

linux experiments

Experiment – 1

Aim:

Getting familiar with UNIX/Linux by using at least 10 basic commands.

Commands with Description

- 1) `pwd` – Prints the current working directory.

Example:

```
pwd
```

- 2) `ls` – Lists files and folders in a directory.

Example:

```
ls -la
```

- 3) `cd` – Changes the current directory.

Example:

```
cd Documents
```

- 4) `mkdir` – Creates a new directory.

Example:

```
mkdir test-folder
```

- 5) `rmdir` – Removes an empty directory.

Example:

```
rmdir test-folder
```

- 6) `touch` – Creates an empty file.

Example:

```
touch sample.txt
```

- 7) `cat` – Displays the content of a file.

Example:

```
cat sample.txt
```

8) **cp** – Copies a file.

Example:

```
cp Sample.txt copy-sample.txt
```

9) **mv** – Moves or renames a file.

Example:

```
mv copy-sample.txt Documents/
```

10) **rm** – Removes a file.

Example:

```
rm sample.txt
```

Output

```
ubuntu@ubuntu:~$ whoami  
ubuntu
```

```
ubuntu@ubuntu:~$ pwd  
/home/ubuntu
```

```
ubuntu@ubuntu:~$ ls  
Desktop  Documents  Downloads  Music  Pictures  
Public    Templates   Videos      snap
```

```
ubuntu@ubuntu:~$ cd Documents
```

```
ubuntu@ubuntu:~/Documents$ pwd  
/home/ubuntu/Documents
```

```
ubuntu@ubuntu:~/Documents$ cd ..
```

```
ubuntu@ubuntu:~$ mkdir test-folder
```

```
ubuntu@ubuntu:~$ touch Sample
```

```
ubuntu@ubuntu:~$ cat Sample  
hello
```

2. experiment 2 : Write a shell script to generate a multiplication table

Ans:

i) **#!/bin/bash** : Specifies bash shell to execute the script.

Example:

```
#!/bin/bash
```

ii) **echo** : Prints text or messages on the terminal.

Example:

```
echo "Enter a number"
```

iii) **read** : Takes input from the user.

Example:

```
read num
```

iv) **for** : Starts a loop to repeat commands.

Example:

```
for i in {1..10}
```

v) **do** : Begins the loop statements.

Example:

```
do
```

vi) **\$()** : Performs arithmetic calculation.

Example:

```
$(((num * i)))
```

vii) **done** : Ends the loop.

Example:

```
done
```

viii) **nano** : Opens file in nano editor.

Example:

```
nano table.sh
```

ix) **chmod** : Gives permission to execute file.

Example:

```
chmod +x table.sh
```

x) **./** : Runs the shell script.

Example:

```
./table.sh
```

Program:

```
#!/bin/bash
echo "Enter a number:"
read num

for i in {1..10}
do
  echo "$num x $i = $((num * i))"
done
```

Output:

```
ubuntu@ubuntu:~$ nano table.sh
ubuntu@ubuntu:~$ chmod +x table.sh
ubuntu@ubuntu:~$ ./table.sh
Enter a number:
5
5 x 1 = 5
5 x 2 = 10
5 x 3 = 15
5 x 4 = 20
5 x 5 = 25
5 x 6 = 30
5 x 7 = 35
5 x 8 = 40
5 x 9 = 45
5 x 10 = 50
```