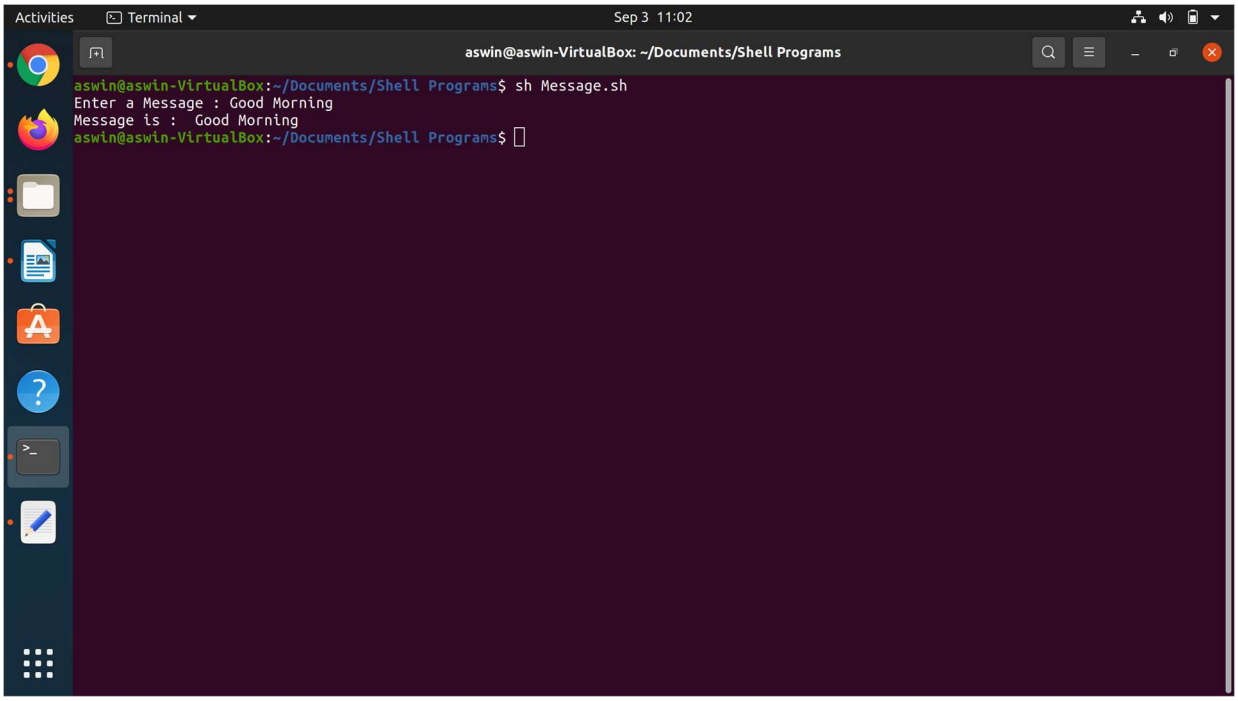
Shell Programming

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

Source Code

```
#!/bin/bash
read -p "Enter a Message : " m
echo "Message is : " $m
```

Output

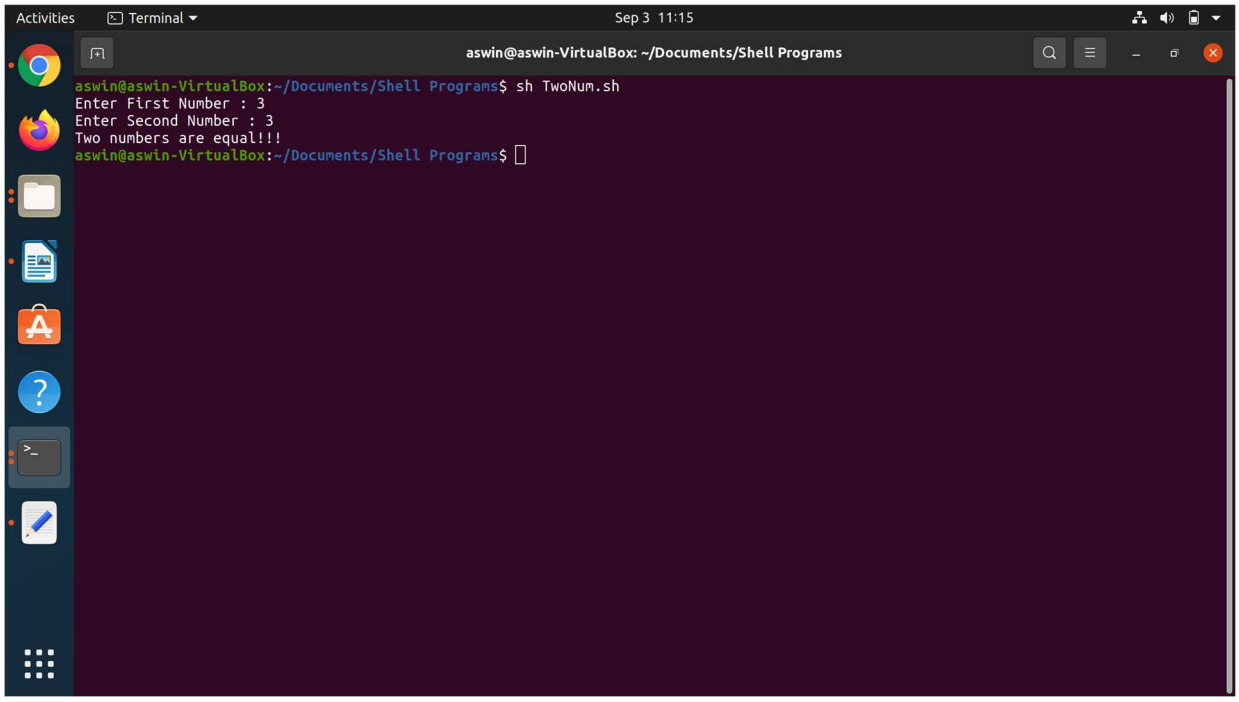


2. Write a shell script to print whether two numbers are equal or not

Source Code

```
#!/bin/bash
read -p "Enter First Number : " n1
read -p "Enter Second Number : " n2
if [ $n1 -eq $n2 ]
then
echo "Two numbers are equal!!!"
else
echo "Two numbers are not equal!!!"
fi
```

