CDAC MUMBAI

Concepts of Operating System

Assignment 2

Part – A

What will the following commands do?

- echo "Hello, World!"

Ans:- It is used to print output on the screen.

```
cdac@LAPTOP-6237ABAK:~$ echo "Hello, World!"
Hello, World!
cdac@LAPTOP-6237ABAK:~$
```

- name="Productive"

Ans:- Name is variable that stores the string Productive.

```
  GNU nano 7.2                                    file2.sh
#!/bin/bash

name="Productive"
echo $name
```

```
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment$ nano file2.sh
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment$ bash file2.sh
Productive
```

- touch file.txt

Ans:- This command is used to create files.

```
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment$ touch file.txt
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment$ ls
ans.tar  docs  e1.txt  e2.txt  ext  file.txt  file1.txt  file2.sh
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment$ nano file.txt
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment$ cat file.txt
Hello this is file.txt
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment$
```

- ls -a

Ans:- Using ls -a command we can view hidden files. Hidden files are manily are system files.

```
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment$ ls -a
.  ..  ans.tar  docs  e1.txt  e2.txt  ext  file.txt  file1.txt  file2.sh
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment$
```

- rm file3.txt

Ans:- It is used to delete the file i.e file3.txt

```
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment$ touch file3.txt
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment$ ls
ans.tar  docs  e1.txt  e2.txt  ext  file.txt  file1.txt  file2.sh  file3.txt
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment$ rm file3.txt
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment$ ls
ans.tar  docs  e1.txt  e2.txt  ext  file.txt  file1.txt  file2.sh
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment$
```

- cp file1.txt file2.txt

Ans:- It is used to copy file1.txt content to file2.txt.

```
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment$ cat file1.txt
Hello My Name Is Honey
This Is File1.txt content...
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment$ cp file1.txt file2.txt
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment$ ls
ans.tar  docs  e1.txt  e2.txt  ext  file.txt  file1.txt  file2.sh  file2.txt
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment$ cat file2.txt
Hello My Name Is Honey
This Is File1.txt content...
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment$
```

- mv file.txt /path/to/directory/

Ans:- This command is used to mv file into another directory.

```
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment$ ls
ans.tar  docs  e1.txt  e2.txt  ext  file.txt  file1.txt  file2.sh  file2.txt
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment$ mv file2.txt docs/
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment$ ls
ans.tar  docs  e1.txt  e2.txt  ext  file.txt  file1.txt  file2.sh
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment$ cd docs/
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs$ ls
data.txt  duplicate.txt  file2.txt  input.txt  numbers.txt  output.txt
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs$ cat file2.txt
Hello My Name Is Honey
This Is File1.txt content...
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs$
```

- chmod 755 script.sh

Ans:- It is used to give read, write, execute permission to owner and give read, execute permissions to group and other.

```
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs$ nano script.sh
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs$ chmod 755 script.sh
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs$ ls
data.txt  duplicate.txt  file2.txt  input.txt  numbers.txt  output.txt  script.sh
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs$ ls -l
total 28
-rw-rw-r-- 1 cdac cdac 99 Feb 27 18:07 data.txt
-rw-rw-r-- 1 cdac cdac 70 Feb 27 18:34 duplicate.txt
-rw-rw-r-- 1 cdac cdac 52 Mar  1 16:48 file2.txt
-rw-rw-r-- 1 cdac cdac 32 Feb 27 18:21 input.txt
-rw-rw-r-- 1 cdac cdac 66 Feb 27 18:10 numbers.txt
-rw-rw-r-- 1 cdac cdac 32 Feb 27 18:24 output.txt
-rwxr-xr-x 1 cdac cdac 23 Mar  1 17:02 script.sh
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs$
```

- grep "pattern" file.txt

Ans:- It is used to search string specific string in file.txt.

```
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs$ nano file.txt
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs$ grep "pattern" file.txt
there are many pattern in linux commands.
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs$
```

- kill PID
- mkdir mydir && cd mydir && touch file1.txt && echo "Hello, World!" > file1.txt && cat file1.tx

