

### **Program - 1:**

Write a shell script to find area of a circle.

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

### **Program - 2:**

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

```
echo "enter any number:"  
read n  
rem=$(( $n % 2 ))  
if [ $rem -eq 0 ]  
then  
    echo "$n is even number"  
else  
    echo "$n is odd number"  
fi
```

### **Program - 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=`expr $n1 / $n2`
        echo "Div = "$div;;
        *)echo "Invalid Choice";;
    esac
    echo "Do you want to continue?"
    read i
    if [ $i != "y" ]
    then
        exit
```

```
fi  
done
```

### **Program - 4:**

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

```
echo "Enter three numbers:"  
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
```

### **Program - 5:**

Write a shell script to compute mean and standard deviation of three numbers.

```
echo "enter first number"  
read a  
echo "enter second number"  
read b  
echo " enter third number"
```

```
read c
m=$(( ( $a + $b + $c ) / 3 ))
p=`expr $a - $m`
q=`expr $b - $m`
r=`expr $c - $m`
d=$(( ( $p * $p + $q * $q + $r * $r ) / 3 ))
w=$(echo "sqrt ( $d )" | bc)
echo "Mean of $a, $b, $c is $m"
echo "Standard deviation is $w"
```

### **Program - 6:**

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

```
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"
```

### **Program - 7:**

Write a shell script to find reverse of a number.

```
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"
```

### **Program - 8:**

Write a shell to find prime numbers up to a given number.

```
echo enter a limit
read limit
n=2
while [ $n -le $limit ]
do
    i=2
    f=0
```

```
while [ $i -lt $n ]
do
if [ `expr $n % $i` -eq 0 ]
then
f=1
break;
fi
i=`expr $i + 1`
done
if [ $f -eq 0 ]
then
echo $n
fi
n=`expr $n + 1`
done
```

### **Program - 9:**

Write a shell script to find n Fibonacci numbers.

```
echo "How many fibonacci numbers do you want:"
read total
x=0
y=1
i=2
echo "Fibonacci series up to $total is..."
echo "$x"
echo "$y"
```

```
while [ $i -lt $total ]
do
  i=`expr $i + 1`
  z=`expr $x + $y`
  echo "$z"
  x=$y
  y=$z
done
```

### **Program - 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
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 "Amstrong number"
else
echo "Not amstrong number"
fi
```

### **Program - 11:**

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

```
echo "Input the string:"
read str
for i in $(seq 0 ${#str})
do
revstr=${str:$i:1}$revstr
done
echo "The given string is " $str
echo "Its reverse is " $revstr
if [ "$str" = "$revstr" ]
then
echo "It is a palindrome."
else
echo "It is not a palindrome."
fi
```

### **Program - 12:**

Write a shell script to count no of line, words and characters of a input file.



```
echo enter the filename
read file
w=`cat $file | wc -w`
c=`cat $file | wc -c`
l=`grep -c "." $file`
echo "number of characters in $file is $c "
echo "number of word in $file is $w "
echo "number of lines in $file is $l"
```

### **Program - 13:**

Write a shell script to convert all the contents into the uppercase in a particular file in Unix.

```
echo "enter a file name"
read file
cat $file | tr '[a-z]' '[A-Z]'
```

### **Program - 14:**

Write a shell script to find the value of one number raised to the power of another. Two numbers are entered through the keyboard.

```
echo "Enter the integer value : "
read int1
echo "Enter the power of that integer: "
read int2
```

```
pv=$int1
i=1
while [ $i -lt $int2 ]
do
pv=$(( $pv*$int1 ))
i=$(( $i+1 ))
done
echo "The value of first number to the power of the second
number : "
echo "$pv"
```

### **Program - 15:**

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

```
echo "Enter a number:"
read num
fact=1
echo "Factorial of $num is:"
while [ $num -gt 1 ]
do
fact=$(( fact * num ))
num=$(( num - 1 ))
done
echo $fact
```

### **Program - 16:**

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.

```
echo "Enter the basic Salary:"
read bsal
gsal=$((bsal+((bsal/100)*40)+(bsal/100)*20))
echo "The gross salary : $gsal"
```

### **Program - 17:**

Write a shell script to find the average of the numbers entered as command line arguments.

```
sum=0
for i in $*
do
sum=`expr $sum + $i `
done
avrg=`expr $sum / $# `
echo "sum of the given numbers is = $sum"
echo "average of the given numbers is = $avrg"
```