Output



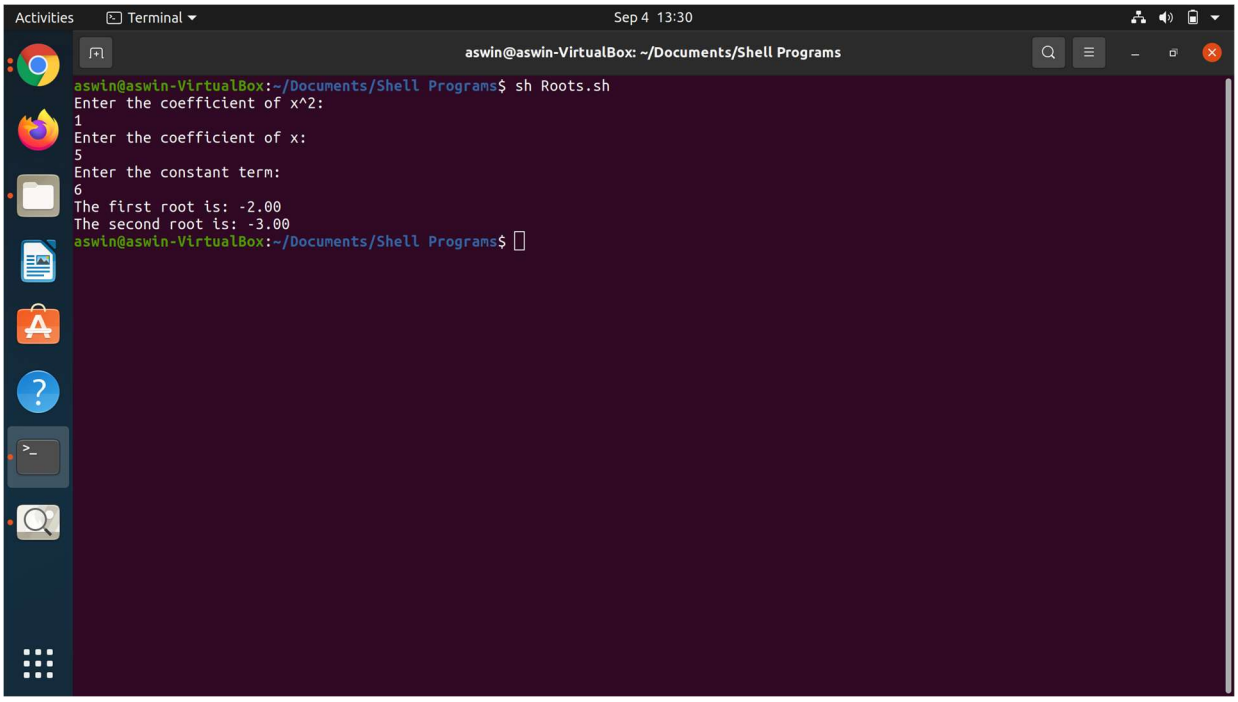
3. Write a Shell Program to find the roots of the quadratic equation.

Source Code

```
#!/bin/bash
echo Enter the coefficient of x^2:
read a
echo Enter the coefficient of x:
read b
echo Enter the constant term:
read c
f=`echo "-($b)" |bc`
p=`expr 2 \* $a`
if [ $a -ne 0 ]
then
d=`echo \( \( $b \* $b \) - \( 4 \* $a \* $c \) \) | bc`
if [ $d -lt 0 ]
then
x=`echo "-($d)" | bc`
s=`echo "scale=2; sqrt ( $x )" | bc`
echo The first root is:
echo "($f + $s i) / $p"
echo The second root is:
echo "($f - $s i) / $p"
elif [ $d -eq 0 ]
then
res=`expr $f / $p`
echo The root is: $res
else
s=`echo "scale=2; sqrt( $d )" | bc`
res1=`echo "scale=2; ( $f + $s) / ( $p )"|bc`
res2=`echo "scale=2; ( $f - $s) / ( $p )"|bc`
```

```
echo The first root is: $res1
echo The second root is: $res2
fi
else
echo Coefficient of x^2 can not be 0.
fi"Two numbers are not equal!!!"
fi
```

