

Shell 15 programs :-

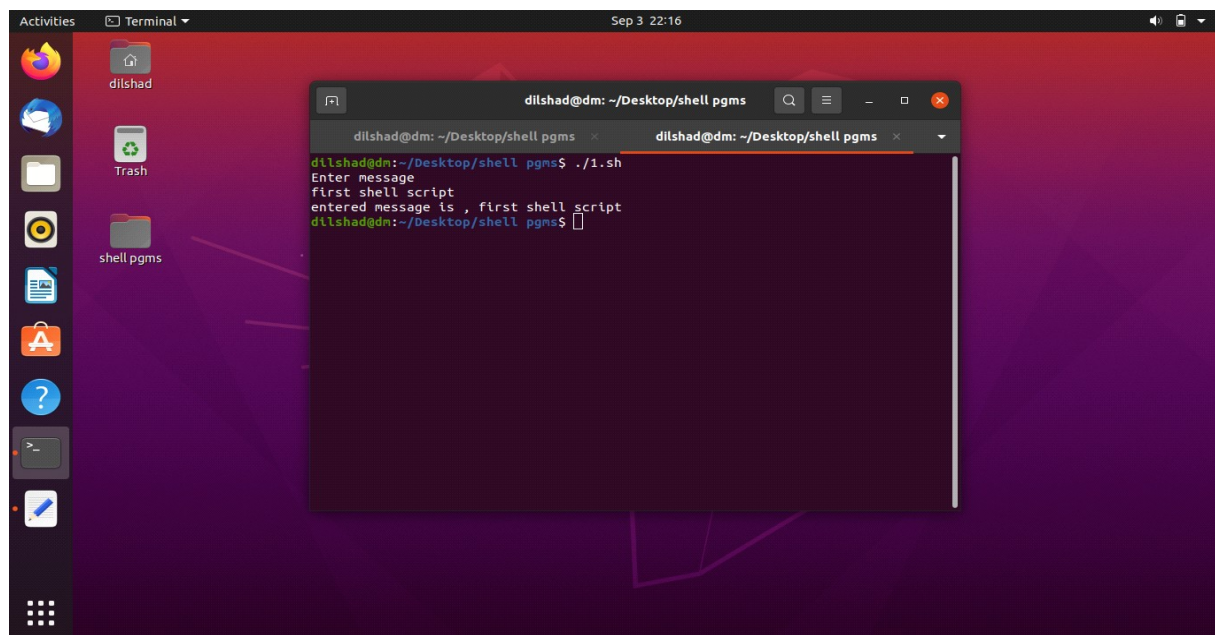
1) Write a shell script program to display a given message.

```
#!/bin/sh
```

```
echo "Enter message"
```

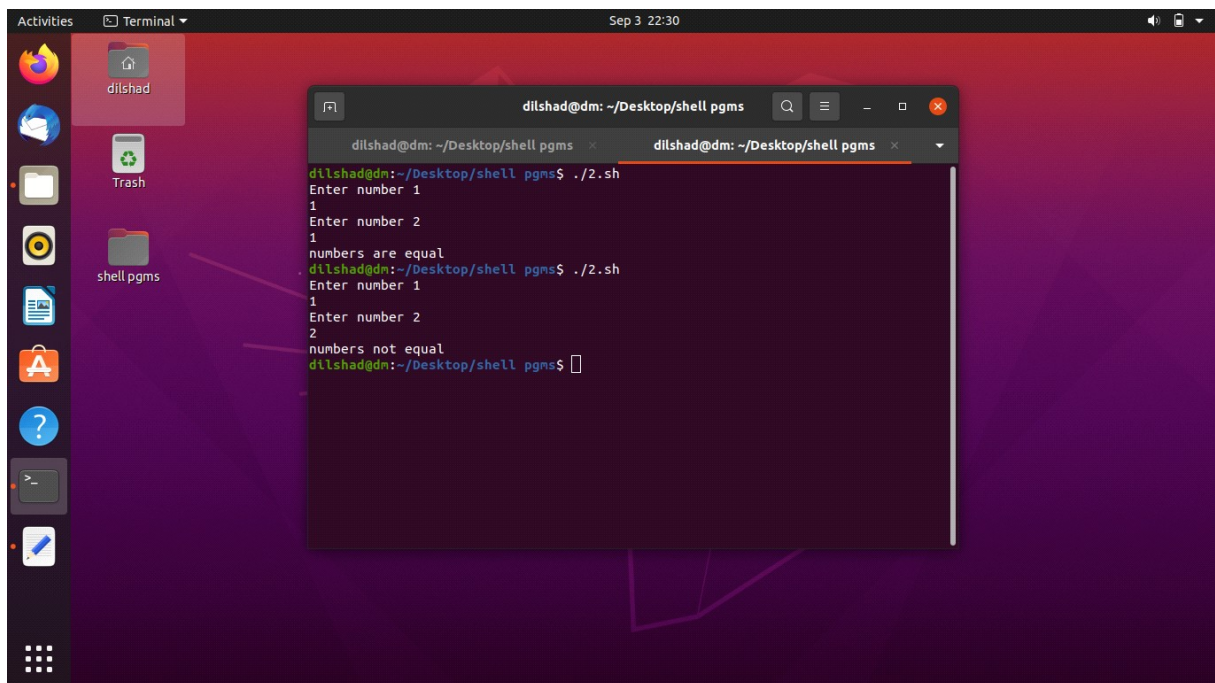
```
read msg
```

```
echo "entered message is , $msg"
```



