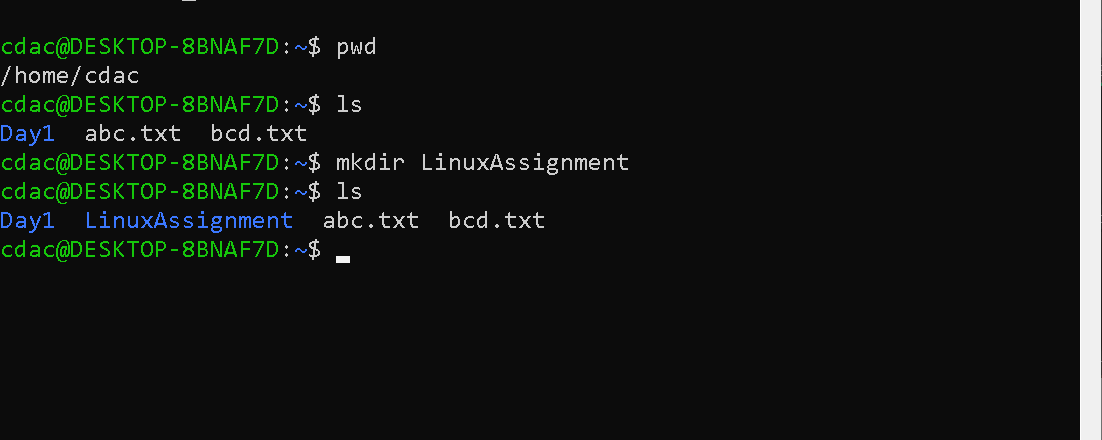
**Problem 1**

1. **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.



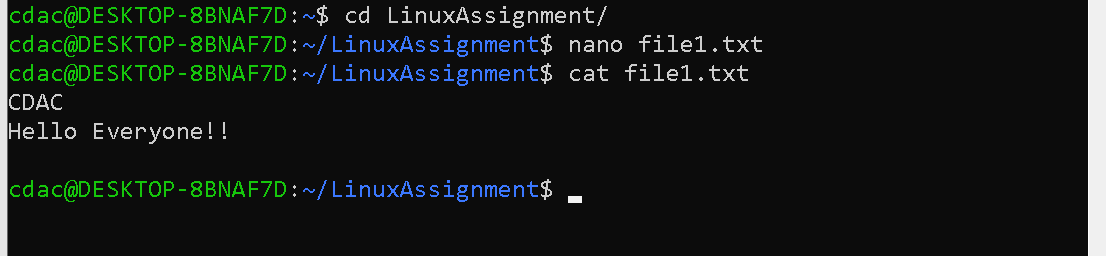
Command used:

pwd : show us where we currently.

ls : it list out all the files and directories.

mkdir : to make the new directory.

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



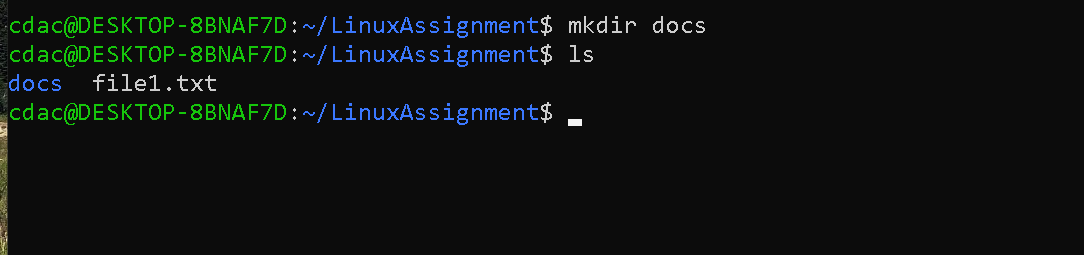
Command used:

cd : to change Directory.

nano : it work as editor and open that specified file.

cat : to show the content of file.

