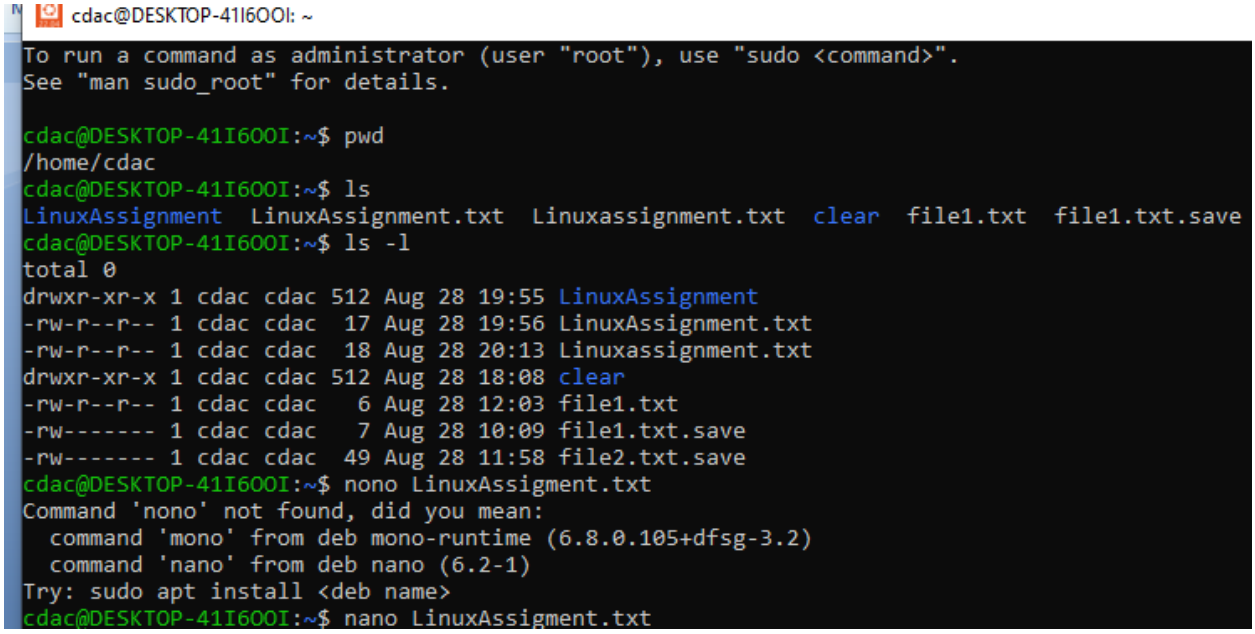
# Concepts of Operating System

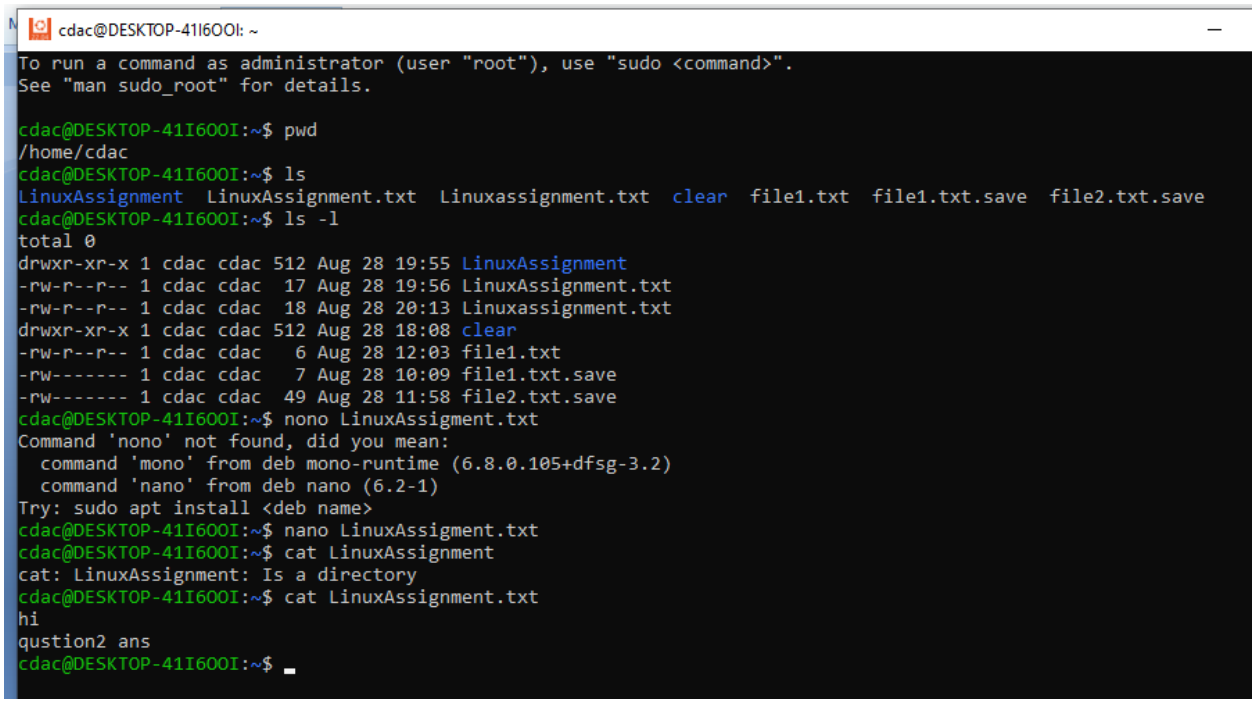
## Assignment 1

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

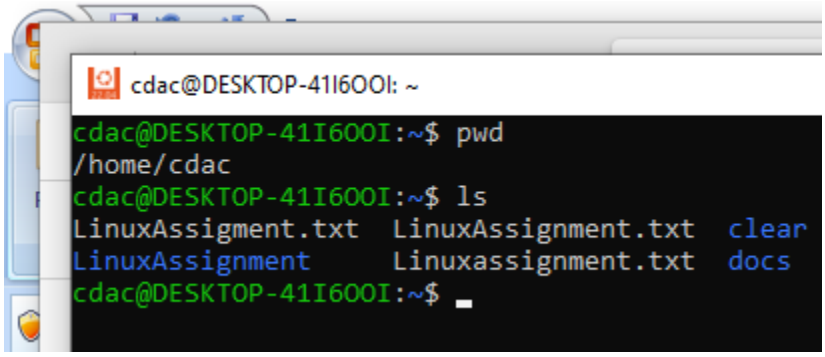
a) **Navigate and List:** a. Start by navigating to your home directory and list its contents. Then, move into a directory named "LinuxAssignment" if it exists; otherwise, create it.