Output

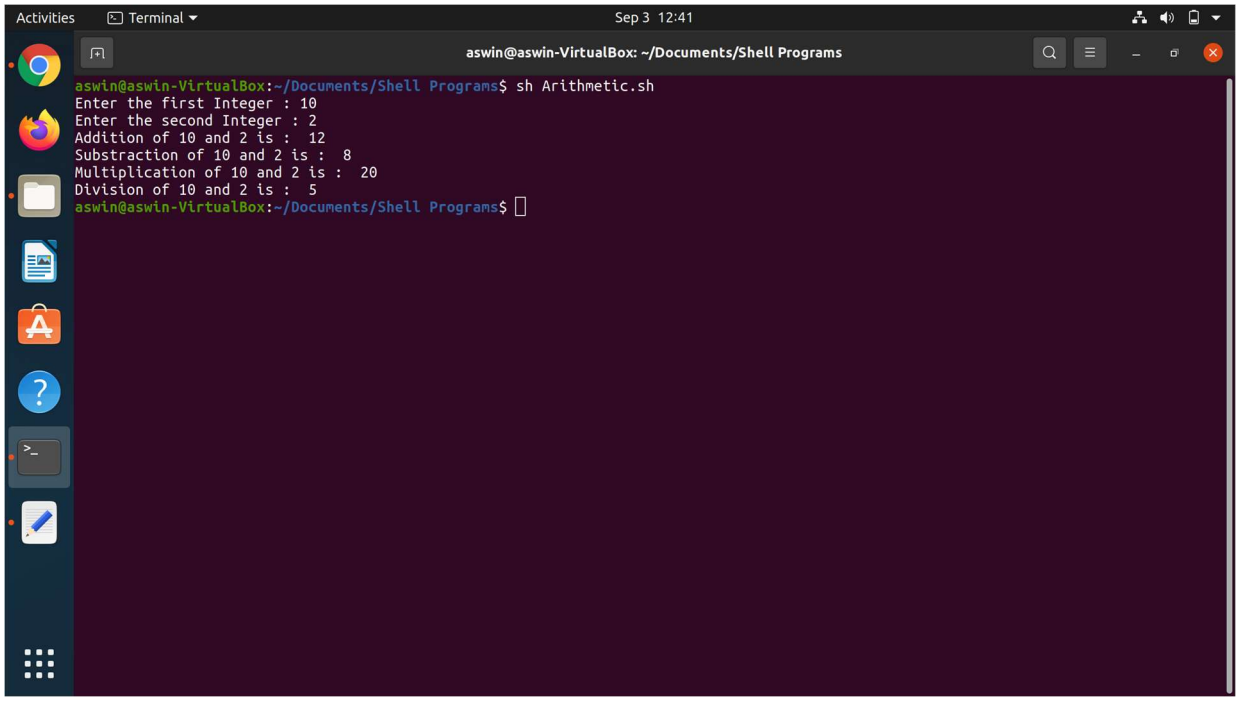


4. Write a shell script to perform integer arithmetic operations.

Source Code

```
!/bin/bash
read -p "Enter the first Integer : " a
read -p "Enter the second Integer : " b
add=$(( $a+$b ))
sub=$(( $a-$b ))
mul=$(( $a*$b ))
div=$(( $a/$b ))
echo "Addition of $a and $b is : " $add
echo "Substraction of $a and $b is : " $sub
echo "Multiplication of $a and $b is : " $mul
echo "Division of $a and $b is : " $div
```

Output

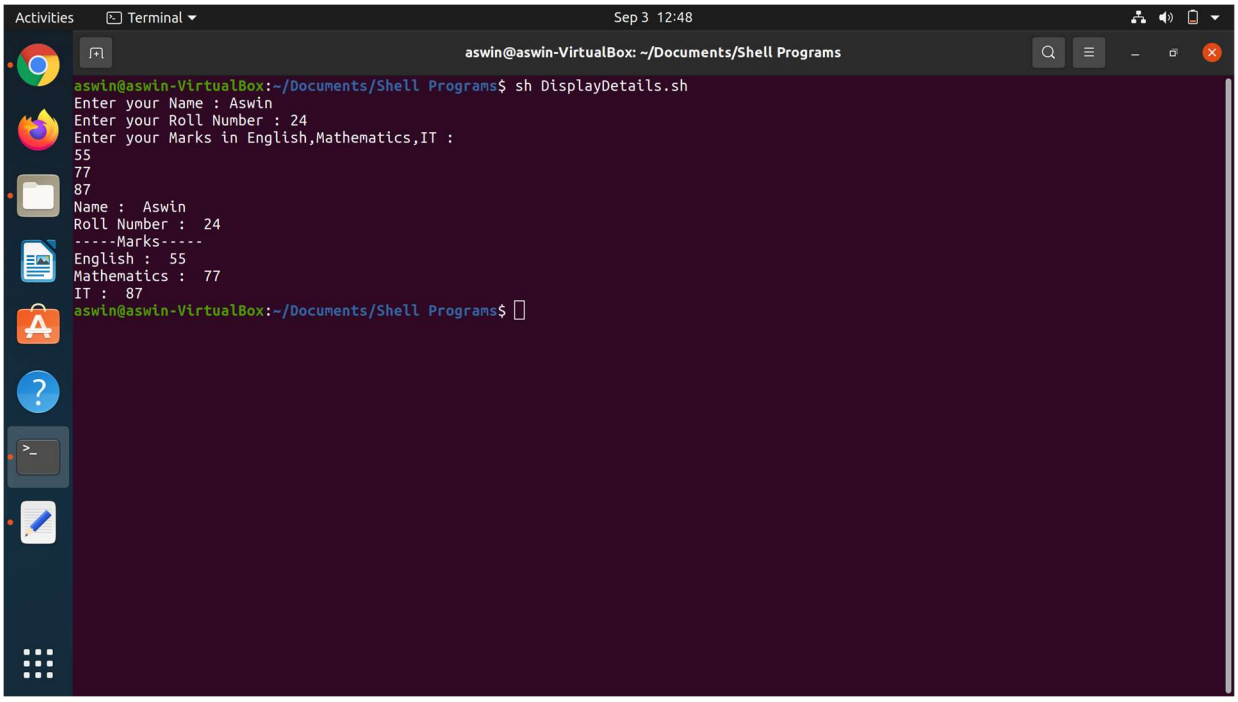


5. Write a shell script to getting input details like name, roll number and marks and print them.

Source Code

```
#!/bin/bash
read -p "Enter your Name : " name
read -p "Enter your Roll Number : " roll
echo "Enter your Marks in English,Mathematics,IT : "
read english
read maths
read it
echo "Name : " $name
echo "Roll Number : " $roll
echo "-----Marks-----"
echo "English : " $english
echo "Mathematics : " $maths
echo "IT : " $it
```

