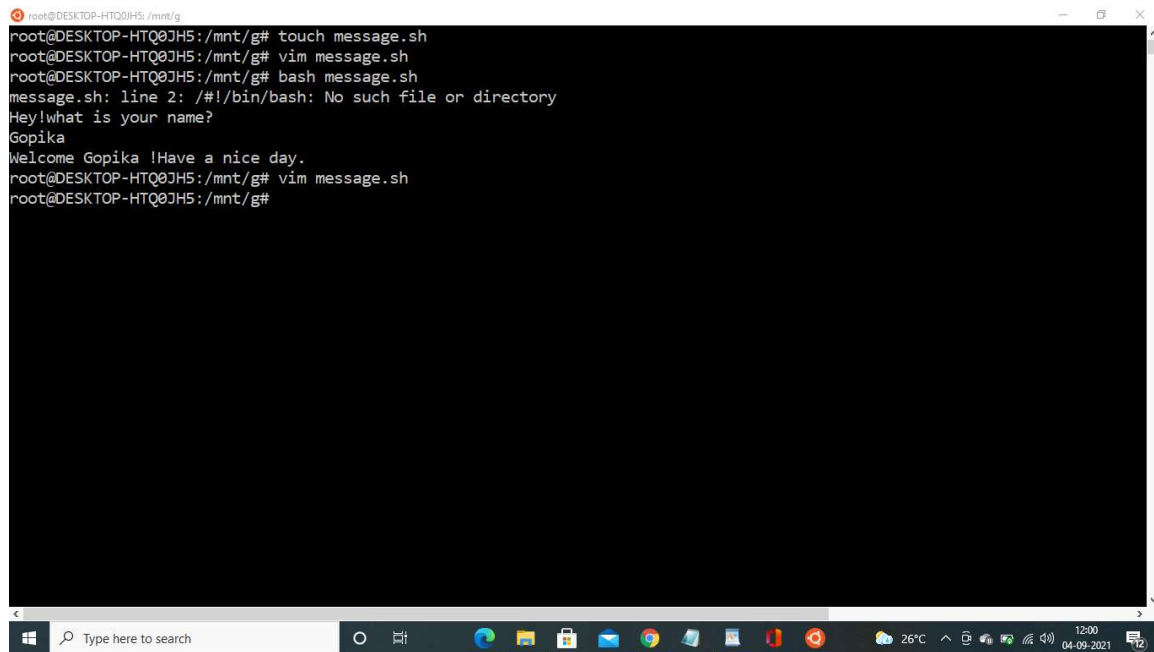


## EXPERIMENT NO:

## AIM: SHELL SCRIPTING PROGRAMS

?1. Write a shell script program to display a given message.

### SOURCE CODE & OUTPUT:



```
root@DESKTOP-HTQ0JH5:/mnt/g
root@DESKTOP-HTQ0JH5:/mnt/g# touch message.sh
root@DESKTOP-HTQ0JH5:/mnt/g# vim message.sh
root@DESKTOP-HTQ0JH5:/mnt/g# bash message.sh
message.sh: line 2: /#!/bin/bash: No such file or directory
Hey!what is your name?
Gopika
Welcome Gopika !Have a nice day.
root@DESKTOP-HTQ0JH5:/mnt/g# vim message.sh
root@DESKTOP-HTQ0JH5:/mnt/g#
```

The screenshot shows a Windows 10 desktop environment with a terminal window open. The terminal displays the following commands and output:

- `root@DESKTOP-HTQ0JH5:/mnt/g`
- `root@DESKTOP-HTQ0JH5:/mnt/g# touch message.sh`
- `root@DESKTOP-HTQ0JH5:/mnt/g# vim message.sh`
- `root@DESKTOP-HTQ0JH5:/mnt/g# bash message.sh`
- Output: `message.sh: line 2: /#!/bin/bash: No such file or directory`
- Output: `Hey!what is your name?`
- Input: `Gopika`
- Output: `Welcome Gopika !Have a nice day.`
- `root@DESKTOP-HTQ0JH5:/mnt/g# vim message.sh`
- `root@DESKTOP-HTQ0JH5:/mnt/g#`

