Shell Programming Assignment

1. Write a shell script to display your LOGIN NAME and HOME directory.
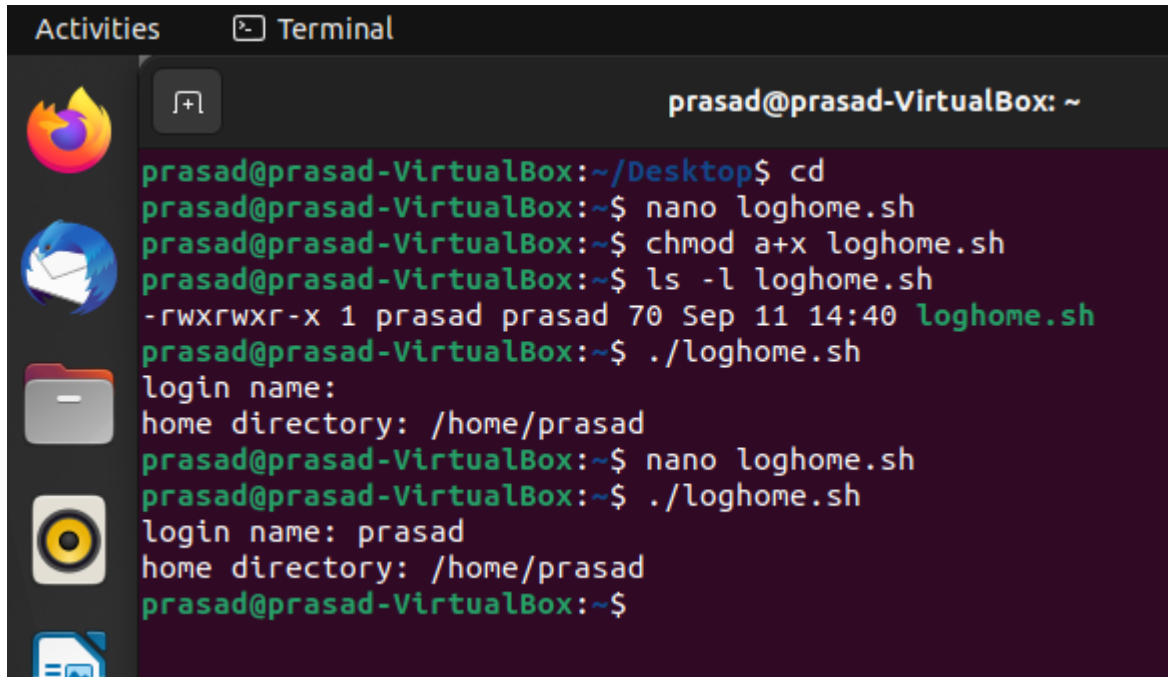
Ans:
#!/bin/bash

echo "Login Name: $LOGNAME"
echo "Home Directory: $HOME"

Output:

2. Write a shell script to display menu like "1. Date, 2. Cal, 3. Ls, 4. Pwd, 5. Exit"
and execute the commands depending on user choice.
Ans:

