ASSSIGNMENT - 1 SHREYASH AGHARKAR

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.

a) Navigate and List:

1. **Navigate to your home directory and list its contents**:

Bash

```
CD
LS
```

2. **Move into a directory named "LinuxAssignment" if it exists; otherwise, create it**:

bash

```
if [ -d "LinuxAssignment" ]; then
  cd LinuxAssignment
else
  mkdir LinuxAssignment
  cd LinuxAssignment
fi
```

---

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

b) File Management:

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

bash

```
touch file1.txt
cat file1.txt
```

---

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

c) Directory Management:

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

bash

mkdir docs

---

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

d) Copy and Move Files:

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

bash

cp file1.txt docs/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.

e) Permissions and Ownership:

1. **Change the permissions of "file2.txt" to allow read, write, and execute permissions for the owner and only read permissions for others**:

bash

chmod 744 docs/file2.txt

2. **Change the owner of "file2.txt" to the current user**:

bash

sudo chown $(whoami):$(whoami) docs/file2.txt

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

f) Final Checklist:

1. **List the contents of the "LinuxAssignment" directory**:

bash

ls -l

2. **List the contents of the root directory**:

bash

ls -l /

---

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).

g) File Searching:

1. **Search for all files with the extension ".txt" in the current directory and its subdirectories**:

bash

```
find . -type f -name "*.txt"
```

2. **Display lines containing a specific word in a file (provide a file name and the specific word to search)**:

bash

```
grep "specific_word" file1.txt
```

---

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

h) System Information:

1. **Display the current system date and time**:

bash

```
date
```

---

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).

i) Networking:

1. **Display the IP address of the system**:

bash

```
hostname -I
```

2. **Ping a remote server to check connectivity (replace "example.com" with a real server address)**:

bash

```
ping example.com
```

---

j) File Compression: a. Compress the "docs" directory into a zip file. b. Extract the contents of the zip file into a new directory.

j) File Compression:

1. **Compress the "docs" directory into a zip file**:

bash

zip -r docs.zip docs

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

bash

mkdir extracted_docs

unzip docs.zip -d extracted_docs

---

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)

k) File Editing:

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

bash

nano file1.txt

(add some text in the file, then press Ctrl+X, Y, Enter to save and exit)

2. **Replace a specific word in the "file1.txt" file with another word (provide the original word and the word to replace it with)**:

Bash

sed -i 's/old_word/new_word/g' file1.txt

Part 2 of Assignment

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.

Display the first 10 lines of "data.txt":

Use the head command:

bash

```
head -n 10 data.txt
```

---

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

Display the last 5 lines of "data.txt":

Use the tail command:

Bash

```
tail -n 5 data.txt
```

---

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.

Display the first 15 lines of "numbers.txt":

Use the head command:

Bash

```
head -n 15 numbers.txt
```

---

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

Display the last 3 lines of "numbers.txt":

Use the tail command:

bash

```
tail -n 3 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."

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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."

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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."