Output

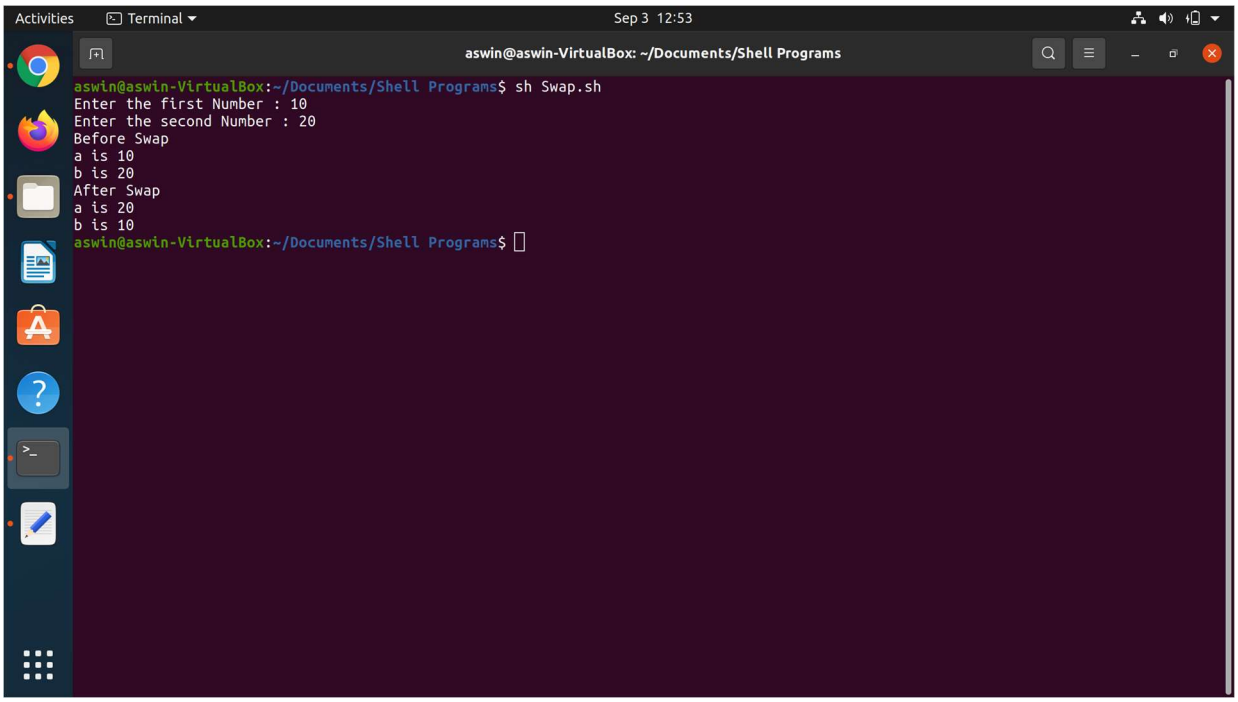


6. Write a Shell program to swap two values

Source Code

```
#!/bin/bash
read -p "Enter the first Number : " a
read -p "Enter the second Number : " b
echo "Before Swap"
echo "a is $a"
echo "b is $b"
a=$(($a+$b))
b=$(($a-$b))
a=$(($a-$b))
echo "After Swap"
echo "a is $a"
echo "b is $b"
```

Output

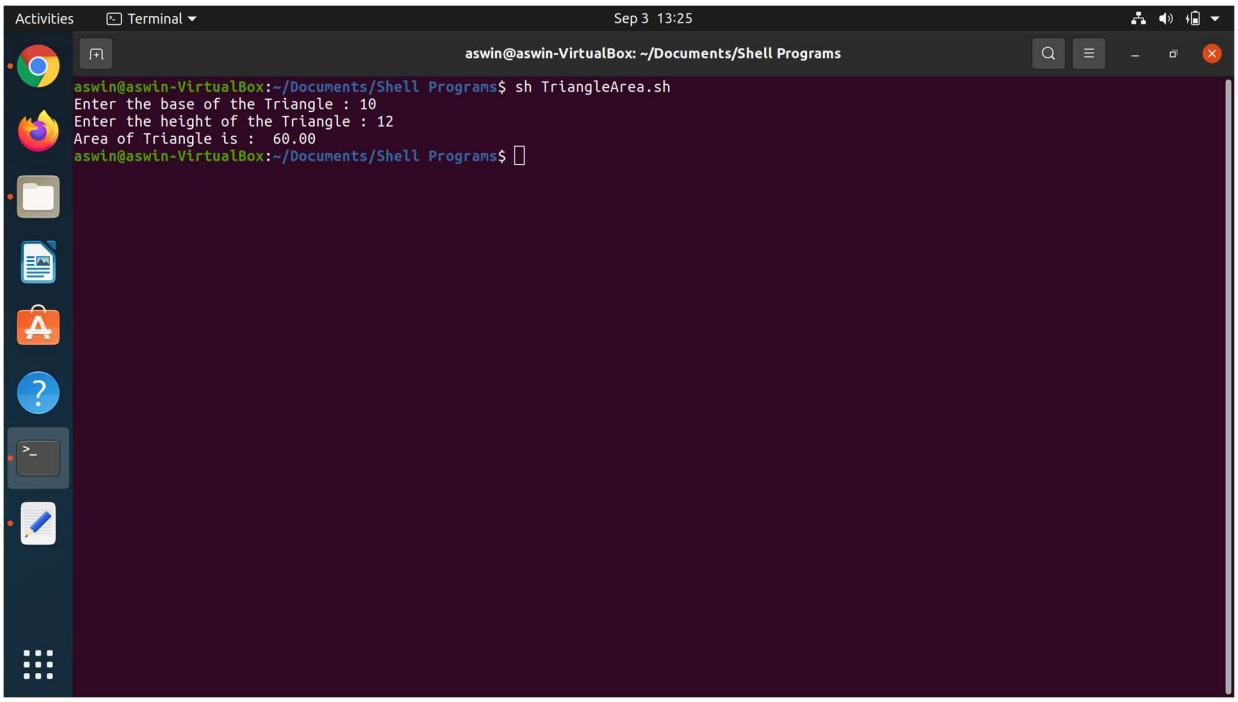


7. Write a shell program to find the area of a triangle.

Source Code

```
#!/bin/bash
read -p "Enter the base of the Triangle : " b
read -p "Enter the height of the Triangle : " h
area=`expr "scale=2; 1/2*$b*$h"|bc`
echo "Area of Triangle is : " $area
```

