1.Write a shell script to find area of a circle.

```
echo "Enter the radius"
read r
echo "Area of the circle is"
echo "3.14*$r*$r" | bc
```

2.Write a shell script find given number is even or odd.

```
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.Write a shell script to make 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.Write a shell script to find the greatest of three numbers.

```
echo "Enter Num1"
read num1
echo "Enter Num2"
```

```
read num2
echo "Enter Num3"
read num3
if [ $num1 -gt $num2 ] && [ $num1 -gt $num3 ]
then
echo $num1
elif [ $num2 -gt $num1 ] && [ $num2 -gt $num3 ]
then
echo $num2
else
echo $num3
fi
```

5.Write a shell script to compute mean and standard deviaton 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

```
echo "Enter a number"
read num
sum=0
while [ $num -gt 0 ]
do
   mod=$((num % 10))    #It will split each digits
   sum=$((sum + mod))   #Add each digit to sum
   num=$((num / 10))    #divide num by 10.
```

done

echo $sum

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

```
#!/bin/bash

echo "Enter a number"

read num

reverse=0

while [ $num -gt 0 ]

do

remainder=$(( $num % 10 ))

reverse=$(( $reverse * 10 +
$remainder ))

num=$(( $num / 10 ))

done

echo "Reversed number is :
$reverse"
```

8.Write a shell script to find prime numbers upto 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 fibinocci 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
done
```

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

```
#!/bin/bash
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 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 to find the factorial of a number.

```
echo "Enter a number"
 read num
 fact=1
while [ $num -gt 1
 do
 fact=$((fact * num))
fact = fact * num
num=$((num - 1))
num = num – 1
 done
 echo $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.Code for Shell script which whenever gets executed displays the message GoodMorning/Good afternoon /Good Evening depending on the time it get 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
```