### **Program - 18:**

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

```
check=`date +%H`  
echo $check  
if [ $check -ge 06 -a $check -le 12 ]  
then  
    echo "Good Morning"  
elif [ $check -ge 12 -a $check -le 16 ]  
then  
    echo "Good Afternoon"  
else  
    echo "Good Evening"  
fi
```

### **Program - 19:**

Write a shell script to Display Banner, calendar of given year.

```
echo "Enter a year:"  
read year  
banner $year  
cal $year
```

### **Program - 20:**

Write a shell script to display current date and time, number of users, terminal name, login date and time.

```
echo "today is $(date)"
echo "as of now `who | wc -l` user are login to the system"
echo "my details"
echo "User name: `who i am | cut -f 1 -d "`"
echo "terminal name: `who i am | cut -f 4 -d "`"
echo "login date: `who i am | cut -f 12-13, -d "`"
echo "login time: `who i am | cut -f -14 -d "`"
```

### **Program - 21:**

Write a shell script which uses all the file test operators.

```
echo "Enter file name:"
read fn
if [ -e $fn ]
then
    echo "The file is exist"
    if [ -r $fn ]
    then
        echo "The file is readable"
    else
        echo "the file is not readable"
    fi
fi
if [ -w $fn ]
```

```
then
    echo "The file is writable"
else
    echo "the file is not writable"
fi
if [ -x $fn ]
then
    echo "The file is executable"
else
    echo "the file is not executable"
fi
if [ -f $fn ]
then
    echo "The file is an ordinary file"
else
    echo "the file is an special file"
fi
if [ -d $fn ]
then
    echo "This is an directory"
else
    echo "This is not an directory"
fi
if [ -s $fn ]
then
    echo "File size is zero"
else
```

```
    echo "File size is not zero"
fi
else
echo "the file is not exist"
fi
```

### **Program - 22:**

Write a shell script to copy the contents of file to another. Input file names through command line. The copy should not be allowed if second file exists.

```
if [ -e $1 ]
then
    if [ -e $2 ]
    then
        echo "$2 already exist, so copying not possible"
    else
        cp $1 $2
        echo "$1 copied to $2"
    fi
fi
```

### **Program - 23:**

Write a shell script to find number of vowels, consonants, numbers in a given string.

```
echo "type any string"
```

```
read string
length=`echo $string | wc -c`
nvowels=0
nconsonants=0
ndigits=0
while [ $length -gt 1 ]
do
length=`expr $length - 1`
h=`echo $string | cut -c$length`
case $h in
[AaEeIiOoUu]) nvowels=`expr $nvowels + 1`;;
[BbCcDdFfGgHhJjKkLlMmNnPpQqRrSsTtVvWwXxYyZz])
nconsonants=`expr $nconsonants + 1`;;
[0-9]) ndigits=`expr $ndigits + 1` ;;
esac
done
echo "number of vowels:$nvowels"
echo "number of consonants:$nconsonants"
echo "number of digits:$ndigits"
```

### **Program - 24:**

Write a shell script to perform operations like displays, list, make directory and copy, rename, delete.

```
f=1
while [ $f -gt 0 ]
do
```



```
echo "1. display current directory"
echo "2.list"
echo "3.make directory"
echo "4.copy"
echo "5.rename"
echo "6.delete"
echo "enter your choice:"
read ch
case $ch in
  1) echo "current directory is:"
    pwd;;
  2) echo "directories are:"
    ls;;
  3) echo "enter name to create directory"
    read d
    mkdir $d
    echo "$d directory is created";;
  4) echo "enter file name to copy:"
    read f1
    echo "enter file name to be copied:"
    read f2
    cp $f1 $f2
    echo "$f1 is copied to $f2";;
  5) echo "enter file name to rename:"
    read f1
    echo "enter new name:"
    read f2
```

```
mv $f1 $f2
echo "$f1 is renamed to $f2";;
6) echo "enter file name to delete:"
read f1
rm $f1
echo "$f1 is deleted";;
*) echo "invalid choice entered";;
esac
echo "do you want to continue, 1 to continue other wise 0:"
read f
done
```

### **Program - 25:**

Write a shell script to compare two file and remove one of them if they are same.

```
echo "Enter the name of first file"
read file
file1=$file
echo "Enter the name of first file"
read file
file2=$file
if cmp -s "$file1" "$file2"
then
echo "The files are equal"
rm $file2
```

```
echo "File $file2 is removed"  
else  
echo "The files are different"  
fi
```