Output

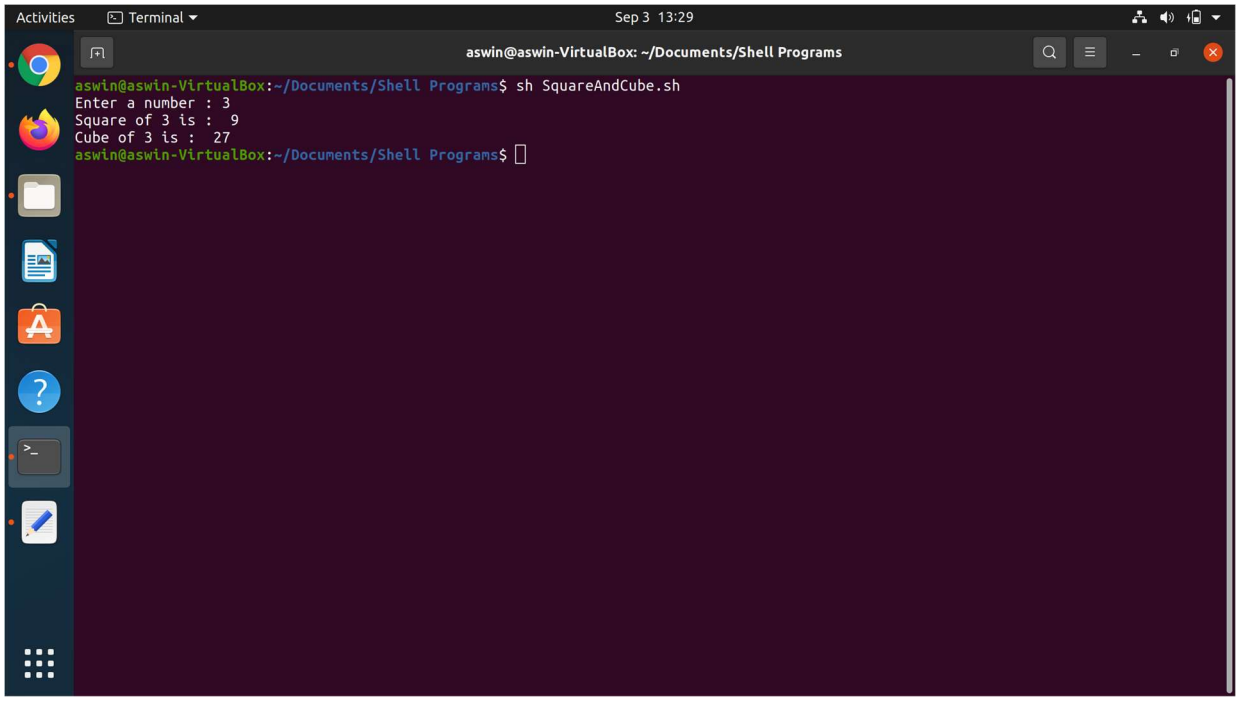


8. Write a shell program to find the square and cube of a number

Source Code

```
#!/bin/bash
read -p "Enter a number : " a
square=$(( $a*$a ))
cube=$(( $a*$a*$a ))
echo "Square of $a is : " $square
echo "Cube of $a is : " $cube
```

Output

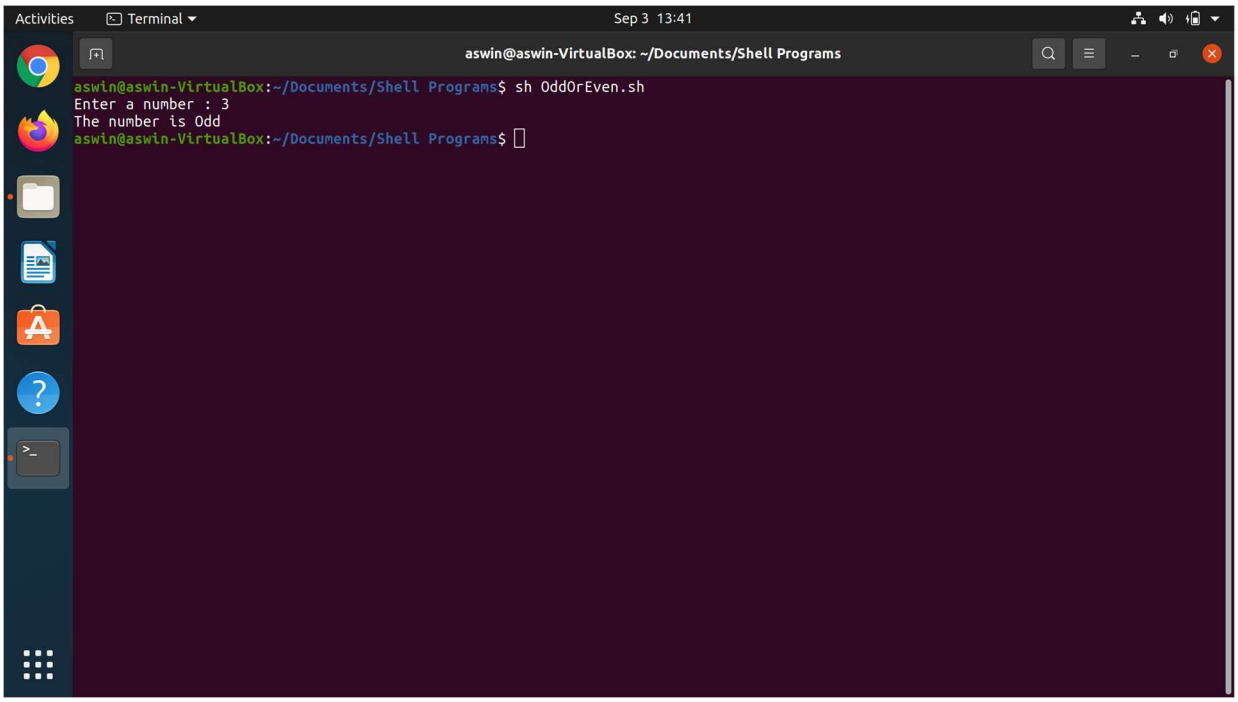


9. Write a shell program to check whether the given number is odd or even.

Source Code

```
#!/bin/bash
read -p "Enter a number : " a
if [ $(( a%2 )) -eq 0 ]
then
echo "The number is Even"
else
echo "The number is Odd"
fi
```