#!/bin/bash
echo "select the option: 1.date 2.cal 3.ls 4.pwd 5.Exit"
read option
case $option in
        date)
                date
                ;;
        cal)
                cal
                ;;
        ls)
                ls
                ;;
        pwd)

```
                pwd
                ;;
        Exit)
                echo "exit"
                break
                ;;
        *)
                echo "invalid option"
                ;;
esac
```
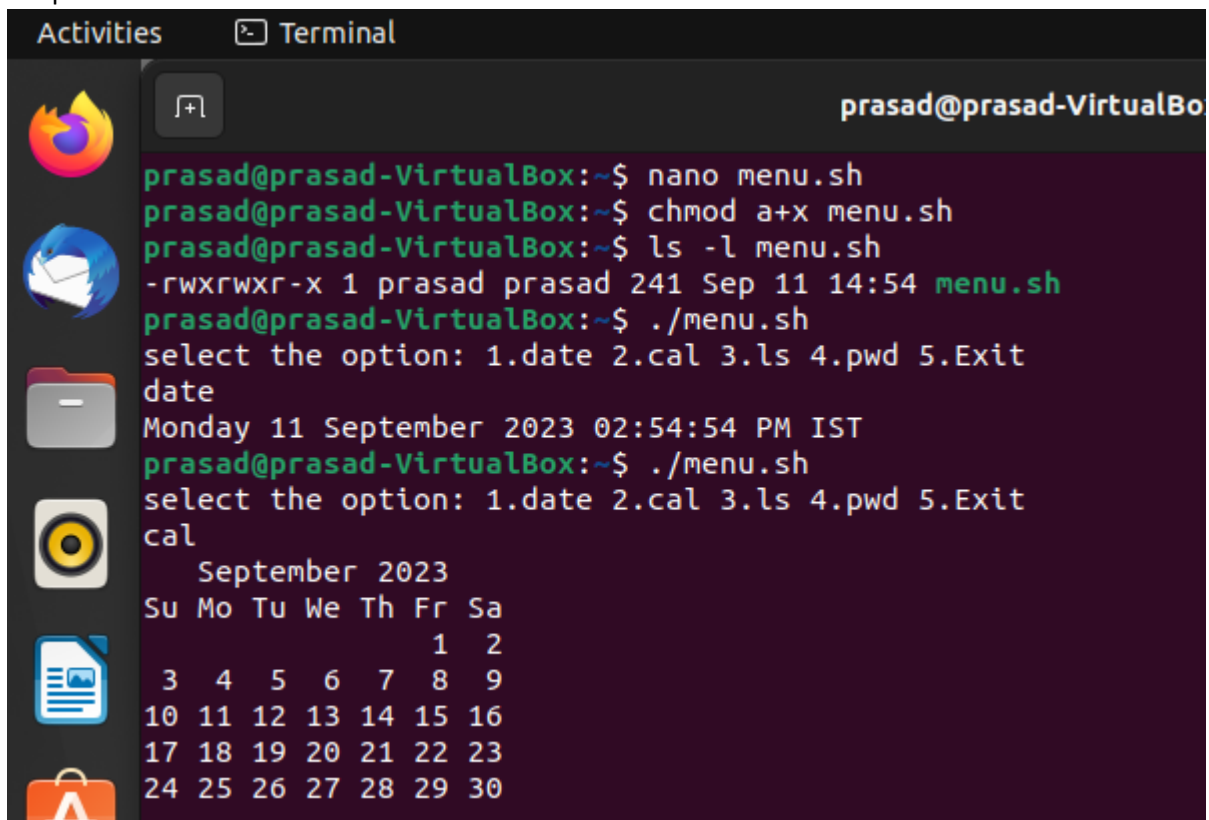
Output:

3. Write a shell script to accept the name from the user and check whether user

entered name is file or directory. If name is file display its size and if it is directory

display its contents.

