OS Assignment - 4

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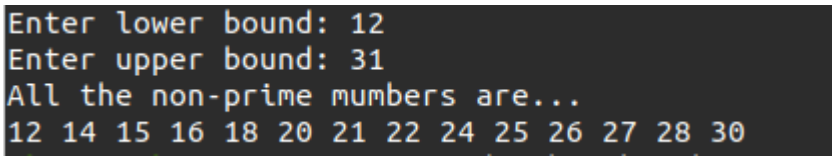
1) Write a shell script to take two numbers as range from the terminal and print non-prime numbers between the given range.

Code

```
echo -n "Enter lower bound: "
read lb
echo -n "Enter upper bound: "
read ub
echo "All the non-prime mumbers are..."
for (( i = lb; i <= ub; i++ ))
do
        for (( j = 2; j*j <= i; j++ ))
        do
                if [ `expr $i % $j` -eq 0 ]
                then
                        echo -n $i" "
                        break
                fi
        done
done
echo " "
```

Output

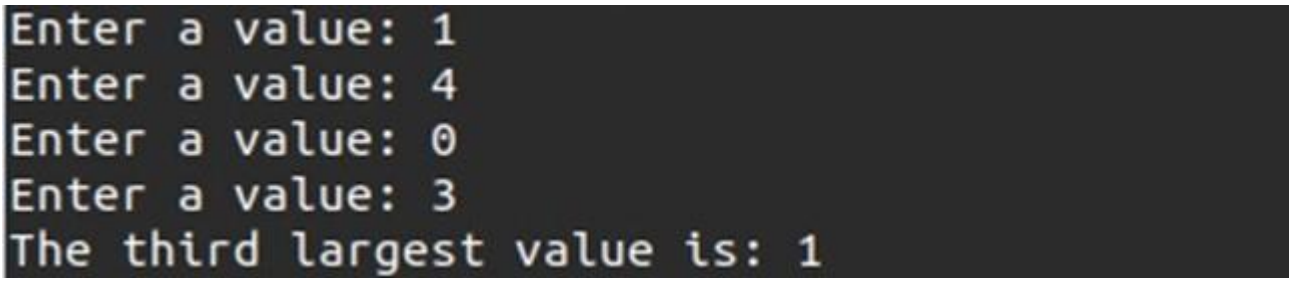


2) Write a shell script to take n numbers of elements in an array amd print the third largest number. Value of n must be taken from the terminal.

Code

```
for (( i=0; i < $1; i++ ))
do
        echo -n "Enter a value: "
        read arr[$i]
done
for (( i=1; i < $1; i++ ))
do
        for (( j=0; j < $1-i; j++ ))
        do
                if [ ${arr[$j]} -gt ${arr[`expr $j + 1`]} ]
                then
                        t=${arr[$j]}
                        arr[$j]=${arr[`expr $j + 1`]}
                        arr[`expr $j + 1`]=$t
                fi
        done
done
echo "The third largest value is:" ${arr[`expr $1 - 3`]}
```

Output



3) Store n number of elements in an array and find out sum of the array elements. Value of n must be taken from the terminal.

Code

```
sum=0
for (( i=0; i < $1; i++ ))
do
        echo -n "Enter a value: "
        read arr[$i]
        sum=`expr $sum + ${arr[$i]}`
done
echo "The sum of all elements is:" $sum
```

Output

```
Enter a value: 4
Enter a value: 3
Enter a value: 6
Enter a value: 3
Enter a value: 8
The sum of all elements is: 24
```

4) Write a shell program that will accept 10 numbers from the terminal and will search the position of a given number in the supplied number.

Code

```
echo -n "Enter the number to be searched: "
read n
c=1
for i in $*
do
        if [ $i -eq $n ]
        then
                echo "The position of" $n "is" $c
                break
        fi
        c=`expr $c + 1`
done
```

Output

```
ayush@DESKTOP-ULT8FD8:~$ bash assignment.sh 4 23 5 2 6 2 1 7 4 9
Enter the number to be searched: 1
The position of 1 is 7
ayush@DESKTOP-ULT8FD8:~$
```

5) Write a shell program to sort a list of n numbers. Value of n must be taken from the terminal.

Code

```
for (( i=0; i < $1; i++ ))
do
        echo -n "Enter a value: "
        read arr[$i]
done
for (( i=1; i < $1; i++ ))
do
        for (( j=0; j < $1-i; j++ ))
        do
                if [ ${arr[$j]} -gt ${arr[`expr $j + 1`]} ]
                then
```

```
                        t=${arr[$j]}
                        arr[$j]=${arr[`expr $j + 1`]}
                        arr[`expr $j + 1`]=$t
                fi
        done
done
for (( i=0; i < $1; i++ ))
do
        echo -n ${arr[$i]}" "
done
echo " "
```

Output