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

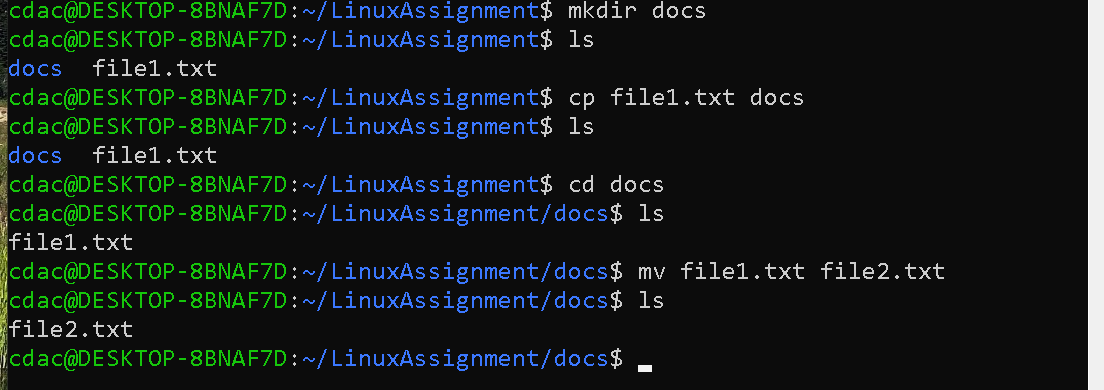


Command used:

mkdir : to make the new directory.

ls : it list out all the files and directories.

1. **Copy and Move Files:** a. Copy the "file1.txt" file into the "docs" directory and rename it to "file2.txt".



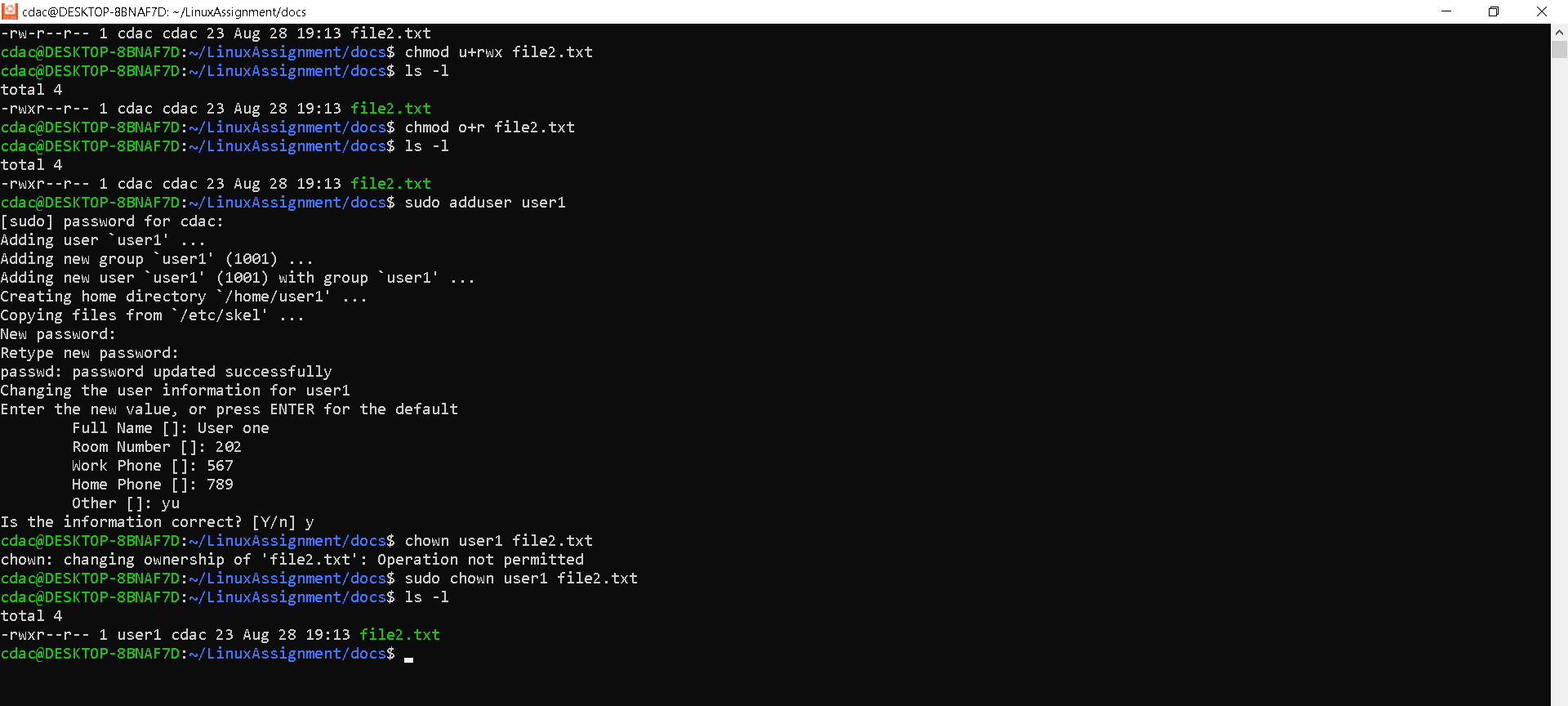
Command used:

cd : to change Directory.

cp : to copy the file in another one.

mv : to rename the file.

1. **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.



Command used:

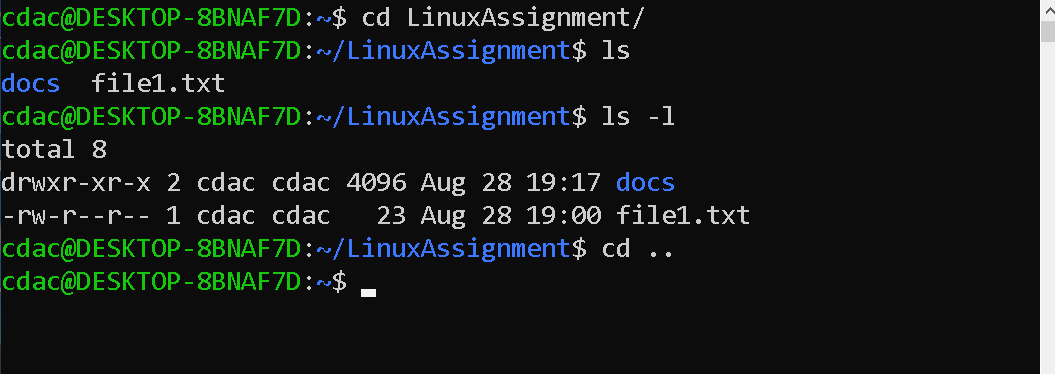
ls -l : it show content of the directory.

chmod : used to change the access permission.

sudo adduser : to add the user.

chown : to change the owner.