Ans:- here first we create a directory named mydir and then we change directory to mydir and then Create a file named file1.txt and then we print Hello, World then we give this output as input to file1.txt And then output the file1.txt.

```
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs$ mkdir mydir && cd mydir && touch f
ile1.txt && echo "Hello, World!">file1.txt && cat file1.txt
Hello, World!
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs/mydir$ ls
file1.txt
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs/mydir$ cat file.txt
cat: file.txt: No such file or directory
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs/mydir$ cat file1.txt
Hello, World!
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs/mydir$
```

- ls -l | grep ".txt"

Ans:- It is used to output the file information that has .text in file name.
the -l flag can list the permissions of the files and directories as well as other attributes such as folder names, file and directory sizes, and modified date and time. And | pipe command is used to pipe with grep command.

```
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs$ ls
data.txt       file.txt   input.txt  numbers.txt  script.sh
duplicate.txt  file2.txt  mydir      output.txt
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs$ ls -l | grep ".txt"
-rw-rw-r-- 1 cdac cdac   99 Feb 27 18:07 data.txt
-rw-rw-r-- 1 cdac cdac   70 Feb 27 18:34 duplicate.txt
-rw-rw-r-- 1 cdac cdac   82 Mar  1 17:10 file.txt
-rw-rw-r-- 1 cdac cdac   52 Mar  1 16:48 file2.txt
-rw-rw-r-- 1 cdac cdac   32 Feb 27 18:21 input.txt
-rw-rw-r-- 1 cdac cdac   66 Feb 27 18:10 numbers.txt
-rw-rw-r-- 1 cdac cdac   32 Feb 27 18:24 output.txt
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs$
```

- cat file1.txt file2.txt | sort | uniq

Ans:- This command is used to give output of two files . with sorted order and with unique line only.

```
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs$ cat file1.txt file2.txt
Welcome to file1.txt
Hello My Name Is Honey
This Is File1.txt content...
Welcome to file2.txt
Hello My Name Is Honey
This Is File2.txt content...
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs$ cat file1.txt file2.txt|sort|uniq
Hello My Name Is Honey
This Is File1.txt content...
This Is File2.txt content...
Welcome to file1.txt
Welcome to file2.txt
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs$
```

- ls -l | grep "^d"

Ans:- This command will give the output as information of all the directories present in current directory.

```
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment$ ls
ans.tar  docs  e1.txt  e2.txt  ext  file.txt  file1.txt  file2.sh
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment$ ls -l |grep "^d"
drwxrwxr-x 3 cdac cdac  4096 Mar  1 17:32 docs
drwxrwxr-x 2 cdac cdac  4096 Feb 28 17:58 ext
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment$
```

- grep -r "pattern" /path/to/directory/
- cat file1.txt file2.txt | sort | uniq –d

Ans:- this command will give the line of a file which are duplicate in both the files.

```
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs$ cat file1.txt file2.txt
Welcome to file1.txt
Hello My Name Is Honey
This Is File1.txt content...
Welcome to file2.txt
Hello My Name Is Honey
This Is File2.txt content...
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs$ cat file1.txt file2.txt |sort|uniq
 -d
Hello My Name Is Honey
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs$
```