Output

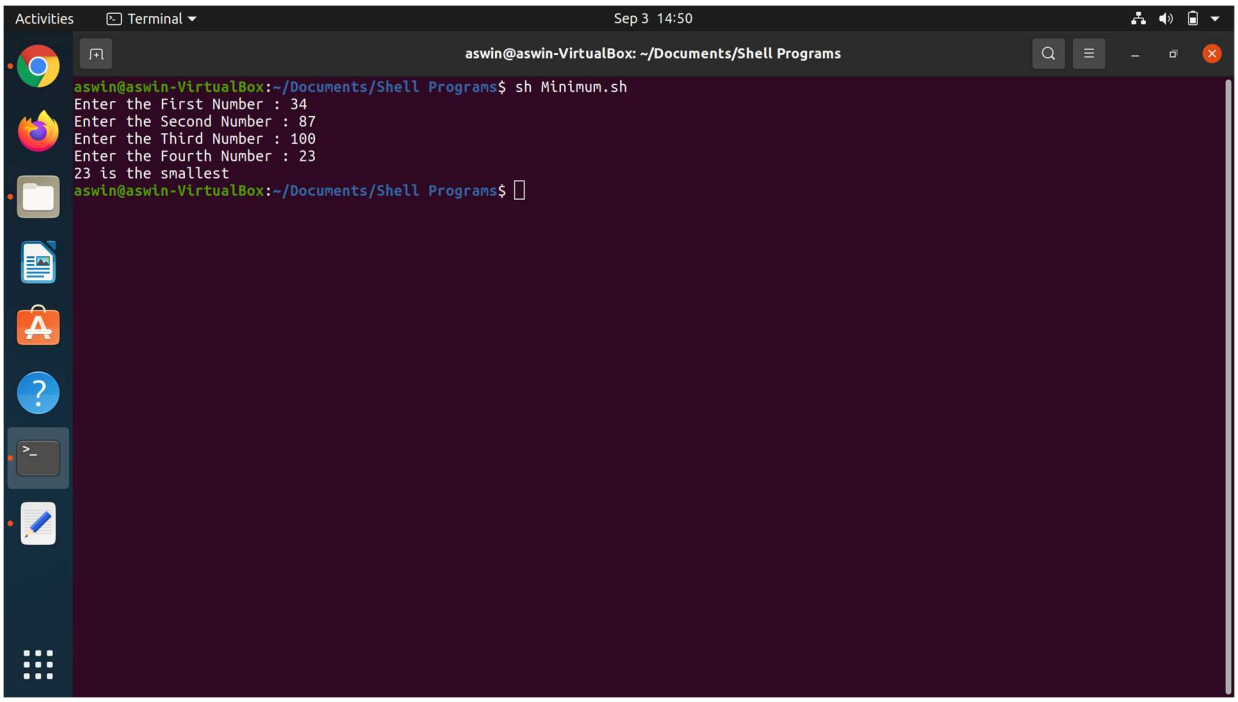


10. Write a shell program to find the minimum among four values.

Source Code

```
#!/bin/bash
read -p "Enter a number : " a
if [ $(( a%2 )) -eq 0 ]
then
echo "The number is Even"
else
echo "The number is Odd"
fi
```

Output

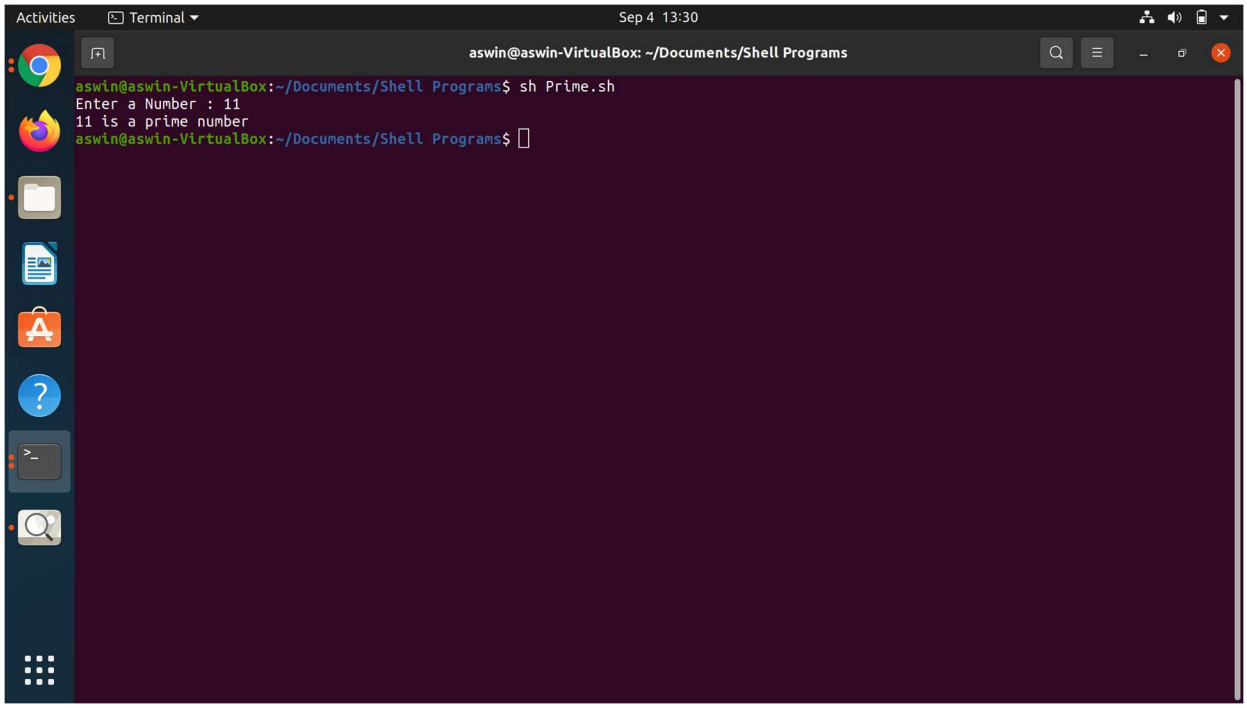


11. Write a shell program to check whether the input number is prime or not.

Source Code

```
#!/bin/bash
read -p "Enter a Number : " a
flag=0
half=$(( $a/2 ))
for i in $(seq 2 $half)
do
if [ $(( a % i )) -eq 0 ]
then
echo "$a is not a prime number"
flag=1
break
fi
done
if [ $flag -eq 0 ]
then
echo "$a is a prime number"
fi
```

