

1. Write a script to find area of a circle

```
clear
echo "Enter the radius"
read r
area=`echo 3.14\*$r\*$r |bc`
echo "Area ="$area
cir=`echo 2\*3.14\*$r |bc`
echo "Circumference :" $cir
```

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

```
clear
read -p "Enter a number: " number
if [ $((number%2)) -eq 0 ]
then
    echo "Number is even."
else
    echo "Number is odd."
fi
```

3. Write a shell script to make a menu driven calculator using case

```
clear
echo "Enter two numbers"
read a b
echo "MENU DRIVEN"
1.Addition
2.Subtraction
```

3.Multiplication

4.Division

Exit"

while((1))

do

echo "choice??"

read n

case \$n in

1)echo "Sum="\$((a + b));;

2)echo "Difference="\$((a-b));;

3)echo "Product="\$((a*b));;

4)echo "Reminder="\$((a/b));;

*)exit

esac

done

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

clear

echo "Enter 3 Numbers "

read a b c

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

then echo \$a "is greater"

elif [\$b -gt \$c]

then echo \$b "is greater"

else

echo \$c "is greater"

fi

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

read num1

read num2

```
read num3
let mean=($num1+$num2+$num3)/3
let n1=num1-mean
let n2=num2-mean
let n3=num3-mean
let sd=sqrt(((n1**n1)(n2**n2)(n3**n3))/3)
echo 'mean is :'$mean
echo 'standard deviation is:'$sd'
```

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

```
clear
echo "Enter a number"
read n
t=$n
s=0
while(( $n > 0 ))
do
r=$(( $n % 10 ))
n=$(( $n / 10 ))
s=$(( $s + $r ))
done
echo "Sum of digit of $t is $s"
```

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

```
clear
echo "Enter a number"
read n
temp=$n
rev=0
while(($n>0))
do
```

```

r=$((n%10))
rev=$((rev*10+r))
n=$((n/10))
done
echo "Reverse of $temp is $rev"

```

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

```

clear
echo "enter a number"
read i
c=2
echo "Prime numbers are :"
while [ $c -le $i ]
do
x=2
flag=0
while [ $x -le `echo $c/2 |bc` ]
do
if [ `echo $c % $x |bc` -eq 0 ]
then
flag=1
fi
x=`echo $x + 1 |bc`
done
if [ $flag -eq 0 ]
then
echo "$c"
fi
c=`echo $c + 1 |bc`
done

```

9. Write a shell script to find n Fibonacci numbers

```

# fibonacci till a limit
clear
echo "enter limit"
read lim
a=0
b=1
c=0
echo "fibonacci numbers :"
while [ $c -lt $lim ]
do
echo $a
temp=$b
b=`echo $a+$temp |bc`

```

```
a=`echo $temp |bc`  
c=`echo $c+1 |bc`  
done
```

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

```
#Armstrong or not  
clear  
echo "Enter a number"  
read no  
sum=0  
temp=$no  
while [ $no -gt 0 ]  
do  
m=`echo $no % 10 |bc`  
cub=`echo $m*$m*$m |bc`  
sum=`echo $sum+$cub |bc`  
no=`echo $no/10 |bc`  
done  
if [ $temp -eq $sum ]  
then echo "ARMSTRONG"  
else  
echo "NOT AN ARMSTRONG"  
fi
```

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

```
clear  
echo "Enter a string: "  
read string  
echo "Reverse of string :"  
echo "$(echo "$string" | rev)"  
if [[ "$(echo "$string" | rev)" == "$string" ]]; then  
echo "Palindrome"  
else  
echo "Not a Palindrome"  
fi
```

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

```
clear  
echo -n "Enter the filename: "  
read path
```

```
read lines words chars filename <<(wc $path)
```

```
echo "The file $filename has $lines lines, $words words and $chars chars."
```

13.Code for Write a shell program to convert all the contents into the uppercase in a particular file in Unix

```
echo Enter the filename
```

```
read filename
```

```
echo Contents of $filename before converting to uppercase
```

```
echo -----
```

```
cat $filename
```

```
echo -----
```

```
echo Contents of $filename after converting to uppercase
```

```
echo -----
```

```
tr '[:a-z:]' '[:A-Z:]' < $filename
```

```
echo -----
```

