CDAC MUMBAI
Concepts of Operating System
Assignment 2
Part A

1.echo "Hello, World!"
  echo will print “Hello, Word!”

2.name="Productive"
  Above command assign value to name as “productive”

3.touch file.txt
  touch command create empty file

4. ls -a
  ls -a command display all files including hidden

5.rm file.txt
  remove file

6.cp file1.txt file2.txt
Copying data from file1.txt to file2.txt

7.mv file.txt /path/to/directory/
mv command is use for move or rename file

8.chmod 755 script.sh
chmod command is use to give permission to script.sh as follows
Owner- all permission
Group- read execute
Other-read execute

9.grep "pattern" file.txt
It will search the pattern in file.txt like which kind of data is in store

10.kill PID
It will stop background process

11.ls -l | grep ".txt"
Showing list of permission and with file having .txt files from directory

12.cat file1.txt file2.txt | sort | uniq
Display content data file1 and file 2 also It will showing data sequentially and unique data

13.ls -l | grep "^d"
It will display all list of all directory with their permission

14.grep -r "pattern" /path/to/directory/
This command showing names which is in r

15.chmod 644 file.txt
It gives permission to file

16.cp -r source_directory destination_directory

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

18.echo $PATH
Declared variable

Part B

Identify True or False:

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

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

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

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

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

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

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

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

Identify the Incorrect Commands:
1. chmodx is used to change file permissions.
chmod

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

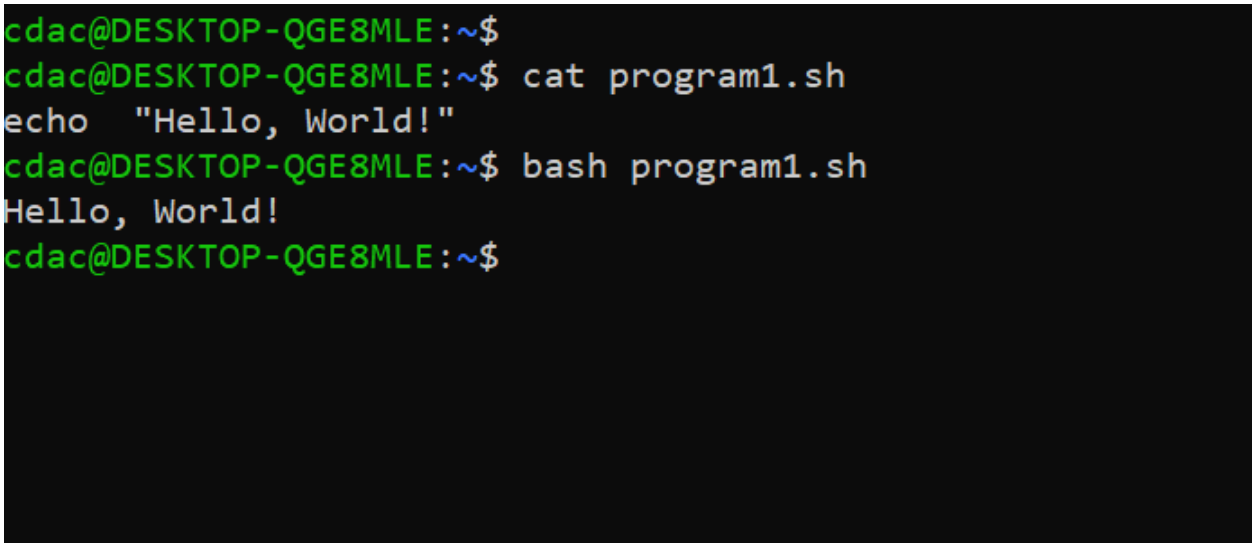
3. mkfile is used to create a new file.
mkdir