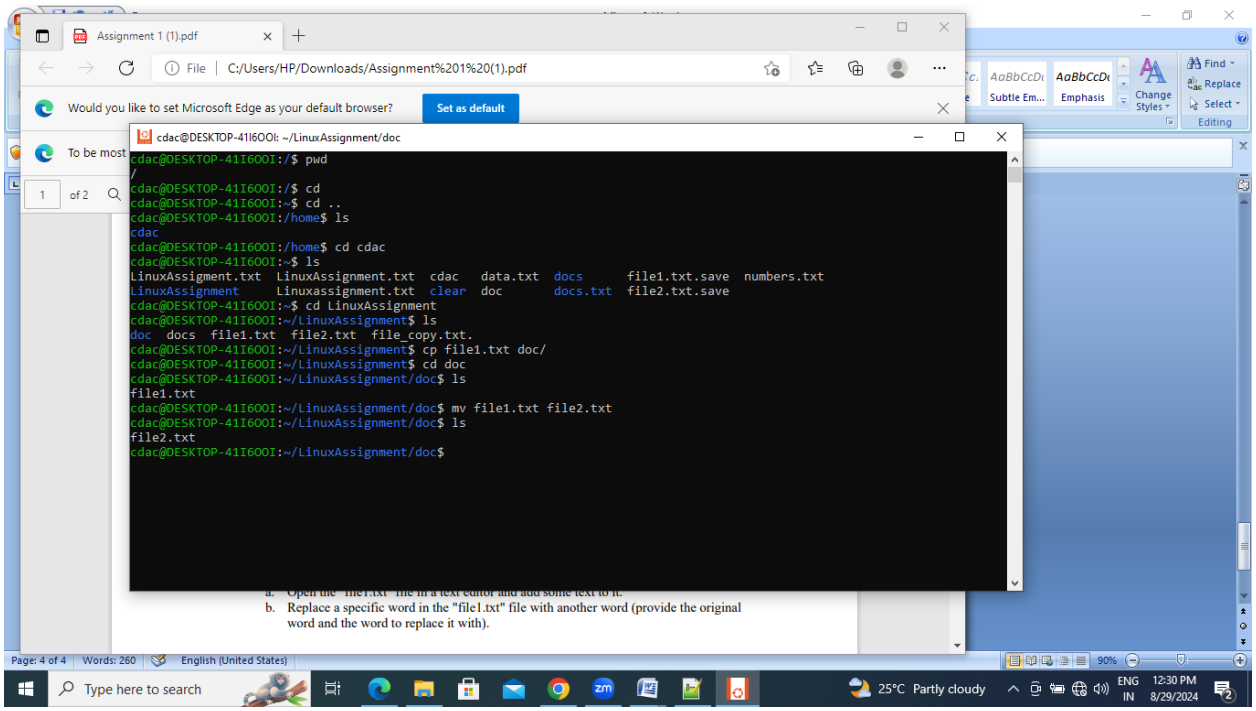

b) **File Management:** a. Inside the "LinuxAssignment" directory, create a new file named "file1.txt". Display its contents.