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

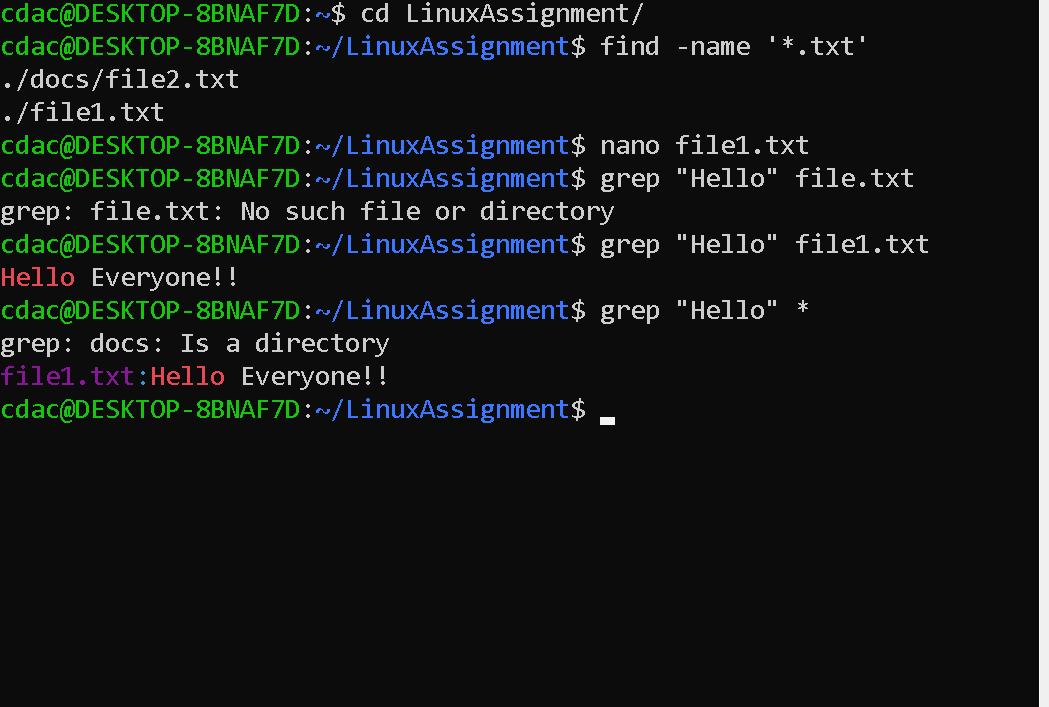


Command used:

ls -l : it show content of the directory.

1. **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).

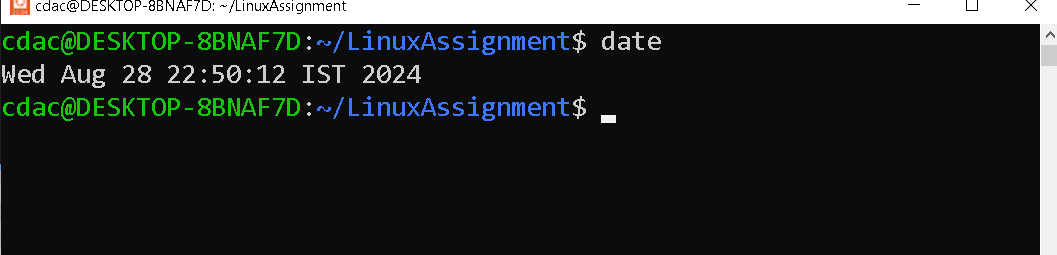


Command used:

find -name ‘\*.extension’ :used to find files or folders matching a particular search pattern.

grep “word to search” \* : to search in files.

1. **System Information:** a. Display the current system date and time.

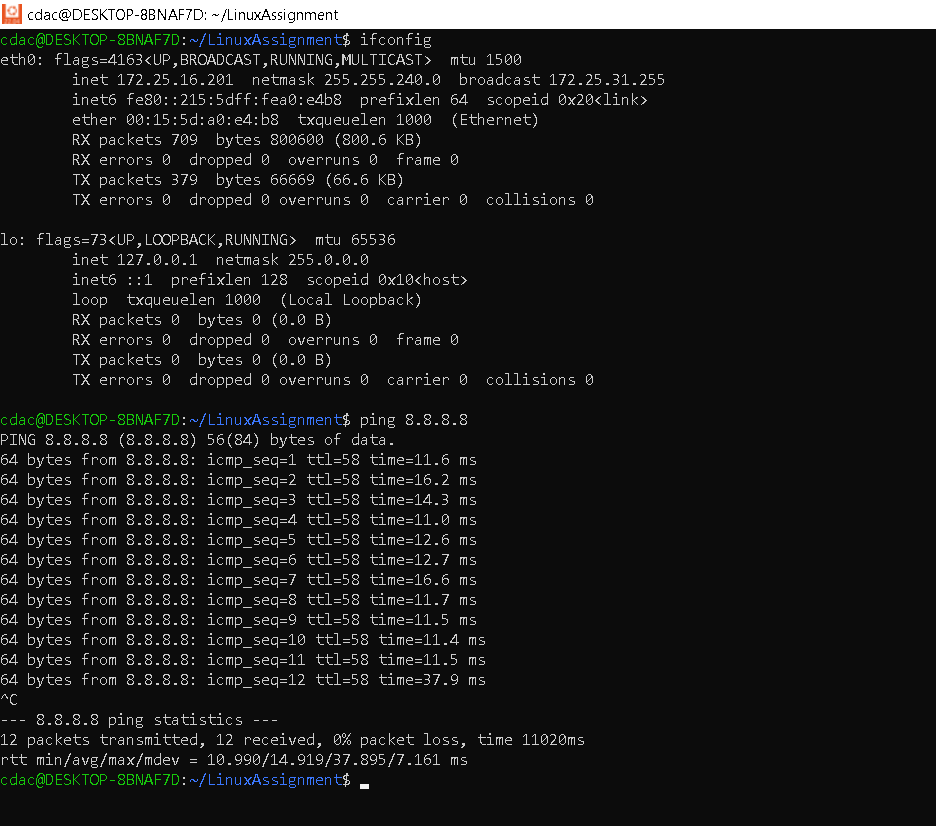


Command used:

date : to show current 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).