The Windows taskbar at the bottom shows the search bar, task view button, and several application icons including Edge, File Explorer, Mail, Chrome, and others. The system tray on the right indicates a temperature of 26°C, the time 12:00, and the date 04-09-2021.



```
root@DESKTOP-HTQ0JH5:/mnt/g# vim equaln.sh
root@DESKTOP-HTQ0JH5:/mnt/g# bash equaln.sh
Enter the first number :23
Enter the second number :56
numbers are not equal
root@DESKTOP-HTQ0JH5:/mnt/g# bash equaln.sh
Enter the first number :34
Enter the second number :34
numbers are equal
root@DESKTOP-HTQ0JH5:/mnt/g#
```

```
#!/bin/bash
read -p "Enter the first number :" num1
read -p "Enter the second number :" num2
if [ $num1 -eq $num2 ]; then
    echo "numbers are equal"
else
    echo "numbers are not equal"
fi
```

?3. Write a Shell Program to find the roots of the quadratic

equation

### SOURCE CODE & OUTPUT:

```
root@DESKTOP-HTQ0IHS:/mnt/g
~/bin/bash
read -p "Enter the coefficient of x^2:" a
read -p "Enter the coefficient of x: " b
read -p "Enter the constant term:" c
D=$((($b)*($b)-4*($a)*($c))
x1=$(echo "scale=3;(-$b+sqrt($D))/(2*$a)" |bc)
x2=$(echo "scale=3;(-$b-sqrt($D))/(2*$a)"|bc)
echo "Square root of the given quadratic equation is $x1 and $x2"
```

"sqroot.sh" 9L, 324C

5,28 All

```
root@DESKTOP-HTQ0JH5:/mnt/g
root@DESKTOP-HTQ0JH5:/mnt/g# bash sqroot.sh
Enter the coefficient of x^2:1
Enter the coefficient of x: 4
Enter the constant term:2
Square root of the given quadratic equation is -.586 and -3.414
root@DESKTOP-HTQ0JH5:/mnt/g#
```

?4. Write a shell script to perform integer arithmetic operations.

SOURCE CODE & OUTPUT:

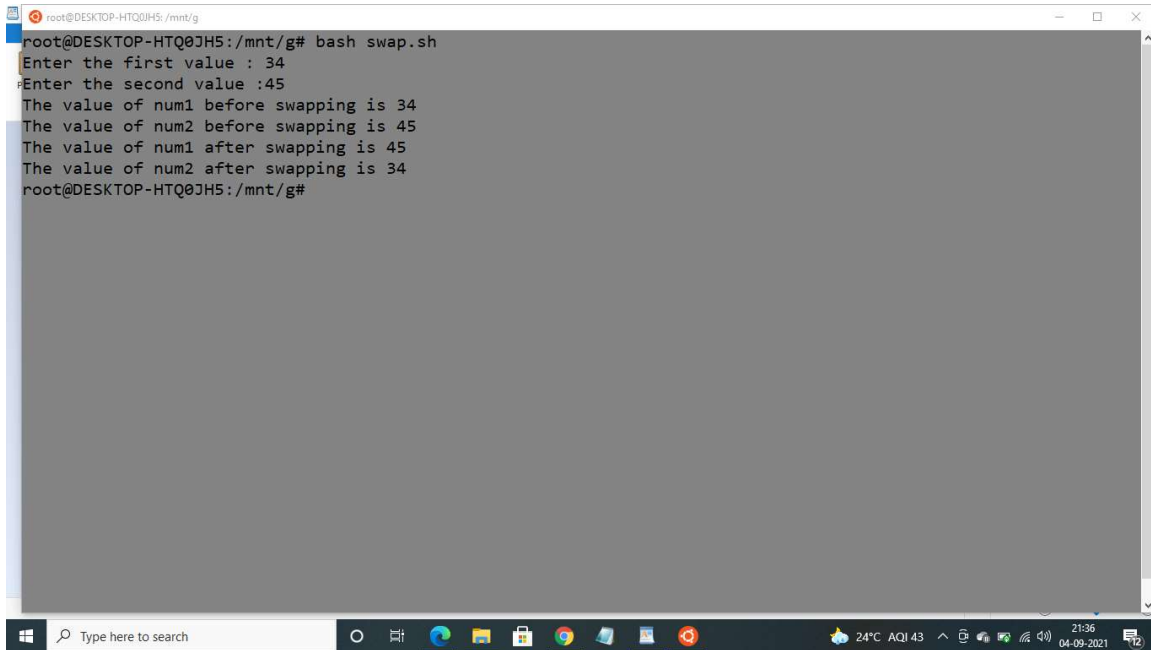


source code & output:

[illegible]

?6. Write a Shell program to swap two values.