- chmod 644 file.txt

Ans:- this command will change the permission of user to read and write only and for group and other to read only.

```
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs$ ls -l
total 40
-rw-rw-r-- 1 cdac cdac   99 Feb 27 18:07 data.txt
-rw-rw-r-- 1 cdac cdac   70 Feb 27 18:34 duplicate.txt
-rw-rw-r-- 1 cdac cdac   82 Mar  1 17:10 file.txt
-rw-rw-r-- 1 cdac cdac   73 Mar  1 17:30 file1.txt
-rw-rw-r-- 1 cdac cdac   73 Mar  1 17:32 file2.txt
-rw-rw-r-- 1 cdac cdac   32 Feb 27 18:21 input.txt
drwxrwxr-x 2 cdac cdac 4096 Mar  1 17:15 mydir
-rw-rw-r-- 1 cdac cdac   66 Feb 27 18:10 numbers.txt
-rw-rw-r-- 1 cdac cdac   32 Feb 27 18:24 output.txt
-rwxr-xr-x 1 cdac cdac   23 Mar  1 17:02 script.sh
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs$ chmod 644 file.txt
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs$ ls -l
total 40
-rw-rw-r-- 1 cdac cdac   99 Feb 27 18:07 data.txt
-rw-rw-r-- 1 cdac cdac   70 Feb 27 18:34 duplicate.txt
-rw-r--r-- 1 cdac cdac   82 Mar  1 17:10 file.txt
-rw-rw-r-- 1 cdac cdac   73 Mar  1 17:30 file1.txt
-rw-rw-r-- 1 cdac cdac   73 Mar  1 17:32 file2.txt
-rw-rw-r-- 1 cdac cdac   32 Feb 27 18:21 input.txt
drwxrwxr-x 2 cdac cdac 4096 Mar  1 17:15 mydir
-rw-rw-r-- 1 cdac cdac   66 Feb 27 18:10 numbers.txt
-rw-rw-r-- 1 cdac cdac   32 Feb 27 18:24 output.txt
-rwxr-xr-x 1 cdac cdac   23 Mar  1 17:02 script.sh
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs$
```

- cp -r source_directory destination_directory

```
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment$ ls
ans.tar  docs  e1.txt  e2.txt  ext  file.txt  file1.txt  file2.sh
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment$ nano file3.txt
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment$ cat file1.txt
Hello My Name Is Honey
This Is File1.txt content...
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment$ cat file3.txt
Hello this is file3.txt
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment$ cp -r file1.txt file3.txt
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment$ cat file1.txt
Hello My Name Is Honey
This Is File1.txt content...
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment$ cat file3.txt
Hello My Name Is Honey
This Is File1.txt content...
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment$
```

- find /path/to/search -name "*.txt"

Ans:- It is used to find the file in the given address with specific type.

```
cdac@LAPTOP-6237ABAK:~/feb25$ find LinuxAssignment/ -name "*.txt"
LinuxAssignment/e1.txt
LinuxAssignment/file.txt
LinuxAssignment/ext/e1.txt
LinuxAssignment/ext/e2.txt
LinuxAssignment/e2.txt
LinuxAssignment/file3.txt
LinuxAssignment/docs/output.txt
LinuxAssignment/docs/input.txt
LinuxAssignment/docs/file.txt
LinuxAssignment/docs/duplicate.txt
LinuxAssignment/docs/data.txt
LinuxAssignment/docs/file2.txt
LinuxAssignment/docs/file1.txt
LinuxAssignment/docs/mydir/file1.txt
LinuxAssignment/docs/numbers.txt
LinuxAssignment/file1.txt
```

- chmod u+x file.txt

Ans:- here the chmod is used to change the permission of user for execution .

```
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs$ ls -l
total 40
-rw-rw-r-- 1 cdac cdac   99 Feb 27 18:07 data.txt
-rw-rw-r-- 1 cdac cdac   70 Feb 27 18:34 duplicate.txt
-rw-r--r-- 1 cdac cdac   82 Mar  1 17:10 file.txt
-rw-rw-r-- 1 cdac cdac   73 Mar  1 17:30 file1.txt
-rw-rw-r-- 1 cdac cdac   73 Mar  1 17:32 file2.txt
-rw-rw-r-- 1 cdac cdac   32 Feb 27 18:21 input.txt
drwxrwxr-x 2 cdac cdac 4096 Mar  1 17:15 mydir
-rw-rw-r-- 1 cdac cdac   66 Feb 27 18:10 numbers.txt
-rw-rw-r-- 1 cdac cdac   32 Feb 27 18:24 output.txt
-rwxr-xr-x 1 cdac cdac   23 Mar  1 17:02 script.sh
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs$ chmod u+x file.txt
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs$ ls -l
total 40
-rw-rw-r-- 1 cdac cdac   99 Feb 27 18:07 data.txt
-rw-rw-r-- 1 cdac cdac   70 Feb 27 18:34 duplicate.txt
-rwxr--r-- 1 cdac cdac   82 Mar  1 17:10 file.txt
-rw-rw-r-- 1 cdac cdac   73 Mar  1 17:30 file1.txt
-rw-rw-r-- 1 cdac cdac   73 Mar  1 17:32 file2.txt
-rw-rw-r-- 1 cdac cdac   32 Feb 27 18:21 input.txt
drwxrwxr-x 2 cdac cdac 4096 Mar  1 17:15 mydir
-rw-rw-r-- 1 cdac cdac   66 Feb 27 18:10 numbers.txt
-rw-rw-r-- 1 cdac cdac   32 Feb 27 18:24 output.txt
-rwxr-xr-x 1 cdac cdac   23 Mar  1 17:02 script.sh
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs$
```