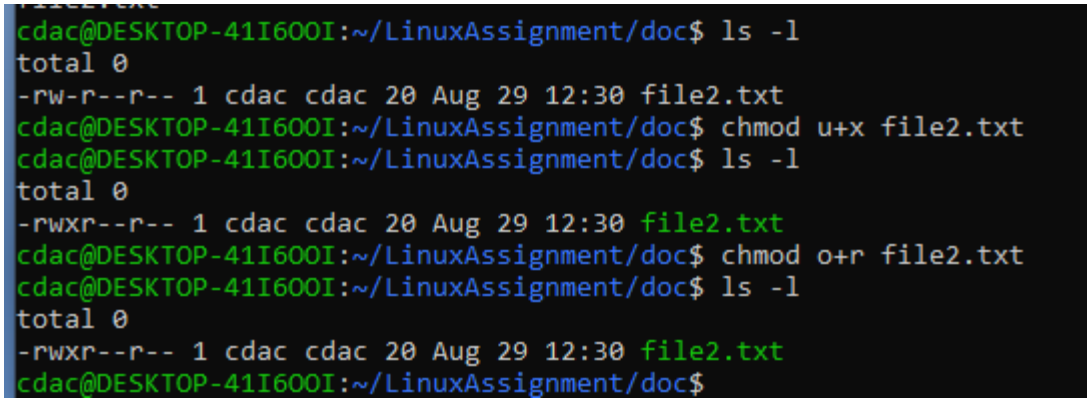

**c) Directory Management: a. Create a new directory named "docs" inside the "LinuxAssignment" directory.**




**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.**

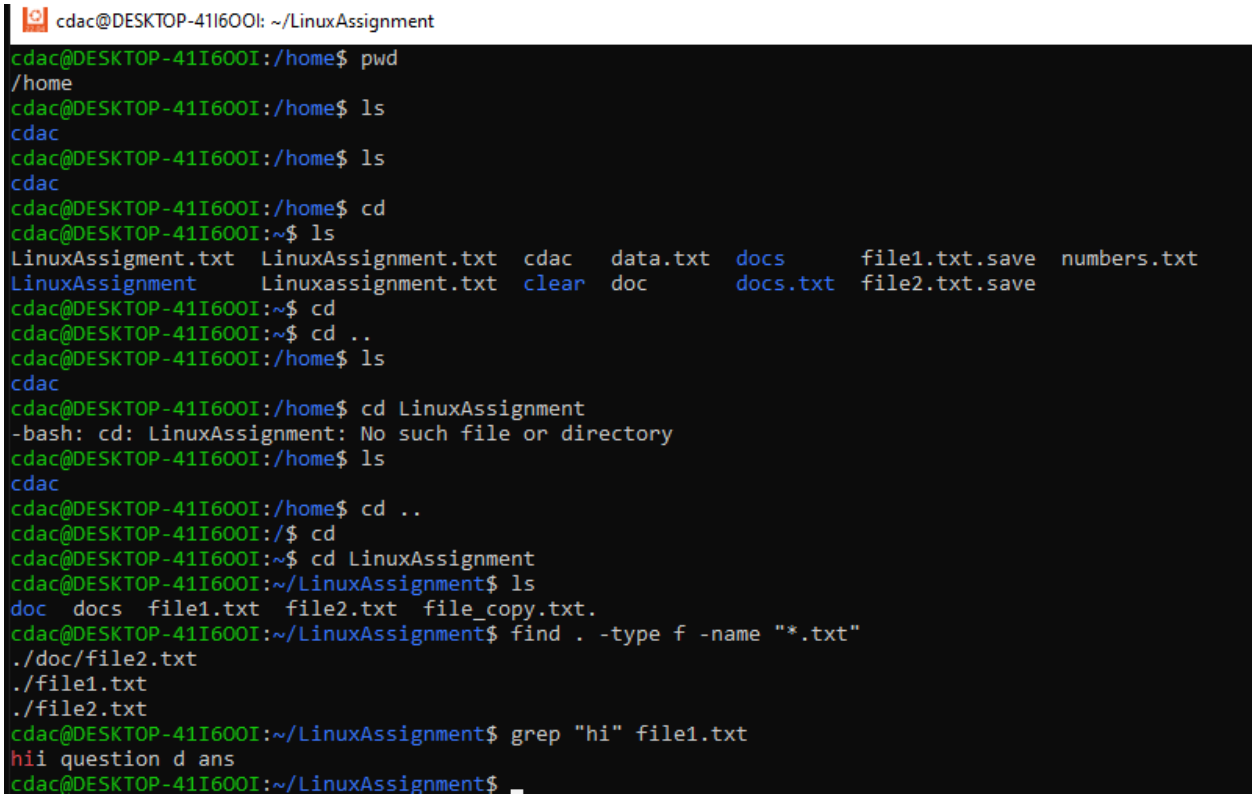


f) **Final Checklist: a. Finally, list the contents of the "LinuxAssignment" directory and the root directory to ensure that all operations were performed correctly.**

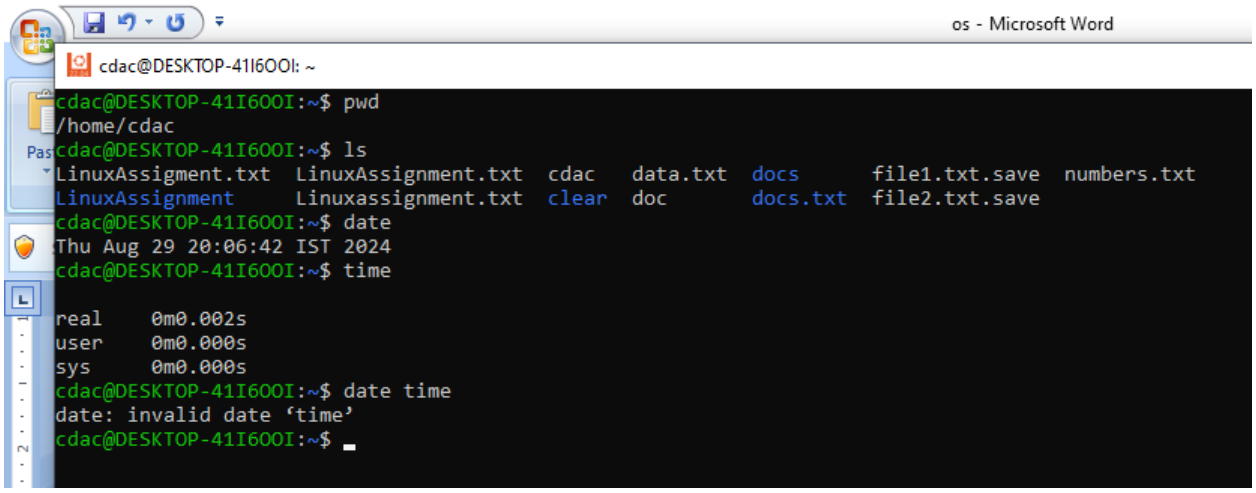
```
cdac@DESKTOP-41I6OOI:~/LinuxAssignment/doc$ cd
cdac@DESKTOP-41I6OOI:~$ cd ..
cdac@DESKTOP-41I6OOI:/home$ ls
cdac
cdac@DESKTOP-41I6OOI:/home$ ls -l
total 0
drwxr-x--- 1 cdac cdac 512 Aug 28 23:25 cdac
cdac@DESKTOP-41I6OOI:/home$ cd cdac
cdac@DESKTOP-41I6OOI:~$ ls
LinuxAssigment.txt  LinuxAssignment.txt  cdac   data.txt  docs      file1.txt.save  numbers.txt