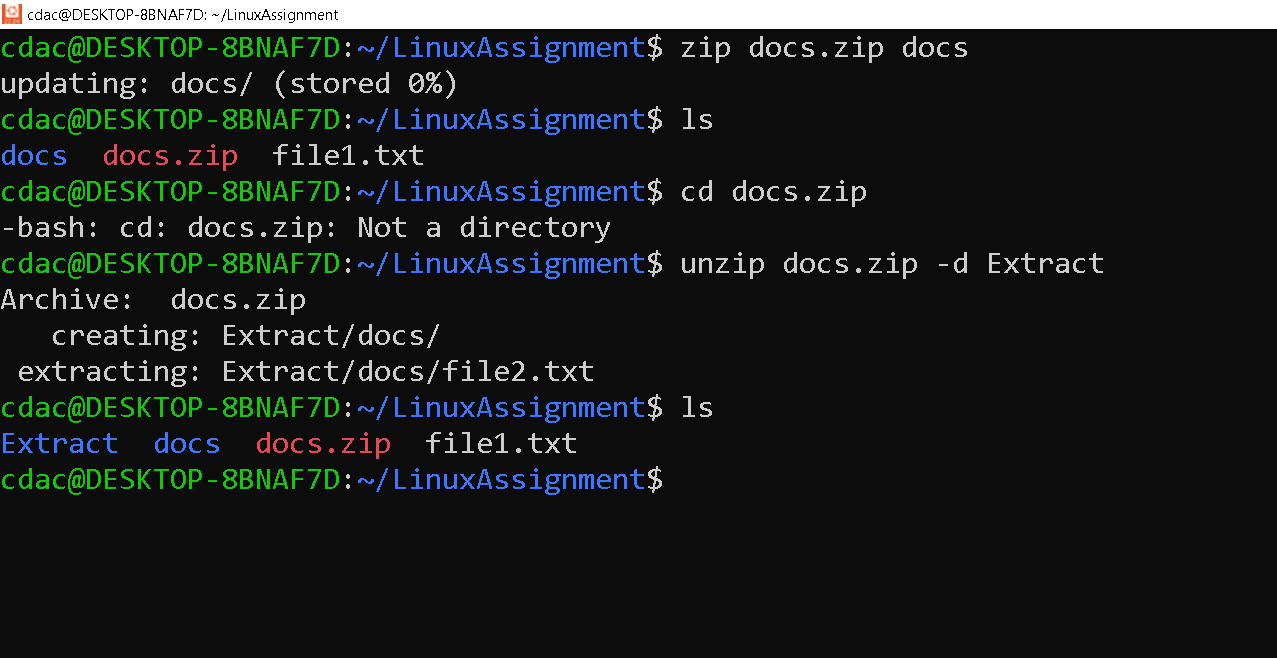
Command used:

ifconfig : shows the ip address.

ping : command pings a specific network host, on the local network or on the Internet.

**j) File Compression:** a. Compress the "docs" directory into a zip file.

b. Extract the contents of the zip file into a new directory.