- echo $PATH

Ans:- To see the contents of the PATH environment variable we use echo $PATH.

```
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs$ echo $PATH
/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin:/usr/games:/usr/local/ga
mes:/snap/bin
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs$
```

Part -2

Identify True or False:

1. **ls** is used to list files and directories in a directory.

Ans:- True.

```
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs$ ls
data.txt       file.txt   file2.txt  mydir        output.txt
duplicate.txt  file1.txt  input.txt  numbers.txt  script.sh
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs$
```

2. **mv** is used to move files and directories.

Ans:-True

```
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs$ ls
data.txt       file.txt   file2.txt  mydir        output.txt
duplicate.txt  file1.txt  input.txt  numbers.txt  script.sh
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs$ mv script.sh  mydir
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs$ ls
data.txt       file.txt   file2.txt  mydir        output.txt
duplicate.txt  file1.txt  input.txt  numbers.txt
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs$ cd mydir
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs/mydir$ ls
file1.txt  script.sh
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs/mydir$
```

3. **cd** is used to copy files and directories.

Ans:- True.

```
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs/mydir$ cat file1.txt
Hello, World!
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs/mydir$ cp file1.txt file5.txt
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs/mydir$ ls
file1.txt  file5.txt  script.sh
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs/mydir$ cat file5.txt
Hello, World!
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs/mydir$
```

4. **pwd** stands for "print working directory" and displays the current directory.

Ans:-True.

```
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs/mydir$ pwd
/home/cdac/feb25/LinuxAssignment/docs/mydir
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs/mydir$
```

5. **grep** is used to search for patterns in files.

Ans:- True.

```
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs/mydir$ cat file5.txt
Hello, World!
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs/mydir$ cat file5.txt |grep "Hello"
Hello, World!
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs/mydir$
```

6. **chmod 755 file.txt** gives read, write, and execute permissions to the owner, and read and execute permissions to group and others.

Ans :-True.

```
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs/mydir$ ls -l
total 12
-rw-rw-r-- 1 cdac cdac 14 Mar  1 17:15 file1.txt
-rw-rw-r-- 1 cdac cdac 14 Mar  2 16:49 file5.txt
-rwxr-xr-x 1 cdac cdac 23 Mar  1 17:02 script.sh
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs/mydir$ chmod 755 file1.txt
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs/mydir$ ls -l
total 12
-rwxr-xr-x 1 cdac cdac 14 Mar  1 17:15 file1.txt
-rw-rw-r-- 1 cdac cdac 14 Mar  2 16:49 file5.txt
-rwxr-xr-x 1 cdac cdac 23 Mar  1 17:02 script.sh
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs/mydir$
```

7. **mkdir -p directory1/directory2** creates nested directories, creating directory2 inside directory1 if directory1 does not exist.

Ans:- True.

```
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs/mydir$ mkdir -p directory1/director
y2
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs/mydir$ ls
directory1  file1.txt  file5.txt  script.sh
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs/mydir$ cd directory1
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs/mydir/directory1$ ls
directory2
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs/mydir/directory1$ pwd
/home/cdac/feb25/LinuxAssignment/docs/mydir/directory1
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs/mydir/directory1$ cd directory2
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs/mydir/directory1/directory2$ pwd
/home/cdac/feb25/LinuxAssignment/docs/mydir/directory1/directory2
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs/mydir/directory1/directory2$
```

8. **rm -rf file.txt** deletes a file forcefully without confirmation.