Ans:

```
#!/bin/bash

echo "enter name: "
read name
if [ -d $name ]
then
        echo "$name is directory"
        echo `ls $name`
elif [ -f $name ]
```
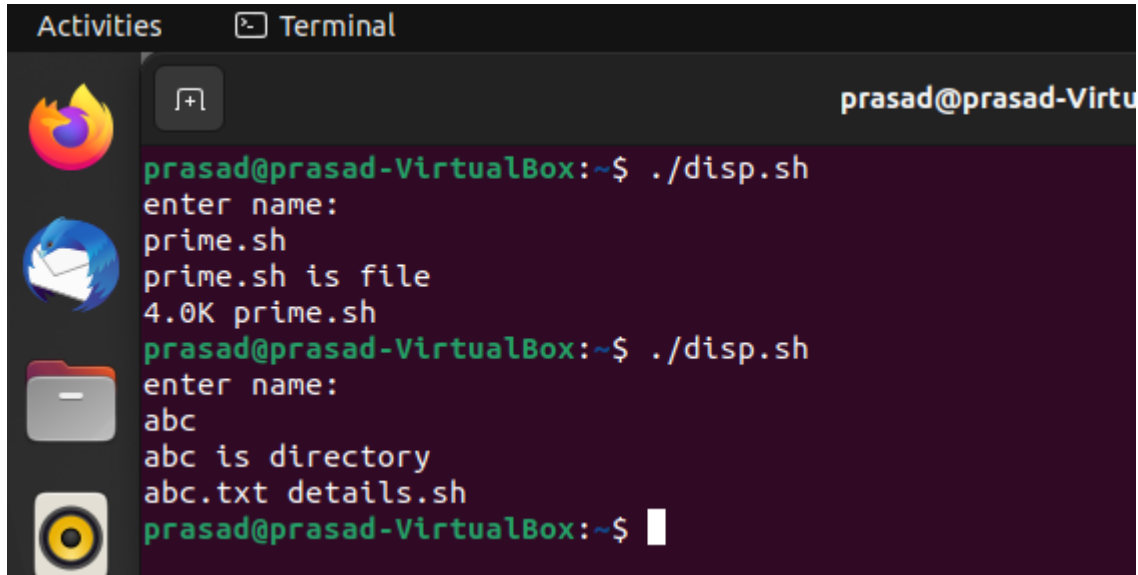
```
then
        echo "$name is file"
        echo `du -d $name`
fi
```

Output:

4. Write a shell script to determine whether a given number is prime or not

Ans:
```
#!/bin/bash

echo "enter number:"
read number

i=2
p=1

if [ $number -lt 2 ];
then
   echo "number is not a prime "
   exit
fi

while [ $i -le $(($number / 2)) ]; do
   if [ $((number % i)) -eq 0 ];
   then
      p=0
      break
   fi
   i=$((i + 1))
```
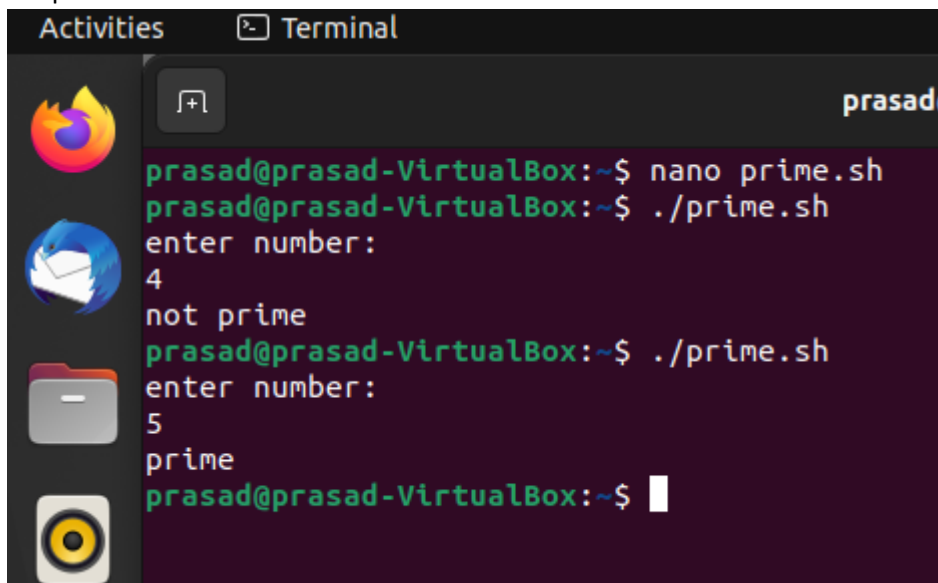
```
done

if [ $p -eq 1 ]; then
    echo " prime "
else
    echo " not  prime "
fi
```

Output:

5. Write a program to find the greatest of three numbers

Ans:
```
#!/bin/bash
echo  "enter three numbers:"
read num1
read num2
read num3

m=$num1

if [ $num2 -gt m ];
then
        m=$num2
fi

if [ $num3 -gt m ];
then
        m=$num3
fi

echo " greatest number is: $m"
```
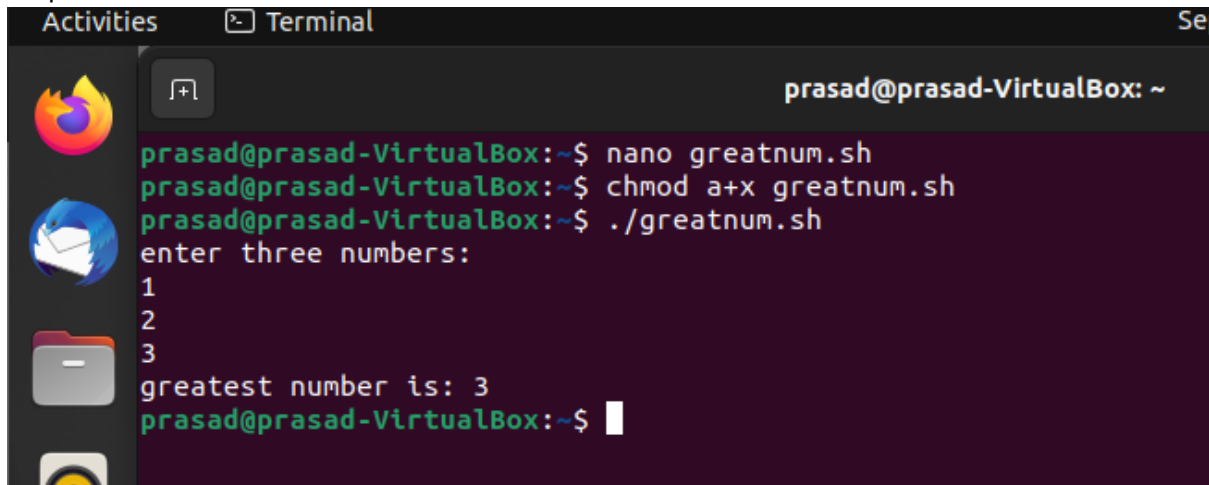
output:

6. Write a program to find whether a given year is a leap year or not

Ans:

#!/bin/bash

echo "enter year:"
read year

if [$((year % 4)) -eq 0] && [$((year % 100)) -ne 0] || [$((year % 400)) -eq 0];
then
    echo "leap year."
else
    echo " not leap year."
fi
Output:
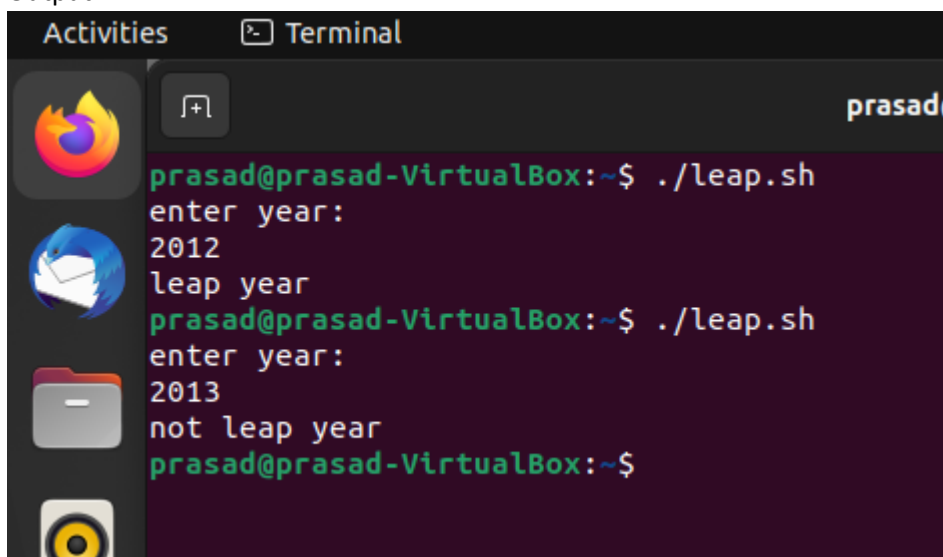
7. Write a program to find out the area of a circle