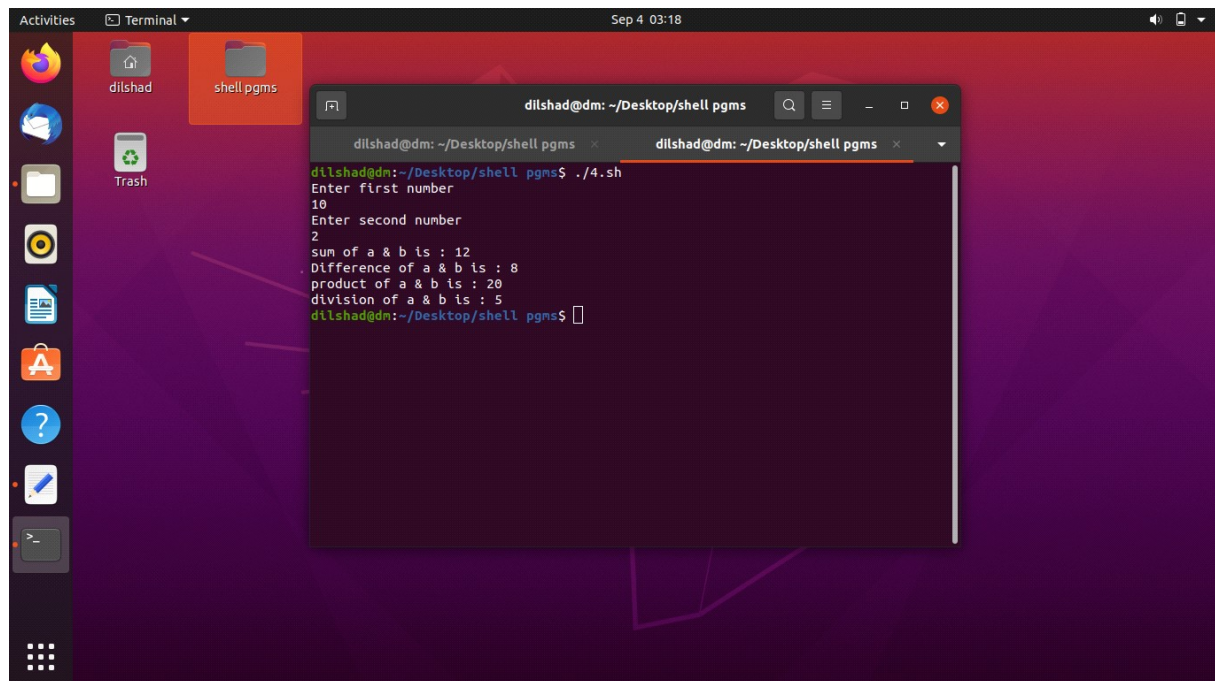
2) Write a shell script to print whether two numbers are equal or not.

```
#!/bin/sh
echo "Enter number 1"
read a
echo "Enter number 2"
read b
if [ $a -eq $b ]
then
echo "numbers are equal"
else
echo "numbers not equal"
fi
```



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

```
#!/bin/sh
echo "Enter first number"
read a
echo "Enter second number"
read b
add=$(( $a + $b ))
sub=$(( $a - $b ))
mul=$(( $a * $b ))
div=$(( $a / $b ))
echo "sum of a & b is : $add"
echo "Difference of a & b is : $sub"
echo "product of a & b is : $mul"
echo "division of a & b is : $div"
```

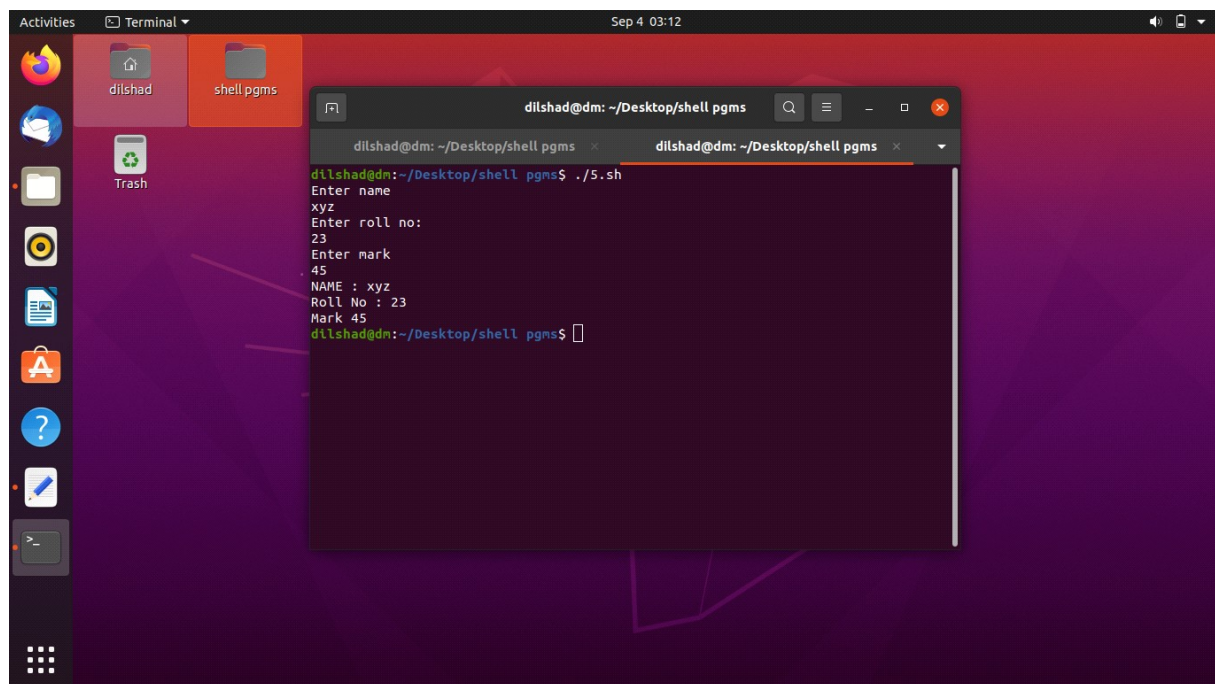


The screenshot shows a Linux desktop with a purple and red background. A terminal window is open, displaying the execution of a shell script. The script prompts for two numbers, 10 and 2, and then outputs the results of addition, subtraction, multiplication, and division. The desktop includes a sidebar with application icons and a top bar with system information.

```
dilshad@dm: ~/Desktop/shell pgms
dilshad@dm:~/Desktop/shell pgms$ ./4.sh
Enter first number
10
Enter second number
2
sum of a & b is : 12
Difference of a & b is : 8
product of a & b is : 20
division of a & b is : 5
dilshad@dm:~/Desktop/shell pgms$
```