4. catx is used to concatenate files.
Cat

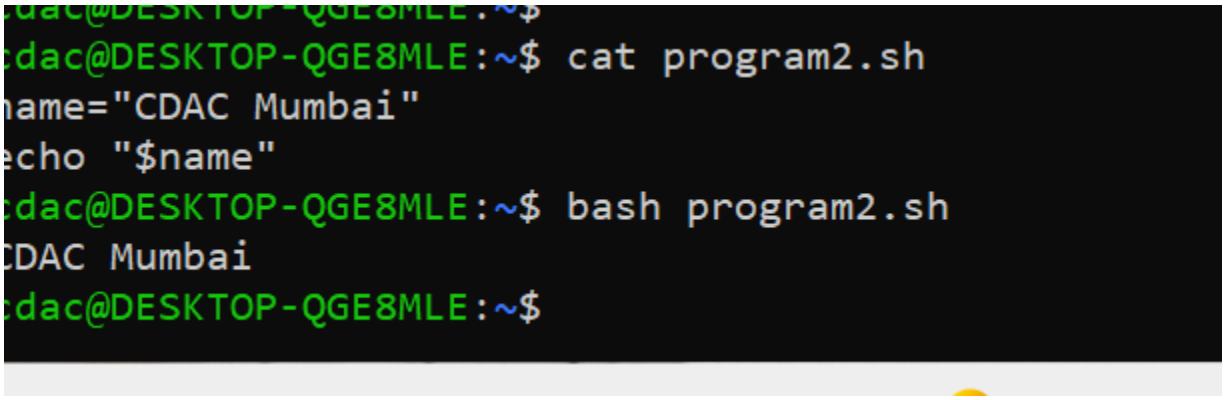
5. rn is used to rename files.
Mv

Part C

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



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



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

```
cdac@DESKTOP-QGE8MLE:~$ sudo nano program3.sh
cdac@DESKTOP-QGE8MLE:~$ cat program3.sh
a=0
for a  in 1 2 3 4 5 6
do
echo $a
done

cdac@DESKTOP-QGE8MLE:~$ bash program3.sh
1
2
3
4
5
6
cdac@DESKTOP-QGE8MLE:~$
```

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

```
cdac@DESKTOP-QGE8MLE:~$ sudo nano program4.sh
cdac@DESKTOP-QGE8MLE:~$ cat program4.sh
x=5
y=3
sum=`expr $x + $y`

echo $sum


cdac@DESKTOP-QGE8MLE:~$ bash program4.sh
8
```

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

```
cdac@DESKTOP-QGE8MLE:~$ cat program5.sh && bash program5.sh
echo enter a number
read num1
if (( $num1%2==0))
then
echo the number is even
else
echo the number is odd
fi



enter a number
15
the number is odd
cdac@DESKTOP-QGE8MLE:~$
```

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

```
cdac@DESKTOP-QGE8MLE:~$ cat program6.sh
for ((i=1;i<=6;i++))
do
echo $i
done

cdac@DESKTOP-QGE8MLE:~$ bash program6.sh
1
2
3
4
5
6
cdac@DESKTOP-QGE8MLE:~$
```

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

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".

```
if [ -f "file.txt" ]
then
echo file exists
else
echo file does not exists
fi

cdac@DESKTOP-QGE8MLE:~$ bash program8.sh
file does not exists
cdac@DESKTOP-QGE8MLE:~$
```

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@DESKTOP-QGE8MLE:~$
cdac@DESKTOP-QGE8MLE:~$
cdac@DESKTOP-QGE8MLE:~$ sudo nano program9.sh
cdac@DESKTOP-QGE8MLE:~$ bash program9.sh
program9.sh: line 1: [: missing `]'
The number is not greater than 10
cdac@DESKTOP-QGE8MLE:~$ sudo nano program9.sh
cdac@DESKTOP-QGE8MLE:~$ bash program9.sh
Enter the number
0
program9.sh: line 3: [0: command not found
The number is not greater than 10
cdac@DESKTOP-QGE8MLE:~$ sudo nano program9.sh
cdac@DESKTOP-QGE8MLE:~$ sudo nano program9.sh
cdac@DESKTOP-QGE8MLE:~$ sudo nano program9.sh
cdac@DESKTOP-QGE8MLE:~$ bash program9.sh
Enter the number
8
The number is greater than 10
cdac@DESKTOP-QGE8MLE:~$
```