Ans:- True.

```
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs/mydir$ ls
directory1  file1.txt  file5.txt  script.sh
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs/mydir$ rm -rf file5.txt
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs/mydir$ ls
directory1  file1.txt  script.sh
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs/mydir$
```

Identify the Incorrect Commands:

1. **chmodx** is used to change file permissions.

Ans:- False.

```
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs/mydir$ ls -l
total 12
drwxrwxr-x 3 cdac cdac 4096 Mar  2 16:58 directory1
-rwxr-xr-x 1 cdac cdac   14 Mar  1 17:15 file1.txt
-rwxr-xr-x 1 cdac cdac   23 Mar  1 17:02 script.sh
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs/mydir$ chmodx file1.txt
Command 'chmodx' not found, did you mean:
  command 'chmod' from deb coreutils (9.4-2ubuntu2)
Try: apt install <deb name>
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs/mydir$
```

2. **cpy** is used to copy files and directories.

Ans:-False.

```
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs/mydir$ cpy file1.txt file2.txt
Command 'cpy' not found, did you mean:
```

3. **mkfile** is used to create a new file.
Ans:- False.

```
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/docs/mydir$ mkfile file5.txt
mkfile: command not found
```

4. **catx** is used to concatenate files
Ans:- False. It concatination items with a delimiter between each value

.

5. **rn** is used to rename files.
Ans:- False .Used Rename files in archives

Part C

Question 1: Write a shell script that prints "Hello, World!" to the terminal.

```
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/ShellPrograms$ nano hello.sh
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/ShellPrograms$ cat hello.sh
#!/bin/bash
echo "Hello, World!"
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/ShellPrograms$ bash hello.sh
Hello, World!
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/ShellPrograms$
```

Question 2: Declare a variable named "name" and assign the value "CDAC Mumbai" to it. Print the value of the variable.

```
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/ShellPrograms$ cat name.sh
#!/bin/bash
x="CDAC Mumbai"
echo $x
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/ShellPrograms$ bash name.sh
CDAC Mumbai
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/ShellPrograms$
```

Question 3: Write a shell script that takes a number as input from the user and prints it.

```
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/ShellPrograms$ nano read.sh
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/ShellPrograms$ cat read.sh
#!/bin/bash
echo "Enter a Number "
read num
echo "The Number is : $num"
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/ShellPrograms$ bash read.sh
Enter a Number
117
The Number is : 117
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/ShellPrograms$
```

Question 4: Write a shell script that performs addition of two numbers (e.g., 5 and 3) and prints the result.

```
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/ShellPrograms$ nano add.sh
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/ShellPrograms$ cat add.sh
#!/bin/bash
echo "Enter First Number "
read num1
echo "Enter Second Number"
read num2
sum=$(($num1+$num2))
echo "The Sum Of Number Is :$sum"
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/ShellPrograms$ bash add.sh
Enter First Number
10
Enter Second Number
12
The Sum Of Number Is :22
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/ShellPrograms$
```

Question 5: Write a shell script that takes a number as input and prints "Even" if it is even, otherwise prints "Odd".

```
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/ShellPrograms$ nano oddeven.sh
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/ShellPrograms$ cat oddeven.sh
#!/bin/bash
echo "Enter a number"
read n
if [ `expr $n % 2` == 0 ]
then
        echo "$n is Even"
else
        echo "$n is Odd"
fi
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/ShellPrograms$ bash oddeven.sh
Enter a number
10
10 is Even
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/ShellPrograms$ bash oddeven.sh
Enter a number
5
5 is Odd
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/ShellPrograms$
```

Question 6: Write a shell script that uses a for loop to print numbers from 1 to 5.

```
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/ShellPrograms$ nano forloop.sh
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/ShellPrograms$ cat forloop.sh
#!/bin/bash
for a in 1 2 3 4 5
do
echo $a
done
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/ShellPrograms$ bash forloop.sh
1
2
3
4
5
```

Question 7: Write a shell script that uses a while loop to print numbers from 1 to 5.

```
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/ShellPrograms$ nano whileloop.sh
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/ShellPrograms$ cat whileloop.sh
#!/bin/bash
a=1
while [ $a -lt 6 ]
do
        echo $a
        a=`expr $a + 1`
done
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/ShellPrograms$ bash whileloop.sh
1
2
3
4
5
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/ShellPrograms$
```