SOURCE CODE & OUTPUT:



```
root@DESKTOP-HTQ0JH5:/mnt/g# bash swap.sh
Enter the first value : 34
Enter the second value :45
The value of num1 before swapping is 34
The value of num2 before swapping is 45
The value of num1 after swapping is 45
The value of num2 after swapping is 34
root@DESKTOP-HTQ0JH5:/mnt/g#
```

The screenshot shows a terminal window titled 'root@DESKTOP-HTQ0JH5:/mnt/g'. The user has executed the command 'bash swap.sh'. The script prompts for two values: 'Enter the first value : 34' and 'Enter the second value :45'. It then displays the values before and after swapping: 'The value of num1 before swapping is 34', 'The value of num2 before swapping is 45', 'The value of num1 after swapping is 45', and 'The value of num2 after swapping is 34'. The terminal window is running on a Windows desktop, as evidenced by the taskbar at the bottom showing the Start button, search bar, and various application icons.









number is odd or even.

SOURCE CODE & OUTPUT:

```
root@DESKTOP-HTQ0JH5: /mnt/g
#!/bin/bash
read -p "Enter the number :" num
if [  $$(num \% 2)$  -eq 0 ]
then
    echo "The given number $num is even"
else
    echo "The given number $num is odd"
fi
```

"oddeve.sh" 9L, 161C 2,32 All

```
root@DESKTOP-HTQ0JH5: /mnt/g# bash oddeve.sh
Enter the number :8
The given number 8 is even
root@DESKTOP-HTQ0JH5: /mnt/g# bash oddeve.sh
Enter the number :23
The given number 23 is odd
root@DESKTOP-HTQ0JH5: /mnt/g#
```

10. Write a shell program to find the minimum among four values.

### SOURCE CODE & OUTPUT:

```
root@DESKTOP-HTQ0IH5:/mnt/g
#!/bin/bash
read -p "Enter first integer: " a
read -p "Enter the second integer : " b
read -p "Enter the third integer:" c
read -p "Enter the fourth integer : " d
if [ $a -lt $b -a $a -lt $c -a $a -lt $d ]
then
echo "$a is minimum"
elif [ $b -lt $a -a $b -lt $c -a $b -lt $d ]
then
echo "$b is minimum"
elif [ $c -lt $a -a $c -lt $b -a $c -lt $d ]
then
echo "$c is minimum"
else
echo "$d is minimum"
fi
```

"larg.sh" 17L, 404C

13,4 All

```
root@DESKTOP-HTQ0JH5:/mnt/g
root@DESKTOP-HTQ0JH5:/mnt/g# vim larg.sh
root@DESKTOP-HTQ0JH5:/mnt/g# bash larg.sh
Enter first integer: 45
Enter the second integer : -1
Enter the third integer :9
Enter the fourth integer : 0
-1 is minimum
root@DESKTOP-HTQ0JH5:/mnt/g#
```

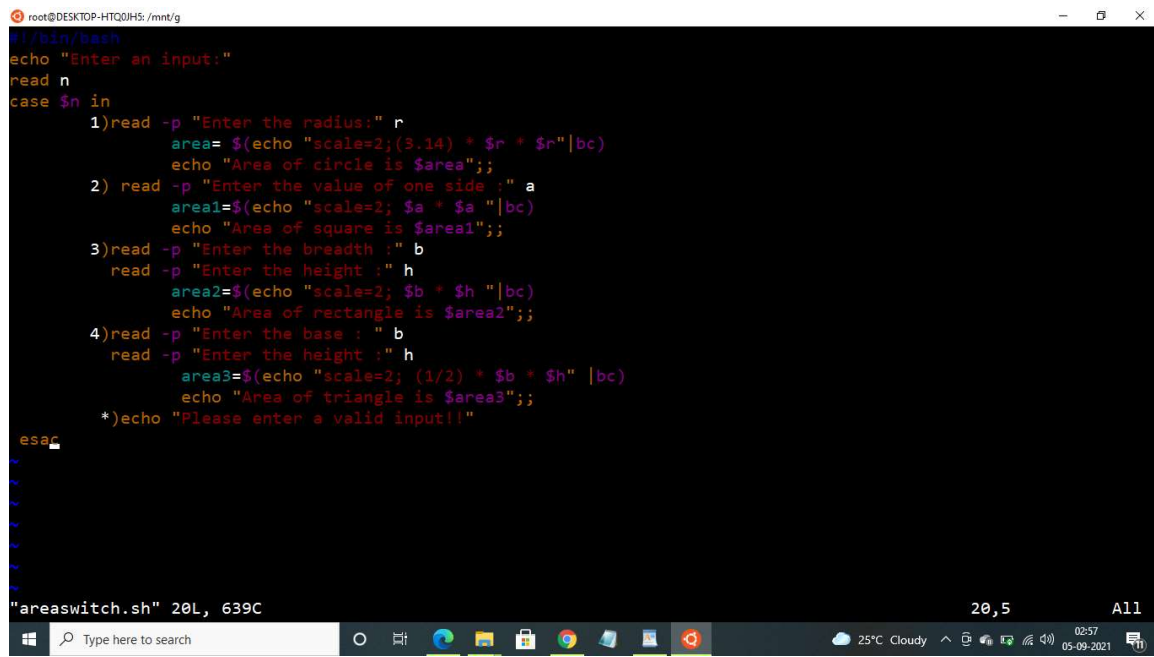
?11. Write a shell program to check whether the input number is prime or not.