5) Write a shell script to getting input details like name, roll number and marks and print them.

```
#!/bin/sh
echo "Enter name"
read name
echo "Enter roll no:"
read no
echo "Enter mark"
read mark
echo "NAME : $name"
echo "Roll No : $no"
echo "Mark $mark "
```

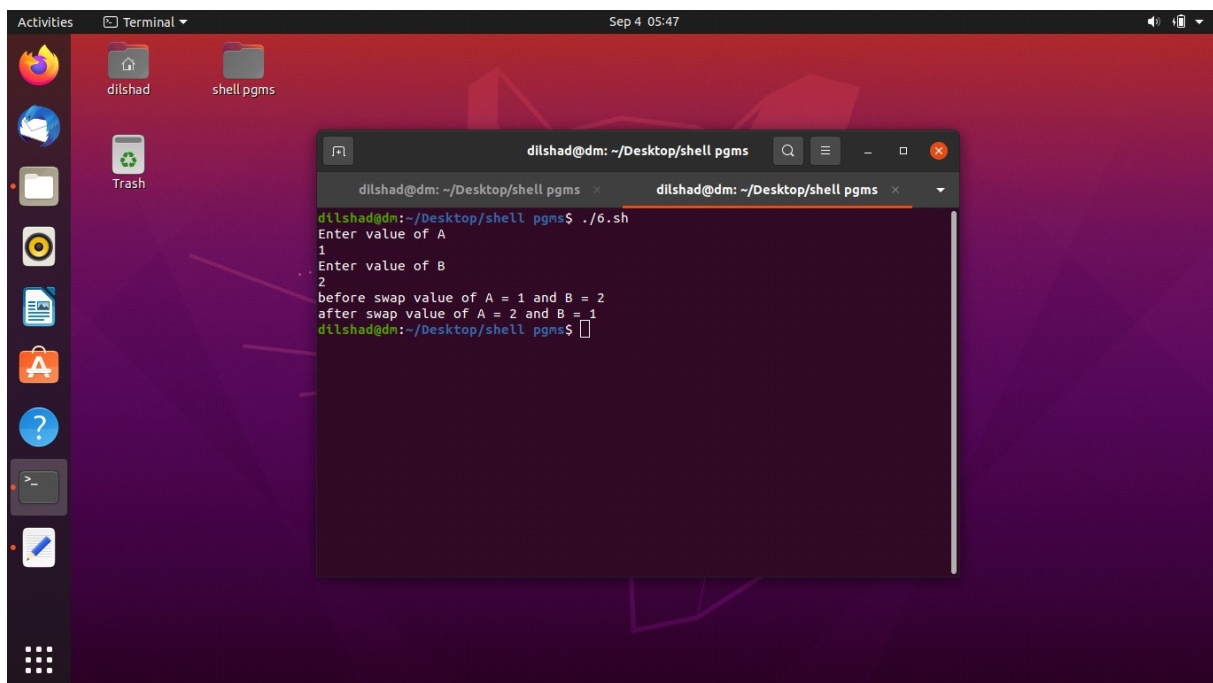


The screenshot shows a Linux desktop with a purple and red background. On the left is a vertical dock with icons for Activities, Terminal, Files, and various applications. The desktop has two folders named 'dilshad' and 'shell pgms', and a 'Trash' icon. A terminal window is open, displaying the execution of a shell script. The script prompts for name, roll number, and mark, and then prints the collected information.

```
dilshad@dm: ~/Desktop/shell pgms
dilshad@dm: ~/Desktop/shell pgms$ ./5.sh
Enter name
xyz
Enter roll no:
23
Enter mark
45
NAME : xyz
Roll No : 23
Mark 45
dilshad@dm: ~/Desktop/shell pgms$
```

6) Write a Shell program to swap two values.

```
#!/bin/sh
echo "Enter value of A"
read a
echo "Enter value of B"
read b
echo "before swap value of A = $a and B = $b"
a=$((a+b))
b=$((a-b))
a=$((a-b))
echo "after swap value of A = $a and B = $b"
```