14.Write a script to find the value of one number raised to the power of another. Two

numbers are entered through the keyboard.

```
echo "Enter The Number"
```

```
read x
```

```
echo "Enter the Power"
```

```
read n
```

```
pow=$((x ** n ))
```

```
echo $n th power of $x is $pow
```

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

```
#factorial of a number
```

```
clear
```

```
echo "enter a number"
```

```
fact=1
```

```
read n
```

```
cp=$n
```

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

```
do
```

```
fact=`echo $fact*$n |bc`
```

```
n=`echo $n-1 |bc`
```

```
done
```

```
echo "Factorial of $cp is " $fact
```

16. An employee Basic salary is input through keyboard where da is 40% of basic salary and hra is 20% of basic salary. Write a program to calculate gross salary

```
clear
echo "Enter basic salary"
read bs
da=$((bs*40/100))
hra=$((bs*20/100))
gs=$((bs+da+hra))
echo "Gross Salary =$gs"
```

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

1. Get N (Total Numbers)

2. Get N numbers using loop

3. Calculate sum

4. Average = sum / N

5. print the result

```
n=$#
sum=0
if ((n < 1))
then
    echo Invalid Number of arguments
    exit
fi
for i in $*
do
    sum=$((sum + i))
done
avg=$((sum / n))
echo Average= $avg
```

18. Code for Shell script which whenever gets executed displays the message Good

Morning/Good afternoon /Good Evening depending on the time it get executed"

```
#clear
check=`date +%H`
echo $check
if [ $check -ge 06 -a $check -le 12 ]
then
```

```

        echo "Good morning"
    elif [ $check -ge 12 -a $check -le 17 ]
    then
        echo "Good afternoon"
    else
        echo "Good evening"
    fi

```

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

20. Code for a program to display current date and time, number of users , terminal name, login date and time

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

```

echo "enter a file name:"
read filename
echo -n "Whether the it is existing:"
if [ -e "$filename" ]
then
    echo "Yes"
    echo -n "Whether it is a file:"
    if [ -f "$filename" ]
    then
        echo "yes"
    else
        echo "No"
    fi
    echo -n "Whether it is a directory:"
    if [ -d "$filename" ]
    then
        echo "Yes"
    else
        echo "No"
    fi
    echo -n "Has write permission:"
    if [ -w "$filename" ]
    then
        echo "Yes"
    else
        echo "No"
    fi

    echo -n "Has read permission:"
    if [ -r "$filename" ]

```



```

then
    echo "Yes"
else
    echo "No"
fi
echo -n "Has execute permission:"
if [ -x "$filename" ]
then
    echo "Yes"
else
    echo "No"
fi
else
    echo "No. Skipping file tests."
fi

```

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.

```

clear
n=$#
if [n -lt 1 ] || [ $n -gt 2]
then
    echo "Invalid no.of arguments"
    exit
fi

if [ $n -eq 1 ]
then
    echo "Destination file not mentioned"
    exit
fi
if [ ! -e "$1" ]
then
    echo Source file \"$1\" Does not exists. Not copied
    exit
fi
if [ -e "$2" ]
then
    echo Destination file \"$2\" Already exists. Not copied
    exit

```

```
fi
cat $1 > $2
echo $1 has been successfully copied to $2
```

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

```
clear
echo -n "Enter a line of text: "
read string

nc=$(echo $string | grep -o "[0-9]" | wc --lines)
vc=$(echo $string | grep -o -i "[aeiou]" | wc --lines)
cc=$(echo $string | grep -o -i "[bcdfghjklmnpqrstvwxyz]" | wc --lines)

echo "The given string has $vc vowels, $cc consonants and $nc numbers in it."
```

24. Code for Shell script to perform operations like display, list, make directory and copy, rename, delete

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

```
clear
n=$#
if ((n != 2))
then
    echo "Invalid argument."
    exit
fi
if [ ! -e $1 ] || [ ! -e $2 ]
then
    echo Either \"$1\" or \"$2\" does not exist
    exit
fi

cmp -s $1 $2
if [ $? -eq 0 ]
then
    echo contents of are same. Thus \"$2\" deleted
    rm $2
else
    echo contents of are not same. Thus not deleted
fi
```