SOURCE CODE & OUTPUT:



?12. Write a shell program to find the area of circle, square, rectangle and triangle using case statements.

SOURCE CODE & OUTPUT:



```
root@DESKTOP-HTQ0JH5:/mnt/g
~/bin/bash
echo "Enter an input:"
read n
case $n in
  1) read -p "Enter the radius:" r
     area=$(echo "scale=2;(3.14) * $r * $r"|bc)
     echo "Area of circle is $area";;
  2) read -p "Enter the value of one side :" a
     area1=$(echo "scale=2; $a * $a"|bc)
     echo "Area of square is $area1";;
  3) read -p "Enter the breadth :" b
     read -p "Enter the height :" h
     area2=$(echo "scale=2; $b * $h"|bc)
     echo "Area of rectangle is $area2";;
  4) read -p "Enter the base : " b
     read -p "Enter the height :" h
     area3=$(echo "scale=2; (1/2) * $b * $h"|bc)
     echo "Area of triangle is $area3";;
  *) echo "Please enter a valid input!!"
esac
```

"areaswitch.sh" 20L, 639C

20,5 All

Type here to search 25°C Cloudy 02:57 05-09-2021



```
root@DESKTOP-HTQ0JH5:/mnt/g
root@DESKTOP-HTQ0JH5:/mnt/g# bash areaswitch.sh
Enter an input:
1
Enter the radius:2
Area of circle is 12.56
root@DESKTOP-HTQ0JH5:/mnt/g# bash areaswitch.sh
Enter an input:
2
Enter the value of one side :2
Area of square is 4
root@DESKTOP-HTQ0JH5:/mnt/g# bash areaswitch.sh
Enter an input:
3
Enter the length :3
Enter the breadth :5
Area of rectangle is 15
root@DESKTOP-HTQ0JH5:/mnt/g# bash areaswitch.sh
Enter an input:
4
Enter the base : 3
Enter the height :6
Area of triangle is 9.00
root@DESKTOP-HTQ0JH5:/mnt/g# bash areaswitch.sh
Enter an input:
6
Please enter a valid input!!
root@DESKTOP-HTQ0JH5:/mnt/g#
```

?13. Write a shell program to find the factorial of a given number.

SOURCE CODE & OUTPUT:



?14. Write a Simple Shell script to print the sum of n natural numbers.

### SOURCE CODE & OUTPUT:

```
root@DESKTOP-HTQ2H5:/mnt/g
#!/bin/bash
read -p "Enter the limit:" n
i=0
sum=0
while [ $i -le $n ]
do
    sum=$((sum+i))
    i=$((i+1))
done
echo "Sum of $n natural numbers is $sum"
```

```
root@DESKTOP-HTQ0JH5:/mnt/g
root@DESKTOP-HTQ0JH5:/mnt/g# vim sumn.sh
root@DESKTOP-HTQ0JH5:/mnt/g# bash sumn.sh
Enter the limit:10
Sum of 10 natural numbers is 55
root@DESKTOP-HTQ0JH5:/mnt/g#
```

?15. Write a shell program to reverse a number

SOURCE CODE & OUTPUT:

```
#!/bin/bash
read -p "Enter the number : " n
num=0
while [ $n -gt 0 ]
do
    rev=$((n%10))
    n=$((n/10))
    num=$((num*10+rev))
done
echo "Reverse of the given number is $num"
```

```
root@DESKTOP-HTQ0JH5: /mnt/g
root@DESKTOP-HTQ0JH5: /mnt/g# bash reverse.sh
Enter the number :234
Reverse of the given number is 432
root@DESKTOP-HTQ0JH5: /mnt/g#
```