LinuxAssignment     Linuxassignment.txt  clear  doc       docs.txt  file2.txt.save
cdac@DESKTOP-41I6OOI:~$ cd LinuxAssignment
cdac@DESKTOP-41I6OOI:~/LinuxAssignment$ ls
doc  docs  file1.txt  file2.txt  file_copy.txt.
cdac@DESKTOP-41I6OOI:~/LinuxAssignment$ ls -l
total 0
drwxr-xr-x 1 cdac cdac 512 Aug 29 12:30 doc
-rw-r--r-- 1 cdac cdac  20 Aug 29 12:23 docs
-rw-r--r-- 1 cdac cdac  20 Aug 29 12:03 file1.txt
-rw-r--r-- 1 cdac cdac  50 Aug 28 19:53 file2.txt
-rw-r--r-- 1 cdac cdac  50 Aug 29 10:54 file_copy.txt.
cdac@DESKTOP-41I6OOI:~/LinuxAssignment$ cd doc
cdac@DESKTOP-41I6OOI:~/LinuxAssignment/doc$ ls -l
total 0
-rwxr--r-- 1 cdac cdac 20 Aug 29 12:30 file2.txt
cdac@DESKTOP-41I6OOI:~/LinuxAssignment/doc$ ls
file2.txt
cdac@DESKTOP-41I6OOI:~/LinuxAssignment/doc$ ls
file2.txt
cdac@DESKTOP-41I6OOI:~/LinuxAssignment/doc$
```