Ans:

#!/bin/bash

pi=3.14159
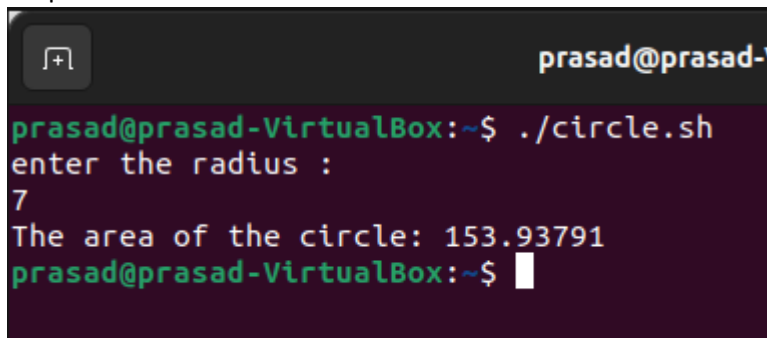
echo "enter the radius :"
read r

area=$(echo "$pi * $r * $r" | bc)

echo "The area of the circle: $area "

output:

```
prasad@prasad-VirtualBox:~$ ./circle.sh
enter the radius :
7
The area of the circle: 153.93791
prasad@prasad-VirtualBox:~$
```

8. Write a program to find out the area of a rectangle

Ans:

#!/bin/bash

echo "enter the length :"
read l

echo "enter the width :"
read w

area=`expr $l \* $w`

echo "The area of the rectangle: $area "

output:

9. Write a program to find whether a given number is positive or

Negative

Ans:

#!/bin/bash

echo "enter the number :"
read number

if [$number -gt 0]
then
        echo "positive number"
else
        echo "negetive number"
fi

output:

10. Write a program to print the table of a given number.

Ans:

#!/bin/bash

echo "Enter a number: "
read number

cnt=1
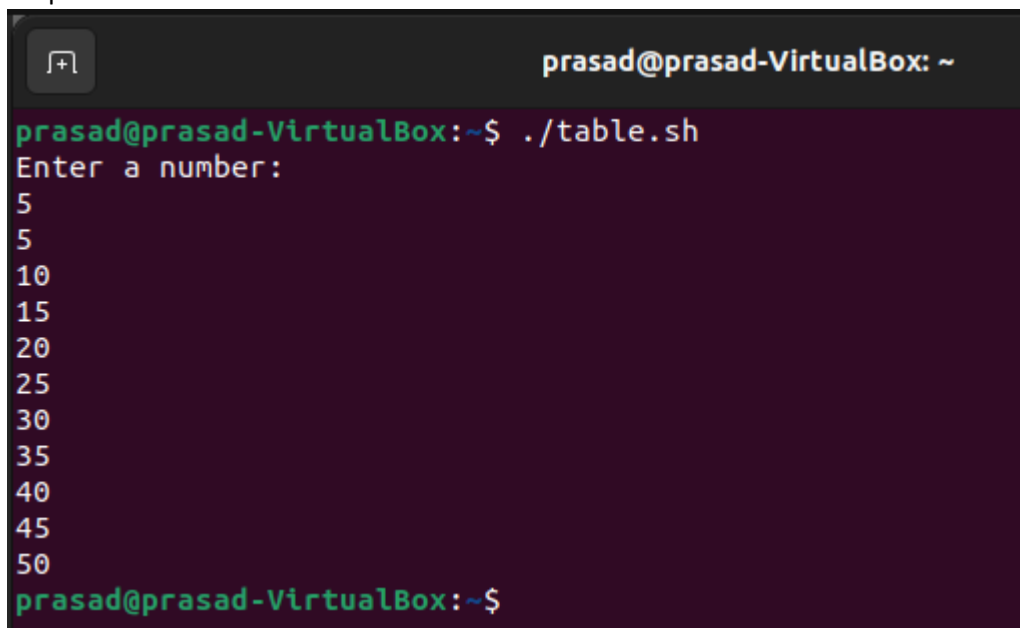
while [$cnt -le 10]
do
   result=$((number * cnt))

   echo "$result"

   cnt=$((cnt + 1))
done

output:

11. Write a program to find the factorial of given number.
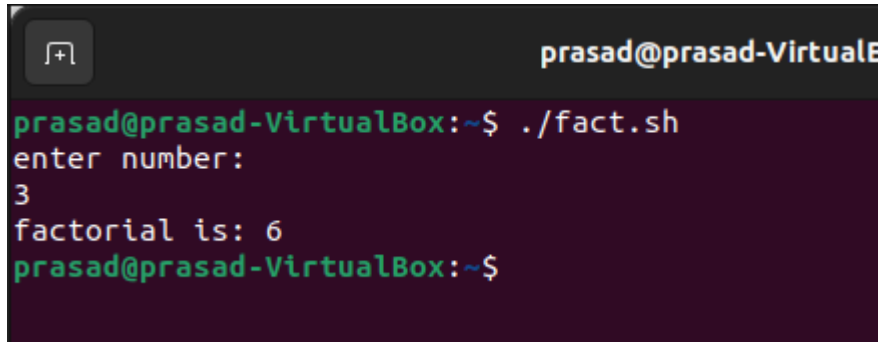
Ans:

#!/bin/bash

echo "enter number: "
read num

fact=1

```
while [ $num -gt 1 ]
do
   fact=$((fact * num))
   num=$((num - 1))
done

echo "factorial is: $fact"
```

output:

12. Write a program to find given number of terms in the Fibonacci series.

Ans:

```
#!/bin/bash

echo "Enter the number of terms:"
read num

a=0
b=1

echo "$a"
echo "$b"

for ((i=3; i<=num; i++)); do
   c=$((a + b))
   echo "$c"
   a=$b
   b=$c
done

echo
```

output:

13. Write a program to calculate gross salary if the DA is 40%, HRA is 20% of basic salary. Accept basic salary form user and display gross salary (Result can be floating point value).

Ans:

```
#!/bin/bash
Echo  "Enter basic salary: "
read bsal

da=$(echo " $bsal * 0.4" | bc)
hra=$(echo " $bsal * 0.2" | bc)

gsal=$(echo " $bsal + $da + $hra" | bc)

echo "Gross salary: $gsal"
```
output:

14. Write a shell script to accept a filename as argument and displays the last modification time if the file exists and a suitable message if it doesn't exist.
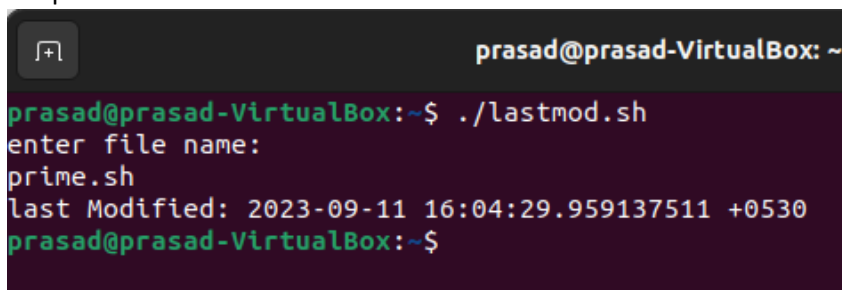
Ans:

#!/bin/bash

echo "enter file name:"
read filename

if [-e "$filename"];
then
    lastmod=$(stat -c "%y" "$filename")
    echo "last Modified: $lastmod"
else
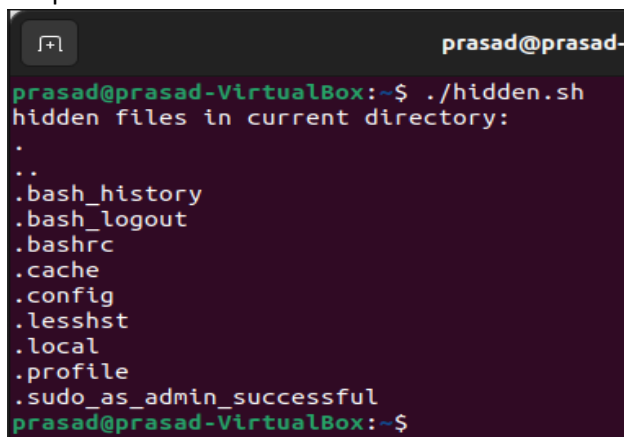   echo "Error: File does not exist."
fi

Output:

15. Write a shell script to display only hidden file of current directory.

Ans:

#!/bin/bash
echo "hidden files in current directory:"
ls -a | grep "^\."

Output:

16. Write a shell script to display only executable files of current directory.
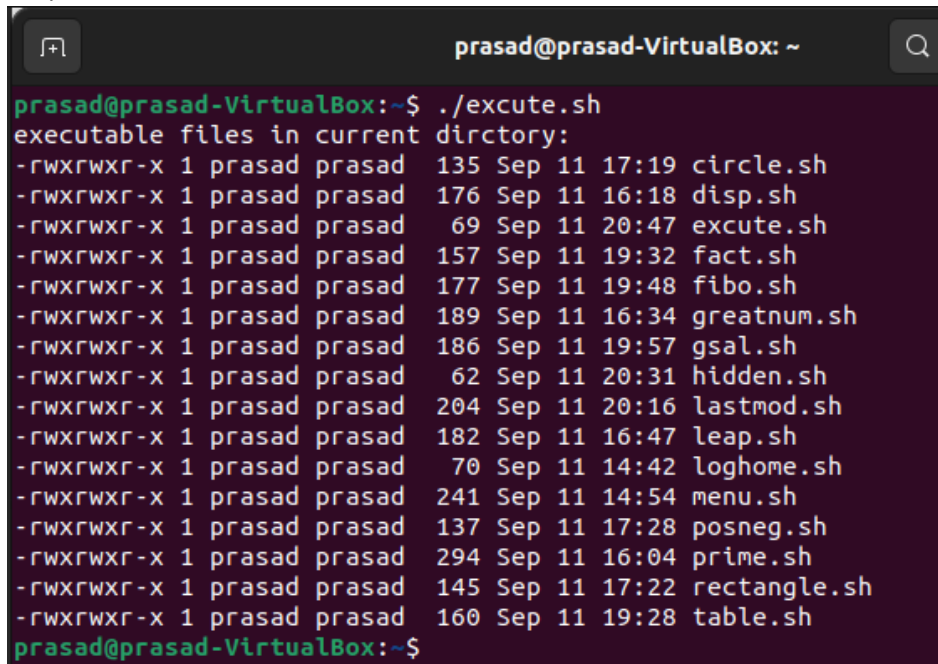
Ans:

#!/bin/bash

echo " executable files in current directory:"
ls -l | grep -E '^-..x'

output:

17.Accept the two file names from user and append the contents in reverse case of first

file into second file.

Ans:

#!/bin/bash

echo "enter first file name: "
read file1
echo "enter second file name: "
read file2

echo "content in first file: "
cat $file1

echo "content in second file: "
cat $file2

tr a-z A-Z < $file1 >> $file2
echo "after changing the case and then appending the first file content to second: "
cat $file2

output:

18. Print the following pattern.

*

* *

* * *

* * * *

* * * * *

Ans:

#!/bin/bash

cnt=1

maxrows=5

while [$cnt -le $maxrows];
do
   i=1
   while [$i -le $cnt];
   do
      echo -n "* "
      i=$((i + 1))
   done
   echo ""
   cnt=$((cnt + 1))
done

output:

```
prasad@prasad-VirtualBox:~$ ./pattern.sh
*
* *
* * *
* * * *
* * * * *
prasad@prasad-VirtualBox:~$
```