Question 8: Write a shell script that checks if a file named "file.txt" exists in the current directory. If it does, print "File exists", otherwise, print "File does not exist".

```
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/ShellPrograms$ ls
add.sh     findif.sh   hello.sh  oddeven.sh  whileloop.sh
file1.txt  forloop.sh  name.sh   read.sh
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/ShellPrograms$ nano findif.sh
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/ShellPrograms$ cat findif.sh
#!/bin/bash
if  test -f "file1.txt"
then
        echo "File exists"
else
        echo "File does not exist"
fi
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/ShellPrograms$ bash findif.sh
File exists
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/ShellPrograms$
```

Question 9: Write a shell script that uses the if statement to check if a number is greater than 10 and prints a message accordingly.

```
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/ShellPrograms$ nano checkif.sh
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/ShellPrograms$ cat checkif.sh
#!/bin/bash
echo "Enter the Number"
read num
if [ $num -gt 10 ]
then
        echo "$num is Greater than 10"
else
        echo "$num is Less than 10"
fi
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/ShellPrograms$ bash checkif.sh
Enter the Number
15
15 is Greater than 10
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/ShellPrograms$
```

Question 10: Write a shell script that uses nested for loops to print a multiplication table for numbers from 1 to 5. The output should be formatted nicely, with each row representing a number and each column representing the multiplication result for that number.

```
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/ShellPrograms$ nano table.sh
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/ShellPrograms$ cat table.sh
#!/bin/bash
for a in 1 2 3 4 5
do
        echo "Table of $a : "
        for b in 1 2 3 4 5 6 7 8 9 10
        do
                echo "$a * $b = $[a*b]"
        done
        echo -n
done
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/ShellPrograms$ bash table.sh
Table of 1 :
1 * 1 = 1
1 * 2 = 2
1 * 3 = 3
1 * 4 = 4
1 * 5 = 5
1 * 6 = 6
1 * 7 = 7
1 * 8 = 8
1 * 9 = 9
1 * 10 = 10
Table of 2 :
2 * 1 = 2
2 * 2 = 4
2 * 3 = 6
2 * 4 = 8
2 * 5 = 10
2 * 6 = 12
2 * 7 = 14
2 * 8 = 16
2 * 9 = 18
2 * 10 = 20
```

```
Table of 3 :
3 * 1 = 3
3 * 2 = 6
3 * 3 = 9
3 * 4 = 12
3 * 5 = 15
3 * 6 = 18
3 * 7 = 21
3 * 8 = 24
3 * 9 = 27
3 * 10 = 30
Table of 4 :
4 * 1 = 4
4 * 2 = 8
4 * 3 = 12
4 * 4 = 16
4 * 5 = 20
4 * 6 = 24
4 * 7 = 28
4 * 8 = 32
4 * 9 = 36
4 * 10 = 40
Table of 5 :
5 * 1 = 5
5 * 2 = 10
5 * 3 = 15
5 * 4 = 20
5 * 5 = 25
5 * 6 = 30
5 * 7 = 35
5 * 8 = 40
5 * 9 = 45
5 * 10 = 50
```

Question 11: Write a shell script that uses a while loop to read numbers from the user until the user enters a negative number. For each positive number entered, print its square. Use the **break** statement to exit the loop when a negative number is entered.

```
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/ShellPrograms$ nano whilebreak.sh
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/ShellPrograms$ cat whilebreak.sh
#!/bin/bash

while [ 1 ]
do
        echo "Enter the Number"
        read num
        if [ $num -lt 0 ]
        then
                break
        else
                echo "$num Square is $[num*num]"
        fi
done
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/ShellPrograms$ bash whilebreak.sh
Enter the Number
5
5 Square is 25
Enter the Number
6
6 Square is 36
Enter the Number
8
8 Square is 64
Enter the Number
-2
cdac@LAPTOP-6237ABAK:~/feb25/LinuxAssignment/ShellPrograms$ bash whilebreak.sh
Enter the Number
0
0 Square is 0
Enter the Number
6
```