Output



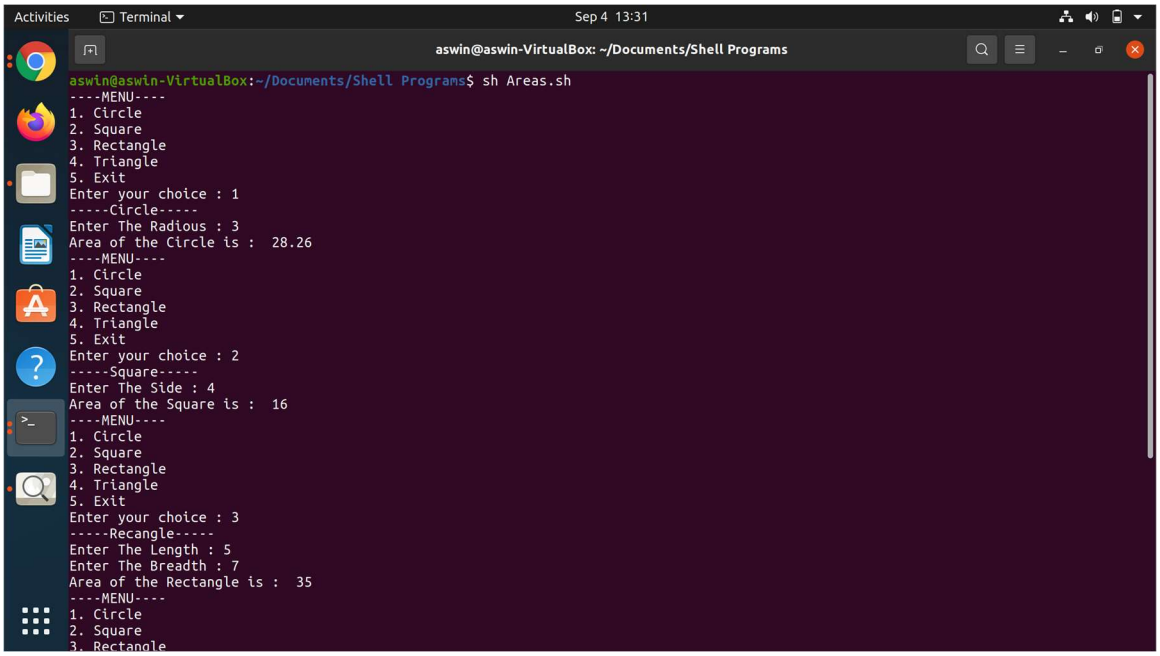
12. Write a shell program to find the area of circle, square, rectangle and triangle using case statements.

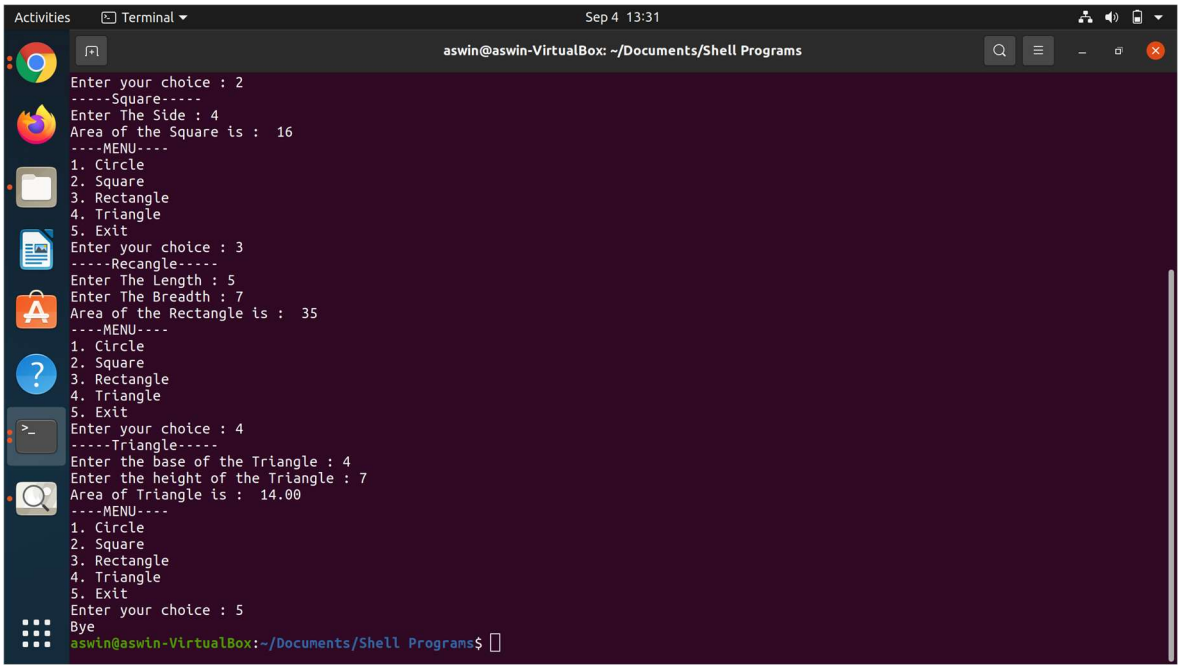
Source Code

```
#!/bin/bash
val=1
while [ $val = 1 ]
do
echo "----MENU----"
echo "1. Circle"
echo "2. Square"
echo "3. Rectangle"
echo "4. Triangle"
echo "5. Exit"
read -p "Enter your choice : " ch
case "$ch" in
1) echo "-----Circle-----"
read -p "Enter The Radious : " r
area=$(echo "scale=2; 3.14*$r*$r" | bc)
echo "Area of the Circle is : " $area;;
2) echo "-----Square-----"
read -p "Enter The Side : " s
area=$(( $s * $s ))
echo "Area of the Square is : " $area;;
3) echo "-----Recangle-----"
read -p "Enter The Length : " l
read -p "Enter The Breadth : " b
area=$(( $l * $b ))
echo "Area of the Rectangle is : " $area;;
4) echo "-----Triangle-----"
read -p "Enter the base of the Triangle : " b
read -p "Enter the height of the Triangle : " h
area=`expr "scale=2; 1/2*$b*$h"|bc`
```

```
echo "Area of Triangle is : " $area;;
5) echo "Bye"
val=0;;
*)echo "Invalid Input"
esac
done
```