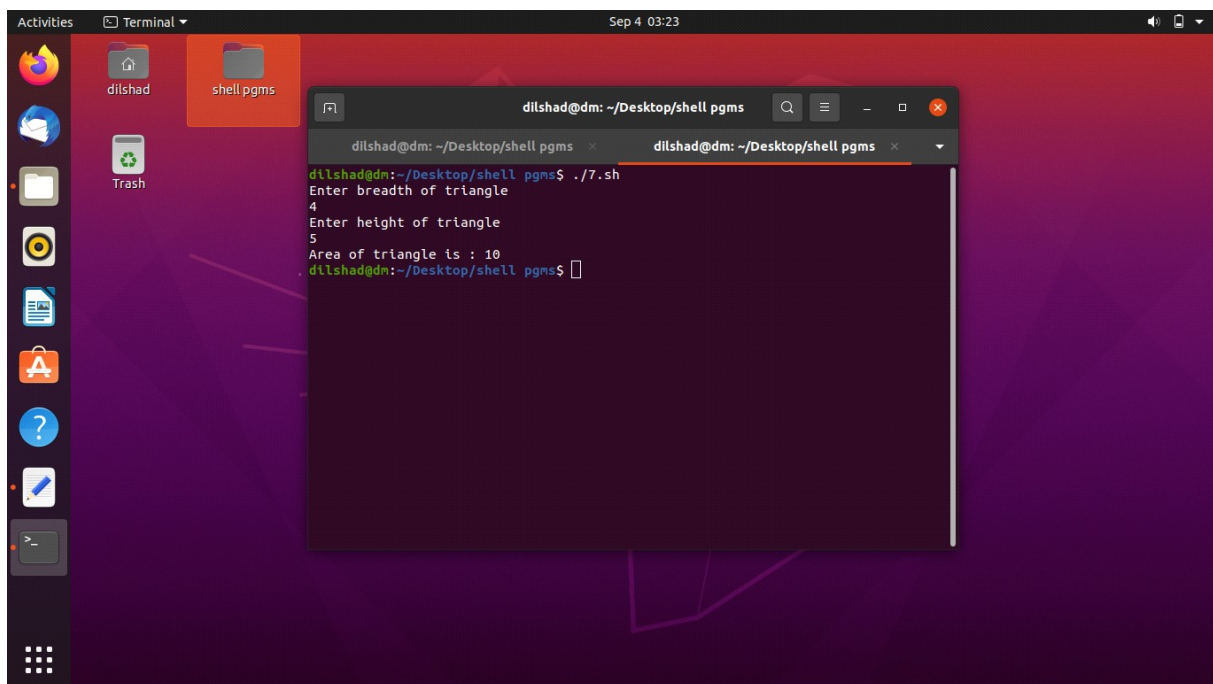


The screenshot shows a Linux desktop with a red and purple background. A terminal window is open, displaying the execution of a shell script. The script prompts for two values, A and B, and then swaps them. The output shows the values before and after the swap.

```
dilshad@dm: ~/Desktop/shell pgms
dilshad@dm:~/Desktop/shell pgms$ ./6.sh
Enter value of A
1
Enter value of B
2
before swap value of A = 1 and B = 2
after swap value of A = 2 and B = 1
dilshad@dm:~/Desktop/shell pgms$
```

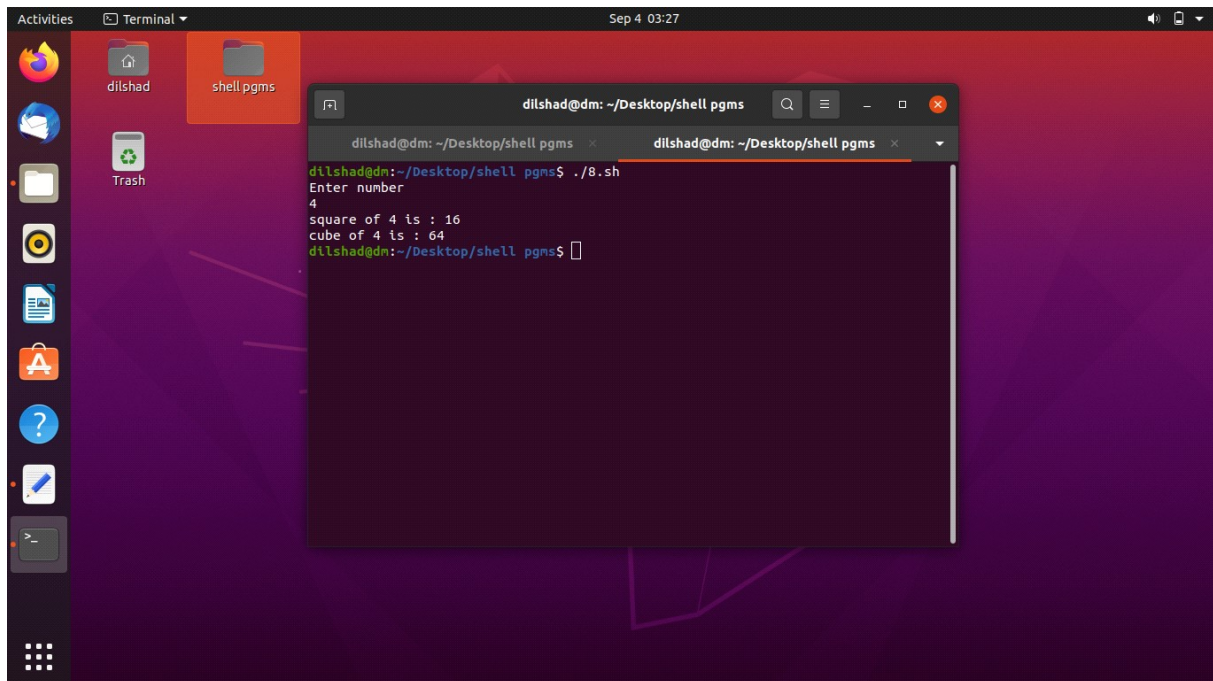

7) Write a shell program to find the area of a triangle.

```
#!/bin/sh
echo "Enter breadth of triangle"
read b
echo "Enter height of triangle"
read h
ar=$((b * h))
area=$((ar/2))
echo "Area of triangle is : $area"
```



