i) Write a shell script that will generate and print all prime numbers within the given range.

Example:

Input=10

20

Output= 11

13

17

19

Code

```
echo "enter starting the range"
read s
echo "enter ending the range"
read e
echo "the prime nos are:"
for (( i = $s+1 ; $i <= $e ; i = $i + 1))
        do
        c=0
        for (( j = 1 ; $j <= $i ; j = $j + 1))
                do
                if [ `expr $i % $j` -eq 0 ]
                then
                        c=$((c+1))
                fi
                done
        if [ $c -eq 2 ]
        then
                echo $i
        else
                continue
        fi
        done
```

OUTPUT

```
saurjya@Saurjya:~/Desktop/Saurjya OS/Day2$ ./Scrip1.sh
enter starting the range
10
enter ending the range
20
the prime nos are:
11
13
17
19
saurjya@Saurjya:~/Desktop/Saurjya OS/Day2$
```

ii) Write a shell program that accepts a number and performs the basic operations [ 1. Add 2. Substract  3. Multiply 4. Division default. Wrong input ] of a calculator.

example:

Input = 3

5

1

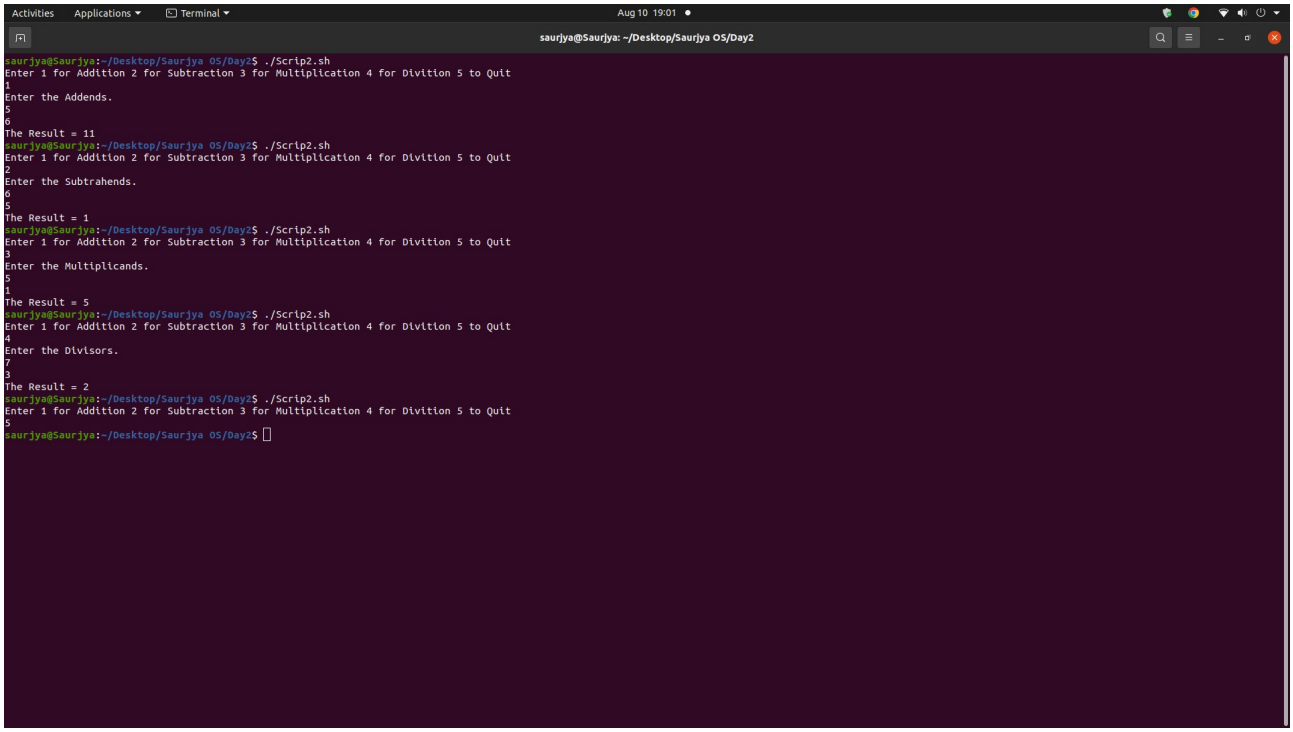
output =8

Code

```
echo "Enter 1 for Addition 2 for Subtraction 3 for Multiplication 4 for Divition 5 to Quit"
read a
case "$a" in
  "1") echo "Enter the Addends."
       read b
       read c
       echo "The Result = "`echo " $b + $c " | bc`
  ;;
  "2") echo "Enter the Subtrahends."
       read b
       read c
       echo "The Result = "`echo " $b - $c " | bc`
  ;;
  "3") echo "Enter the Multiplicands."
       read b
       read c
```

```
        echo "The Result = "`echo " $b * $c " | bc`
  ;;
  "4") echo "Enter the Divisors."
        read b
        read c
        echo "The Result = "`echo " $b / $c " | bc`
  ;;
  "*") echo "Quit."
        exit 0
  ;;
esac
```

Output




iii ) Write a shell script to evaluate the following

$\sum^{\log_{10}}(x)$ for $x$ = 1 to N (N>1)

The input contains the upper limit N.

The output must be scaled up to 3 decimal places.

Note: Enter the input directly as shown below without using any print statement to prompt user for entering input.

Example 1

Input:

4

Output:

1.379

Code

```
echo "Enter the term"
read n
S=0.000
for (( i = 1 ; $i <= $n ; i = $i + 1))
        do
        l=`echo "scale=3;l($i)/l(10)" | bc -l`
        S=`echo "scale=3;$S + $l" | bc -l`
done
echo "Result="$S
```

Output