Output



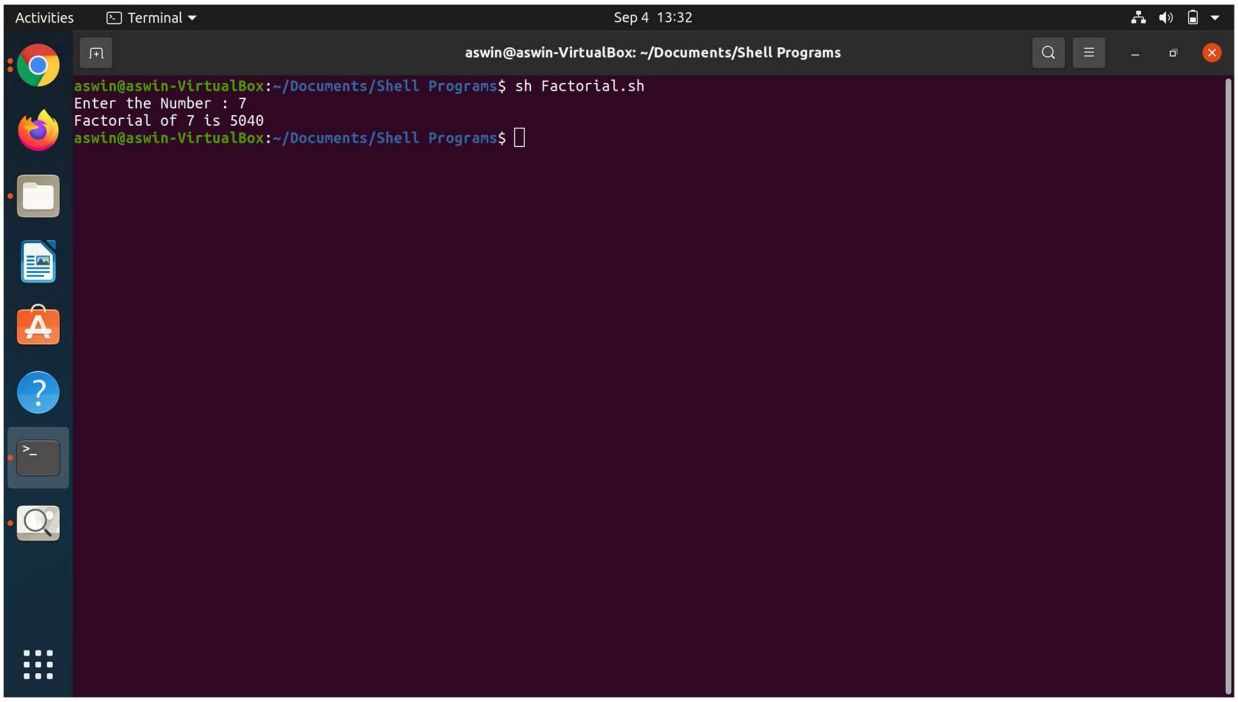


13. Write a shell program to find the factorial of a given number

Source Code

```
#!/bin/bash
read -p "Enter the Number : " n
fact=1
for i in $(seq 2 $n)
do
fact=$(( fact*i ))
done
echo "Factorial of $n is $fact"
```

Output

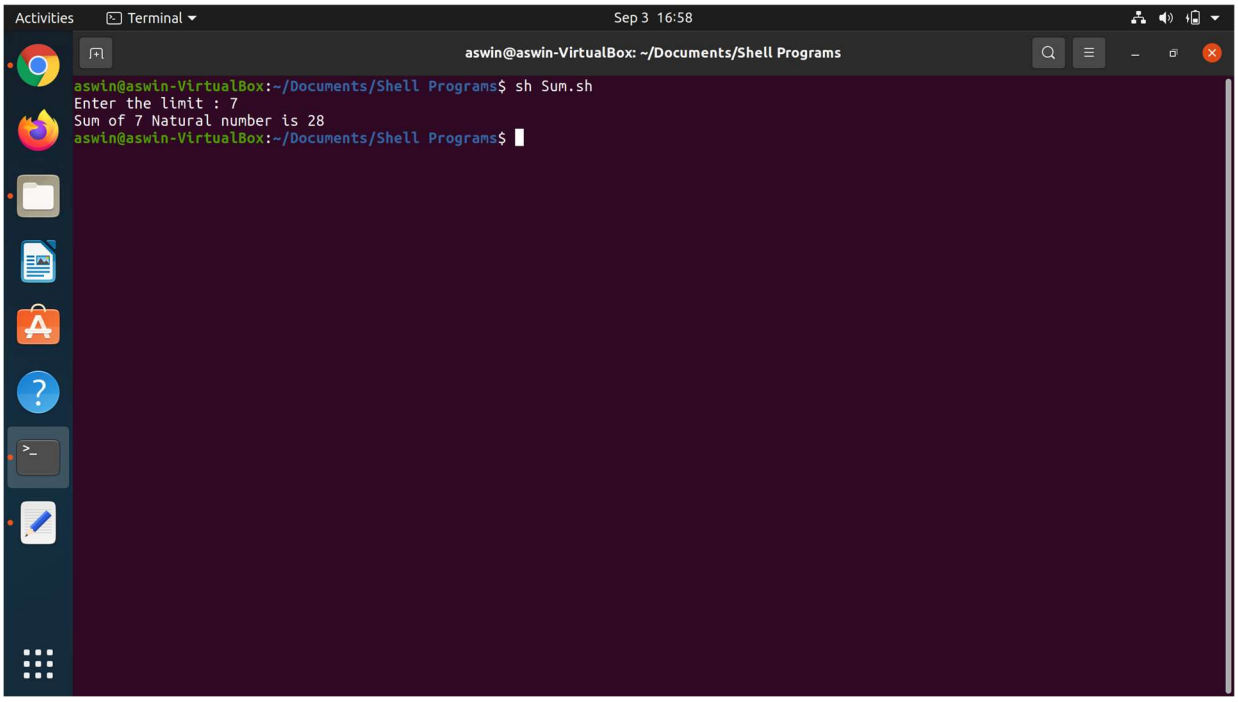


14. Write a Simple Shell script to print the sum of n natural numbers

Source Code

```
#!/bin/bash
read -p "Enter the limit : " n
sum1=0
for i in $(seq 1 $n)
do
sum1=$(( sum1+i ))
done
echo "Sum of $n Natural number is $sum1"
```

Output



15. Write a shell program to reverse a number.

Source Code

```
#!/bin/bash
read -p "Enter a Number : " n
while [ $n -ne 0 ]
do
rem=$(( $n%10 ))
rev=$(( rev*10+rem ))
n=$(( n/10 ))
done
echo
echo "Reversed number : " $rev
```

Output