**1. Linux Basics Assignment**

**1. Creating and Renaming Files/Directories**

### **Commands:**

mkdir test\_dir # Create directory

cd test\_dir

touch example.txt # Create an empty file

mv example.txt renamed\_example.txt # Rename the file

### **Explanation:**

* mkdir test\_dir: Creates a new directory.
* touch example.txt: Creates an empty file.
* mv example.txt renamed\_example.txt: Renames the file.

## **2. Viewing File Contents**

### **Commands:**

cat /etc/passwd # View complete file

head -n 5 /etc/passwd # First 5 lines

tail -n 5 /etc/passwd # Last 5 lines

### **Explanation:**

* cat: Prints the entire contents of the file.
* head -n 5: Displays the first 5 lines.
* tail -n 5: Displays the last 5 lines.

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## **3. Searching for Patterns**

### **Command:**

grep "root" /etc/passwd

### **Explanation:**

* grep "root": Searches and highlights all lines containing "root".

## **4. Zipping and Unzipping**

### **Commands:**

cd ..

zip -r test\_dir.zip test\_dir # Compress directory

unzip test\_dir.zip -d unzipped\_dir # Unzip to new directory

### **Explanation:**

* zip -r: Recursively compresses the folder.
* unzip -d: Extracts into a specified directory.

## **5. Downloading Files**

### **Command:**

wget https://example.com/sample.txt

### **Explanation:**

* wget: Downloads files from the web.

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## **6. Changing Permissions**

### **Command:**

touch secure.txt

chmod 444 secure.txt

### **Explanation:**

* chmod 444: Read-only for all users (owner, group, others).

## **7. Working with Environment Variables**

### **Command:**

export MY\_VAR="Hello, Linux!"

echo $MY\_VAR

### **Explanation:**

* export: Sets an environment variable.
* echo $MY\_VAR: Displays the value to confirm it's set.