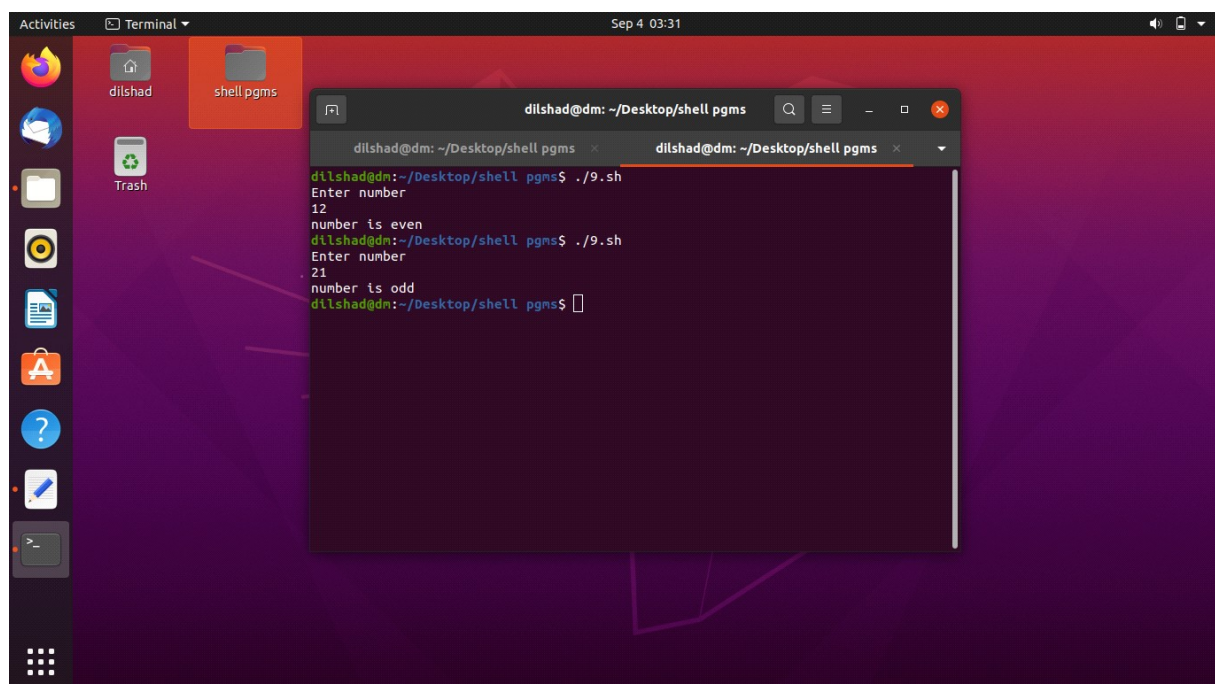
8) Write a shell program to find the square and cube of a number.

```
#!/bin/sh
echo "Enter number"
read n
sq=$((n*n))
cu=$((n*n*n))
echo "square of $n is : $sq"
echo "cube of $n is : $cu"
```



9) Write a shell program to check whether the given number is odd or even.

```
#!/bin/sh
echo "Enter number"
read n
rem=$((n%2))
if [ $rem -eq 0 ]
then
echo "number is even "
else
echo "number is odd"
fi
```

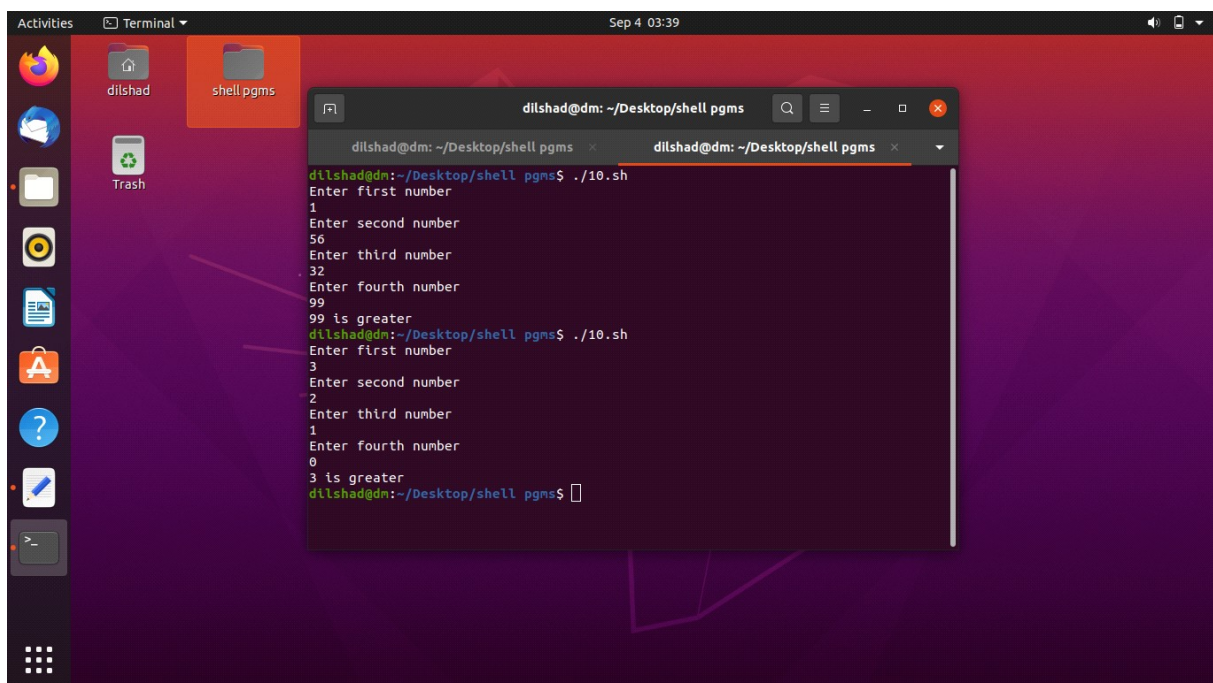


The screenshot shows a Linux desktop environment with a red and purple background. A terminal window is open, displaying the execution of a shell script. The script prompts the user to enter a number. In the first run, the user enters 12, and the script outputs "number is even". In the second run, the user enters 21, and the script outputs "number is odd". The terminal window title is "dilshad@dm: ~/Desktop/shell pgms".

```
dilshad@dm: ~/Desktop/shell pgms
dilshad@dm:~/Desktop/shell pgms$ ./9.sh
Enter number
12
number is even
dilshad@dm:~/Desktop/shell pgms$ ./9.sh
Enter number
21
number is odd
dilshad@dm:~/Desktop/shell pgms$
```

