1. **Linux shell program to find the area of a circle.**

echo "Enter the radius : "

read r

echo "Area of the Circle is"

echo "3.14 \* $r \* $r" | bc

**2.Linux shell program/script to find whether a given number is odd or even**

echo "Enter a number : "

read n

**rem**=$(( **$n** % 2 ))

**if** [ **$rem** -**eq** 0 ]

**then**

echo "$n is even number"

**else**

echo "$n is odd number"

**fi**

**3. Linux shell program/script to create a menu-driven calculator using case**.

**sum**=0

**i**="y"

echo "Enter first number :"

read n1

echo "Enter second number :"

read n2

**while** [ **$i** = "y" ]

**do**

echo "1.Addition"

echo "2.Subtraction"

echo "3.Multiplication"

echo "4.Division"

echo "Enter your choice"

read ch

**case** **$ch** **in**

1)sum=`expr $n1 + $n2`

echo "Sum ="**$sum**;;

2)sub=`expr $n1 - $n2`

echo "Sub = "**$sub**;;

3)mul=`expr $n1 \\* $n2`

echo "Mul = "**$mul**;;

4)div=`echo $n1 / $n2 | bc -l`

echo "Div = "**$div**;;

\*)echo "Invalid choice";;

**esac**

echo "Do u want to continue ?"

read i

**if** [ **$i** != "y" ]

**then**

exit

**fi**

**done**

**4.** **Linux shell program/script to find greatest of three numbers**

echo "Enter three Integers:"

read a b c

**if** [ **$a** -**gt** **$b** -a **$a** -**gt** **$c** ]

**then**

echo "$a is Greatest"

**elif** [ **$b** -**gt** **$c** -a **$b** -**gt** **$a** ]

**then**

echo "$b is Greatest"

**else**

echo "$c is Greatest!"

**fi**

5.**Write a shell script to find mean and standard deviation of three numbers**

**#!/bin/bash**

echo "Enter three integers with space between"

read a b c

**sum**=`expr $a + $b + $c`

**mean**=`expr $sum / 3`

**aa**=$(((**$a** - **$mean**) \* (**$a** - **$mean**)))

**bb**=$(((**$b** - **$mean**) \* (**$b** - **$mean**)))

**cc**=$(((**$c** - **$mean**) \* (**$c** - **$mean**)))

**sd**=$( echo "sqrt(($aa + $bb + $cc) / 3)" | bc -l )

echo "sum=$sum"

echo "mean=$mean"

echo "Sd=$sd"

6.**Write a shell script to find sum of all digits from a given number**

**#!/bin/bash**

echo "Enter a Number:"

read n

**temp**=**$n**

**sd**=0

**sum**=0

**while** [ **$n** -**gt** 0 ]

**do**

**sd**=$(( **$n** % 10 ))

**n**=$(( **$n** / 10 ))

**sum**=$(( **$sum** + **$sd** ))

**done**

echo "Sum is $sum"

**7. Write a shell script to find reverse of a number**

**#!/bin/bash**

echo "Enter a Number:"

read a

**rev**=0

**sd**=0

**or**=**$a**

**while** [ **$a** -**gt** 0 ]

**do**

**sd**=`expr $a % 10`

**temp**=`expr $rev \\* 10`

**rev**=`expr $temp + $sd`

**a**=`expr $a / 10`

**done**

echo "Reverse of $or is $rev"

**8. Write a shell script to find prime numbers up to a given number**

**#!/bin/bash**

echo "Enter a limit"

read limit

echo "prime numbers upto $limit are :"

echo "1"

**i**=2

**while** [ **$i** -**le** **$limit** ]

**do**

**flag**=1

**j**=2

**while** [ **$j** -**lt** **$i** ]

**do**

**rem**=$(( **$i** % **$j** ))

**if** [ **$rem** -**eq** 0 ]

**then**

**flag**=0

**break**

**fi**

**j**=$(( **$j**+1 ))

**done**

**if** [ **$flag** -**eq** 1 ]

**then**

echo "$i"

**fi**

**i**=$(( **$i**+1 ))

**done**

**9. Write a shell script to find n Fibonacci numbers**

**#!/bin/bash**

echo "How many numbers do you want of Fibonacci series ?"

read total

**x**=0

**y**=1

**i**=2

echo "Fibonacci Series up to $total terms :: "

echo "$x"

echo "$y"

**while** [ **$i** -**lt** **$total** ]

**do**

**i**=`expr $i + 1 `

**z**=`expr $x + $y `

echo "$z"

**x**=**$y**

**y**=**$z**

**10. Write a shell script to check whether a given number is Armstrong or not**

echo "Enter a number: "

read c

**x**=**$c**

**sum**=0

**r**=0

**n**=0

**while** [ **$x** -**gt** 0 ]

**do**

**r**=`expr $x % 10`

**n**=`expr $r \\* $r \\* $r`

**sum**=`expr $sum + $n`

**x**=`expr $x / 10`

**done**

**if** [ **$sum** -**eq** **$c** ]

**then**

echo "It is an Armstrong Number."

**else**

echo "It is not an Armstrong Number."

**fi**

**11 Write a shell script to reverse a string and check whether a given string is palindrome or not**

echo Enter the string

read s

echo **$s**>temp

**rvs**="$(rev temp)"

**if** [ **$s** = **$rvs** ]

**then**

echo "it is palindrome"

**else**

echo " it is not a Palindrome"

**fi**

**12. Write a shell script to count the number of lines, words and characters of an input file**

**#!/bin/bash**

echo Enter the filename

read file

**c**=`cat $file | wc -c`

**w**=`cat $file | wc -w`

**l**=`grep -c "." $file`

echo Number of characters **in** **$file** is **$c**

echo Number of words **in** **$file** is **$w**

echo Number of lines **in** **$file** is **$l**

**13. Write a shell script find the factorial of a given number**

**#!/bin/bash**

echo "Enter a number"

read num

**fact**=1

**while** [ **$num** -**gt** 1 ]

**do**

**fact**=$((fact \* num))

**num**=$((num - 1))

**done**

echo Factorial=**$fact**

**14.An employee Basic Pay is input through keyboard where DA is 40% of basic pay and HRA is 20% of basic pay. Write a shell script to calculate gross salary, Gross Salary =Basic Pay + DA + HRA**

**#!/bin/bash**

echo "enter the basic salary:"

read basal

**grosal**=$( echo "$basal+((40/100)\*$basal)+((20/100)\*$basal)" | bc -l)

echo "The gross salary : $grosal"

**15. Write a shell script which whenever gets executed displays the message Good Morning/Good afternoon /Good Evening depending on the time it gets executed**

**#!/bin/bash**

**hour**=`date +%I`

**min**=`date +%M`

**ampm**=`date +%p`

echo "$hour : $min $ampm"

**if** [ **$ampm**="AM" ]

**then**

echo "Good Morning"

**else**

**if** [ **$hour** -**eq** 12 -o **$hour** -**lt** 4]

**then**

echo "Good afternoon"

**elif** [ **$hour** -**ge** 4 -a **$hour** -**le** 8 ]

**then**

echo "Good evening"

**fi**

**fi**