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.**



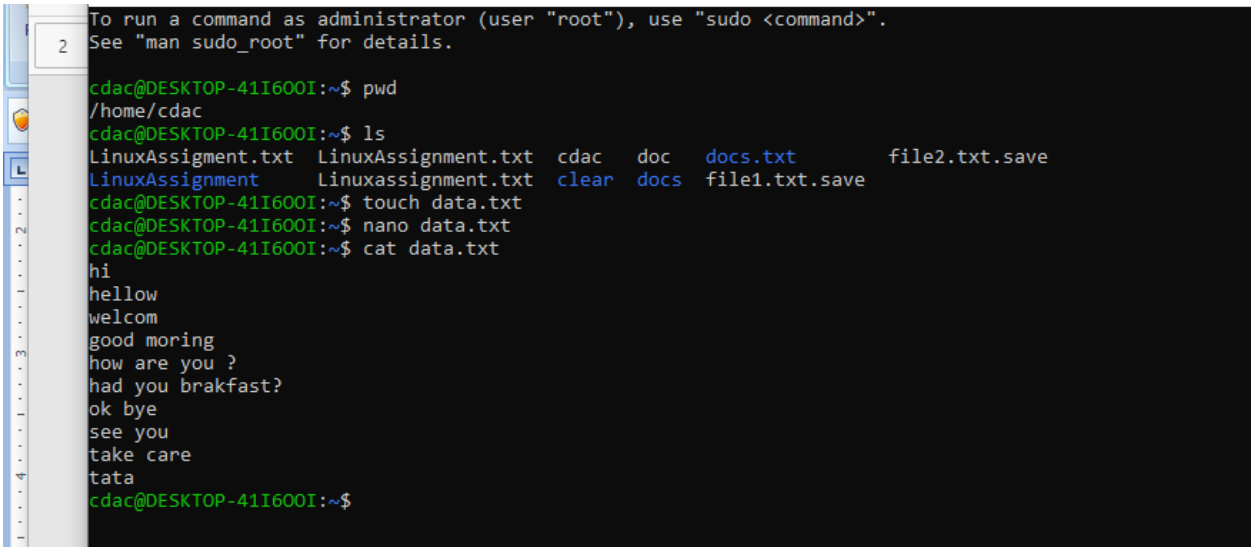

**i) Networking:**

**a. Display the IP address of the system.**

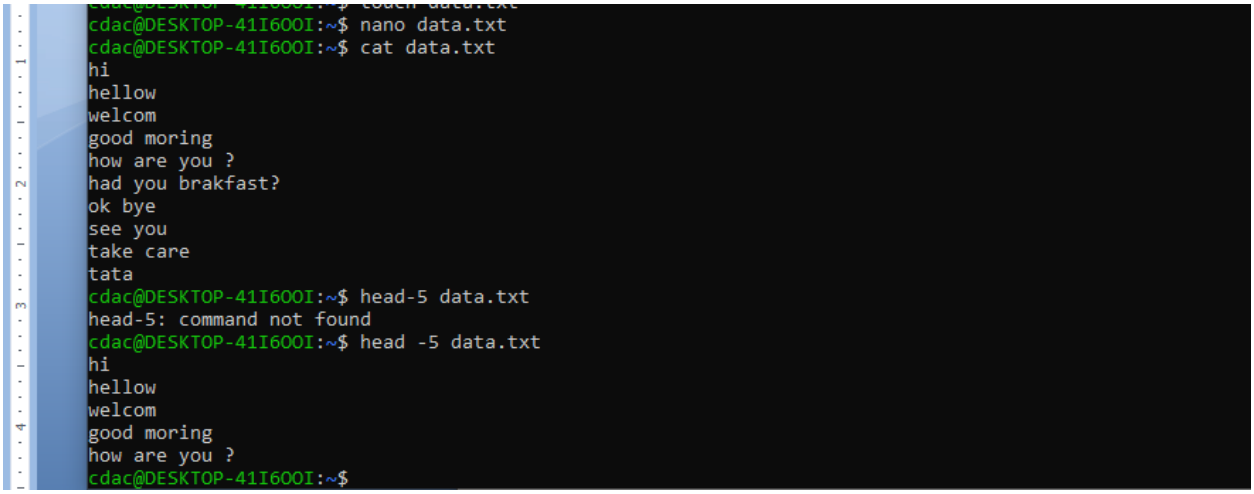
**b. Ping a remote server to check connectivity (provide a remote server address to ping).**

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

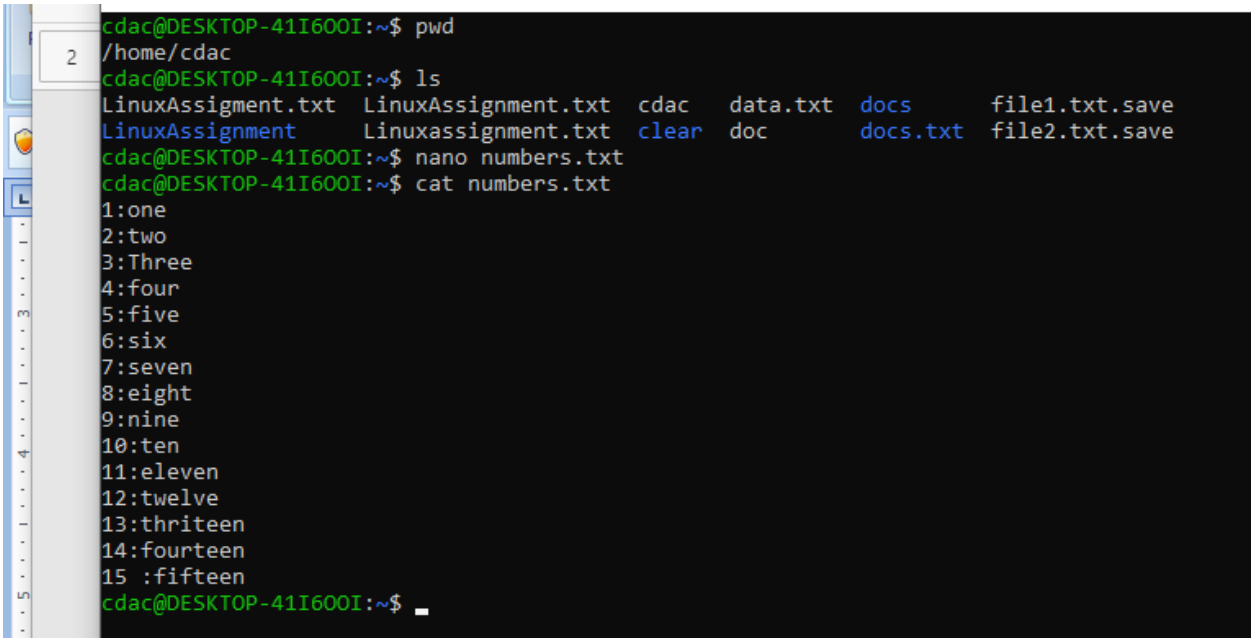
a. Suppose you have a file named "data.txt" containing important information. Display the first 10 lines of this file to quickly glance at its contents using a command.



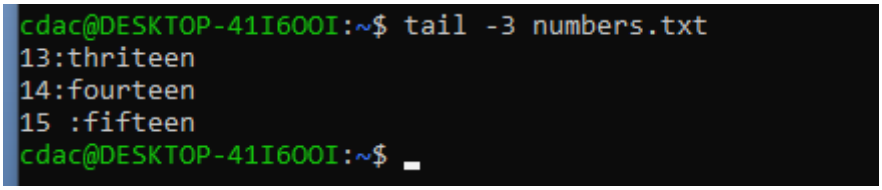

b. Now, to check the end of the file for any recent additions, display the last 5 lines of "data.txt" using another command.



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."**