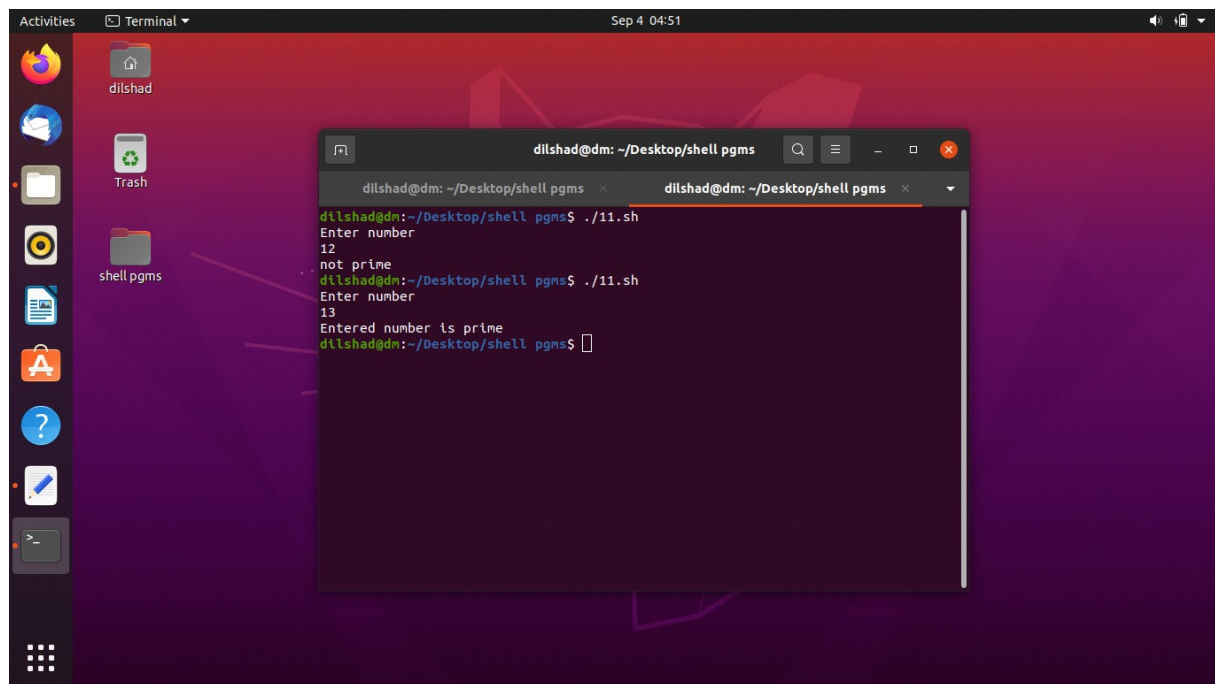

10) Write a shell program to find the minimum among four values.

```
#!/bin/sh
echo "Enter first number"
read a
echo "Enter second number"
read b
echo "Enter third number"
read c
echo "Enter fourth number"
read d
if [ $a -gt $b ] && [ $a -gt $c ] && [ $a -gt $d ]
then
echo "$a is greater"
elif [ $b -gt $a ] && [ $b -gt $c ] && [ $b -gt $d ]
then
echo "$b is greater"
elif [ $c -gt $a ] && [ $c -gt $b ] && [ $c -gt $d ]
then
echo "$c is greater"
else
echo "$d is greater"
fi
```



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

```
#!/bin/sh
echo "Enter number"
read n
f=0
for i in 2 $((n/2))
do
[  $((n\%i)) -eq 0$  ] && f=1
done
[ $f -eq 0 ] && echo "Entered number is prime" || echo "not prime"
```



The screenshot shows a Linux desktop with a red and purple background. A terminal window is open, displaying the execution of a shell script. The script prompts the user to enter a number. In the first run, the user enters 12, and the script outputs "not prime". In the second run, the user enters 13, and the script outputs "Entered number is prime". The terminal window title is "dilshad@dm: ~/Desktop/shell pgms".

```
dilshad@dm: ~/Desktop/shell pgms
dilshad@dm:~/Desktop/shell pgms$ ./11.sh
Enter number
12
not prime
dilshad@dm:~/Desktop/shell pgms$ ./11.sh
Enter number
13
Entered number is prime
dilshad@dm:~/Desktop/shell pgms$
```

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

```
#!/bin/sh
echo "choose options : "
echo "1)Area of circle"
echo "2)Area of square"
echo "3)Area of rectangle"
echo "4)Area of triangle"
read ch
case $ch in
    1)echo "Enter radius"
    read r
    area=$(echo "3.14 * $r * $r" |bc)
    echo "area of circle is $area"
    break
    ;;
    2)echo "Enter side"
    read l
    area=$((l*l))
    echo "area of square is $area"
    break
    ;;
    3)echo "Enter length"
    read l
    echo "Enter breadth"
    read b
    area=$((l*b))
    echo "Area of rectangle is $area"
    break
```

```

;;
4)echo "Enter breadth"
read b
echo "Enter height"
read h
ar=$((b*$h))
area=$((ar/2))
echo "Area of triangle is : $area"
break
;;
*)echo "invalid option ! ! !"
;;
esac