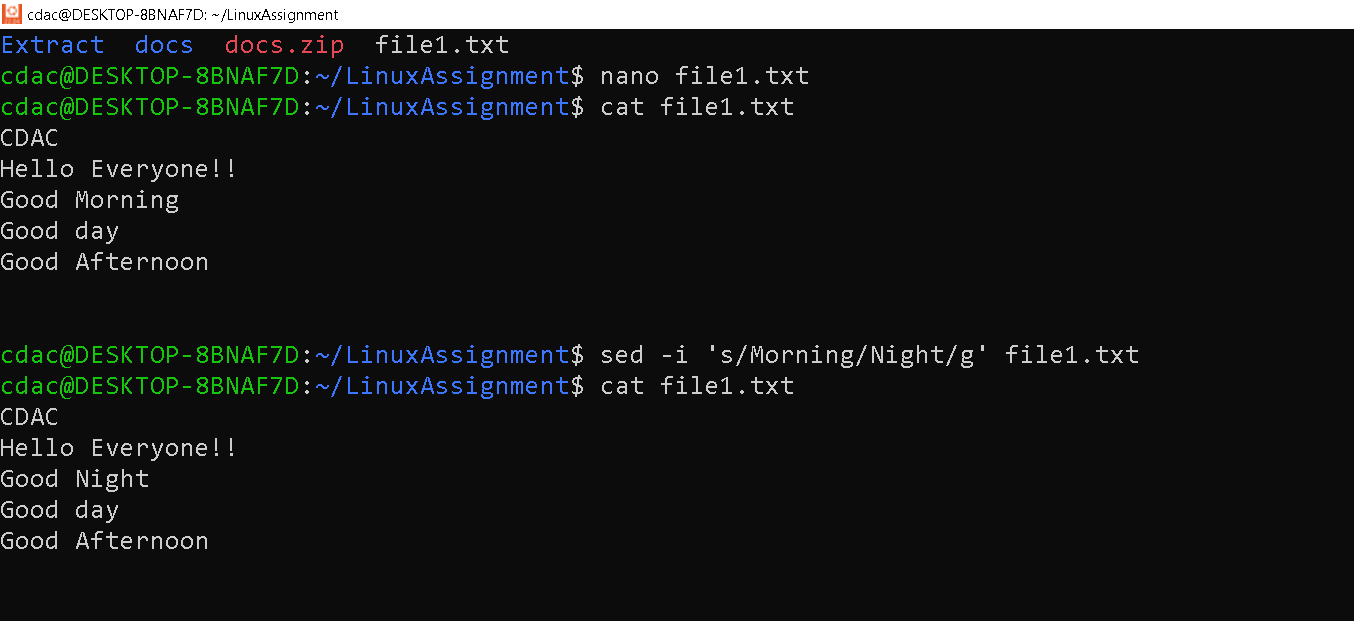


Command used:

zip : to make the zip file.

unzip : to unzip the file .

**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).

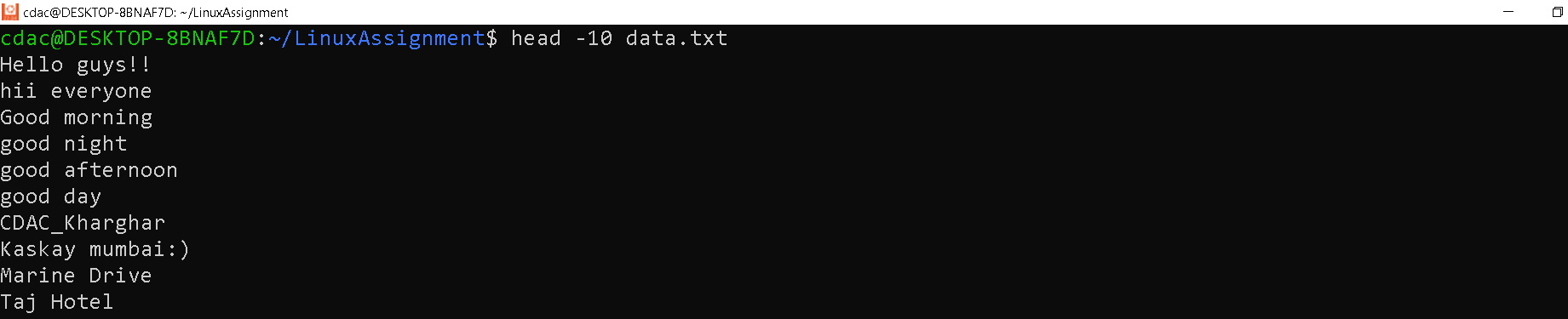


Command used:

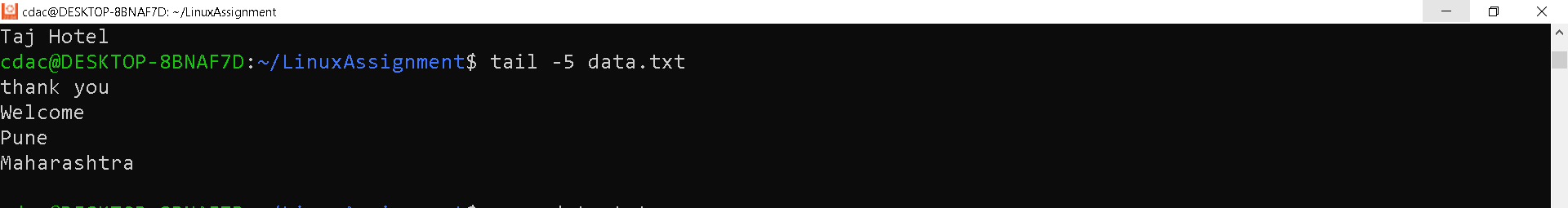
sed -i : to change specific word in file.

**Problem 2:**

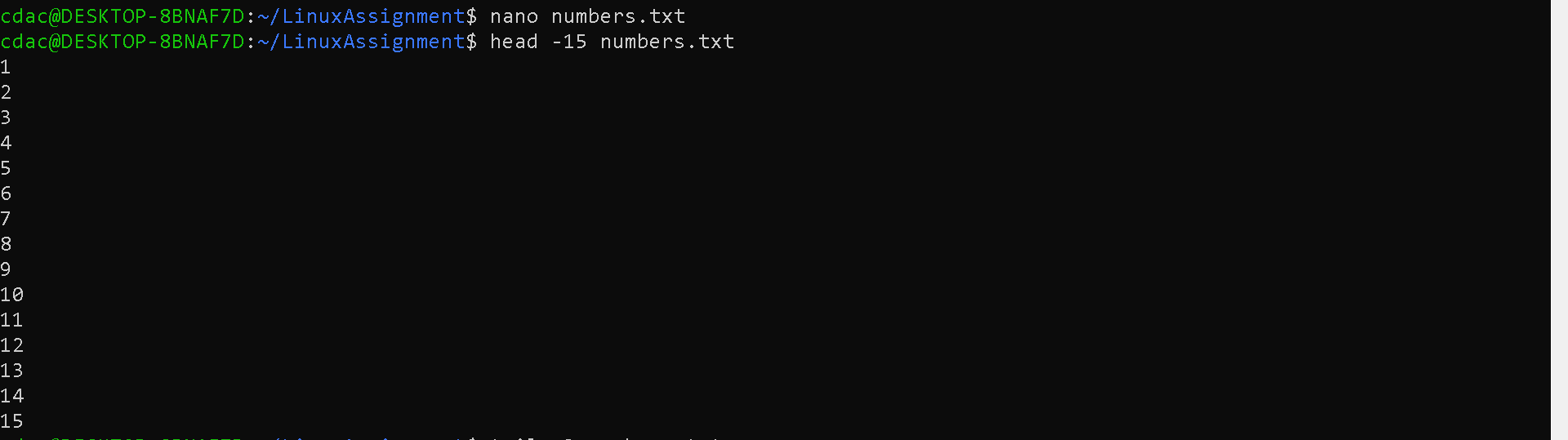
1. Suppose you have a file named "data.txt" containing important information. Display the first 10 lines of this file to quickly glance at its contents using a command.