```

The screenshot shows a terminal window titled "Terminal" with the date and time "Sep 4 05:13". The user is logged in as "dilshad" at a machine named "dm", and the current directory is "~/Desktop/shell pgms". The terminal displays the following sequence of commands and outputs:

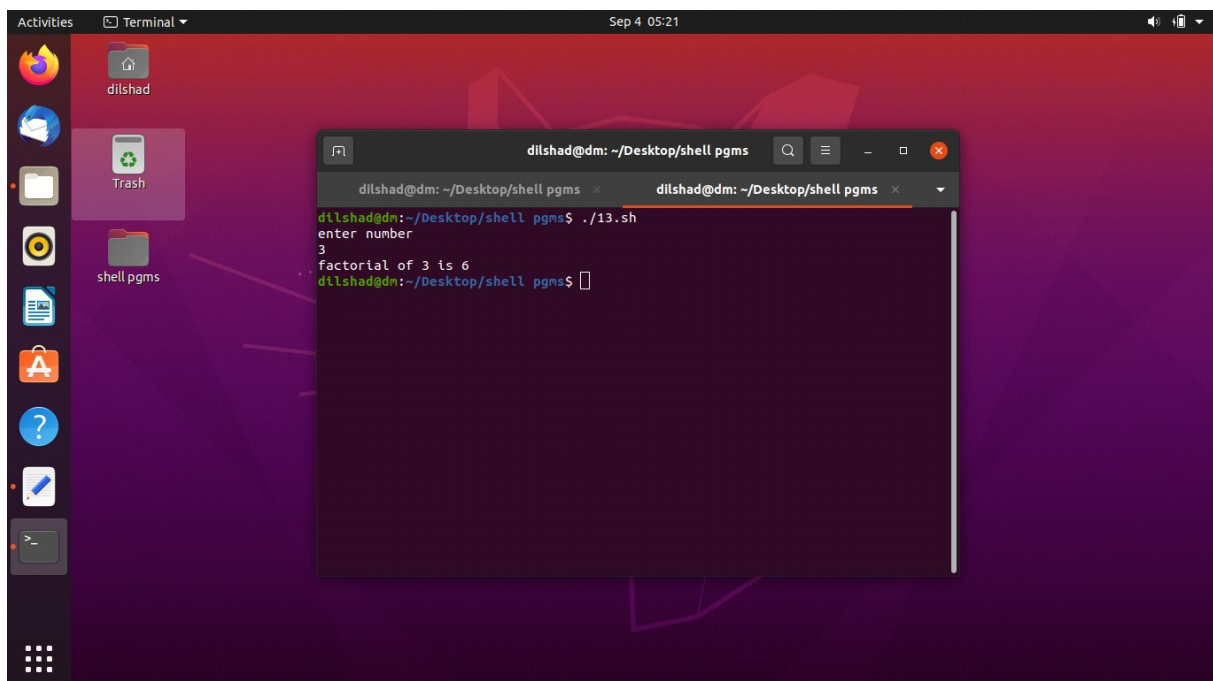
```

dilshad@dm: ~/Desktop/shell pgms
dilshad@dm:~/Desktop/shell pgms$ ./12.sh
choose options :
1)Area of circle
2)Area of square
3)Area of rectangle
4)Area of triangle
1
Enter radius
2
area of circle is 12.56
dilshad@dm:~/Desktop/shell pgms$ ./12.sh
choose options :
1)Area of circle
2)Area of square
3)Area of rectangle
4)Area of triangle
3
Enter length
1
Enter breadth
2
Area of rectangle is 2
dilshad@dm:~/Desktop/shell pgms$

```

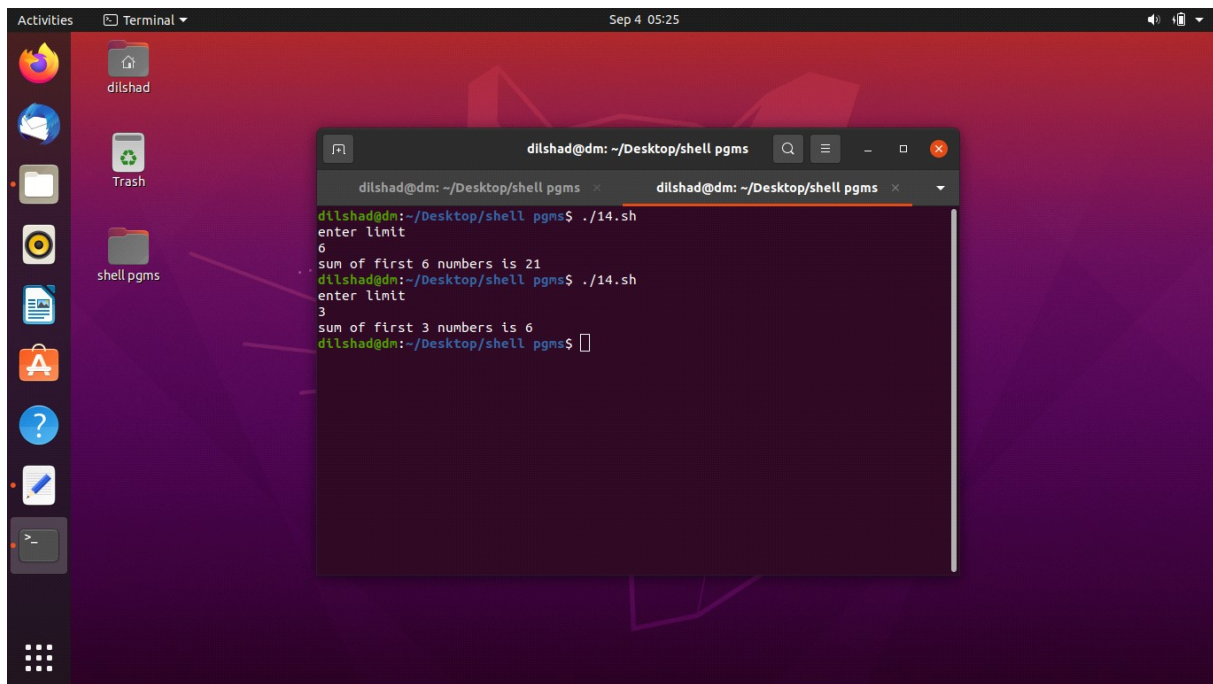
13) Write a shell program to find the factorial of a given number.

```
#!/bin/sh
echo "enter number"
read n
fact=1
i=1
while [ $i -le $n ]
do
fact=$((fact*$i))
i=$((i+1))
done
echo "factorial of $n is $fact"
```