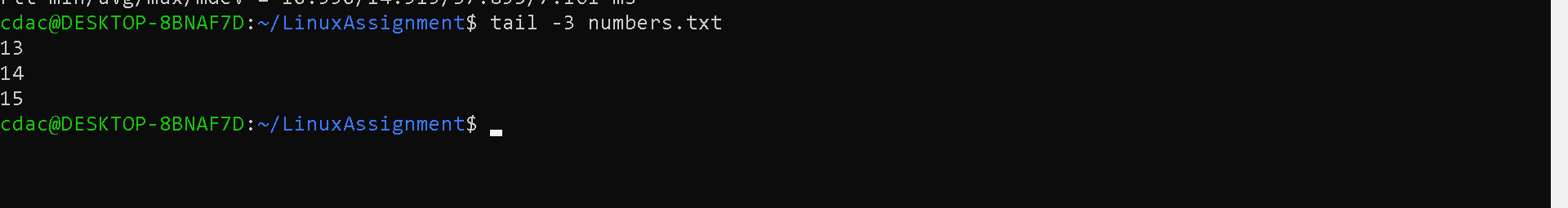
1. Now, to check the end of the file for any recent additions, display the last 5 lines of "data.txt" using another command.



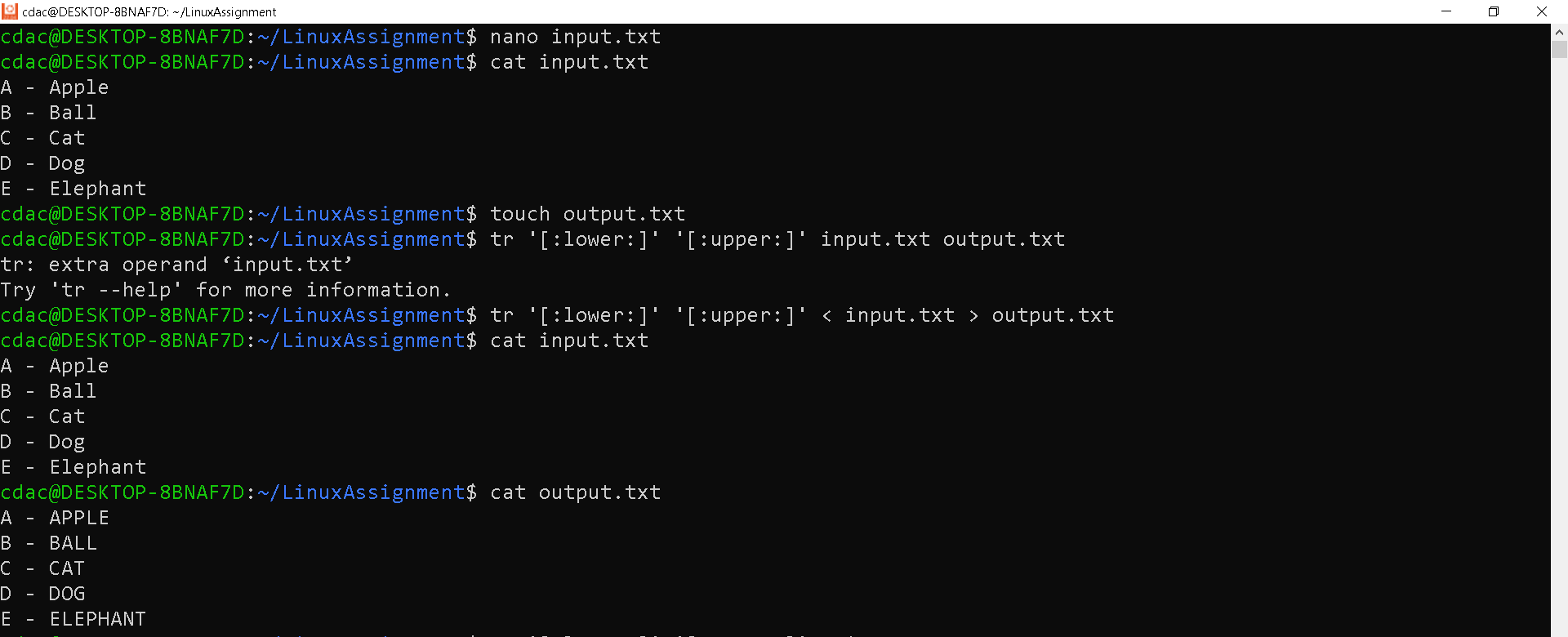
1. In a file named "numbers.txt," there are a series of numbers. Display the first 15 lines of this file to analyze the initial data set.



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



1. 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."



1. 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."



1. 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."