A screenshot of a Linux desktop environment with a red and purple background. On the left is a vertical dock with icons for Firefox, a chat application, a file manager, a terminal, and others. The desktop has icons for 'dilshad', 'Trash', and a folder named 'shell pgms'. A terminal window is open in the foreground, titled 'dilshad@dm: ~/Desktop/shell pgms'. The terminal shows the execution of a script: the user runs './13.sh', the script prompts 'enter number', the user enters '3', and the script outputs 'factorial of 3 is 6'. The terminal prompt is now 'dilshad@dm: ~/Desktop/shell pgms\$'.

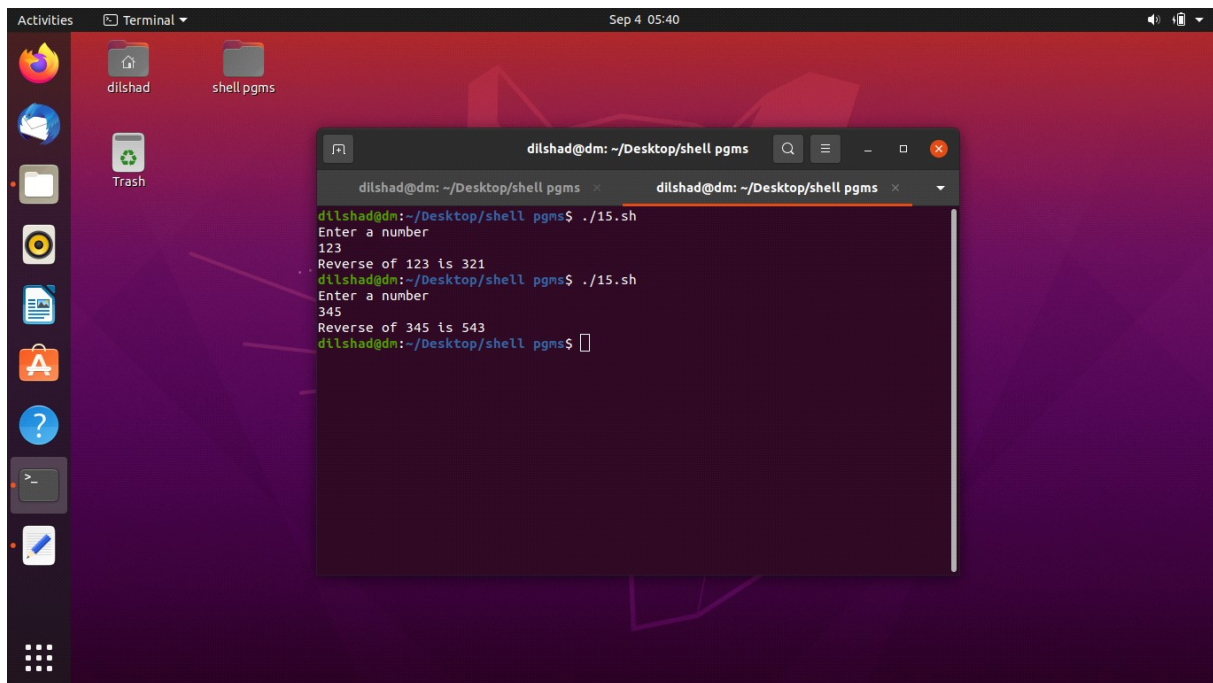
14) Write a Simple Shell script to print the sum of n natural numbers.

```
#!/bin/sh
echo "enter limit"
read n
sum=0
i=1
while [ $i -le $n ]
do
sum=$((sum+$i))
i=$((i+1))
done
echo "sum of first $n numbers is $sum"
```



15) Write a shell program to reverse a number.

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

A screenshot of a Linux desktop environment with a red and purple background. On the left is a vertical dock with icons for Activities, Terminal, and various applications. On the desktop, there are icons for 'dilshad', 'shell pgms', and 'Trash'. A terminal window is open in the foreground, titled 'dilshad@dm: ~/Desktop/shell pgms'. It shows the execution of a shell script named '15.sh'. The script prompts the user to 'Enter a number'. In the first run, '123' is entered, and the output is 'Reverse of 123 is 321'. In the second run, '345' is entered, and the output is 'Reverse of 345 is 543'. The terminal shows the prompt 'dilshad@dm: ~/Desktop/shell pgms\$' before and after each execution.

```
dilshad@dm: ~/Desktop/shell pgms
dilshad@dm:~/Desktop/shell pgms$ ./15.sh
Enter a number
123
Reverse of 123 is 321
dilshad@dm:~/Desktop/shell pgms$ ./15.sh
Enter a number
345
Reverse of 345 is 543
dilshad@dm:~/Desktop/shell pgms$
```