Programming with JavaScript Assignment

PROBLEM 1

You are provided with a number, "**N**". Find its factorial.

Input Description:
A positive integer is provided as an input.

Output Description:
Print the factorial of the integer.

Sample Input :
5

Sample Output :
120

PROBLEM 2

You are given with a number "N", find its cube.

Input Description:
A positive integer is provided as an input.

Output Description:
Find the cube of the number.

Sample Input :
2

Sample Output :
8

PROBLEM 3

The area of an equilateral triangle is ¼(√3a2) where "**a**" represents a side of the triangle. You are provided with the side "**a**". Find the area of the equilateral triangle.

Input Description:
The side of an equilateral triangle is provided as the input.

Output Description:
Find the area of the equilateral triangle and print the answer up to 2 decimal places after rounding off.

Sample Input :
20

Sample Output :
173.21

PROBLEM 4

You will be provided with a number. Print the number of days in the month corresponding to that number.

Note: In case the input is February, print 28 days. If the Input is not in valid range print "Error".

Input Description:
Input n -> month number

Output Description:
Find the days in the month corresponding to the input number. Print Error if the input is not in a valid range.

Sample Input :
8

Sample Output :
31

PROBLEM 5

You are given with a number **A** i.e. the temperature in Celcius. Write a program to convert this into Fahrenheit.

*Note: In case of decimal values, round-off to **two** decimal places.*

Input Description:
A number is provided in Celcius as the input of the program.

Output Description:
The output shall be the temperature converted into Fahrenheit corresponding to the input value print up to two decimal places and round off if required.

Sample Input:
12

Sample Output:
53.60

PROBLEM 6

Write a code to get an integer N and print the sum of values from 1 to N.

Input Description:
A single line contains an integer N.

Output Description:
Print the sum of values from 1 to N.

Sample Input :
10

Sample Output : 55

PROBLEM 7

You are provided with a number "N", Find the Nth term of the series: 1 , 4, 9, 16, 25, 36, 49, 64, 81, ...

(Print "***Error***" if **N** = negative value and 0 if **N** = 0).

Input Description:
An integer N is provided to you as the input.

Output Description:
Find the Nth term in the provided series.

Sample Input :
18

Sample Output :
324

PROBLEM 8

- Let "A" be a string. Remove all the whitespaces and find it's length.
  (Print "***Error***" if **N** = negative value and 0 if **N** = 0).

Input Description:
A string is provide as an input

Output Description:
Remove all the whitespaces and then print the length of the remaining string.

Sample Input :
Lorem Ipsum

Sample Output :

10

PROBLEM 9

You are given the coefficients of a quadratic equation in order A, B & C.

Where A is the coefficient of X2, B is the coefficient of X and C is the constant term in the most simplified form.

Example: For X2 + 5X + 6 = 0, you are given the input as: 1 5 6.

Write a program to find all of the roots of the quadratic.

Note: The output should be up to 2nd decimal place (round off if needed) and in case of a recurring decimal use braces i.e. for eg: 0.33333..... => 0.33.

Note: Use Shri Dharacharya's Method to solve i.e. X = {-b + √(b² - 4ac) } / 2a & {-b-√(b² -4ac)} / 2a

Input Description:
Three numbers corresponding to the coefficients of x(squared), x and constant are given as an input in that particular order

Output Description:
Print the two values of X after rounding off to 2 decimal places if required.

Sample Input:
1 5 6

Sample Output:
-2.00 -3.00

PROBLEM 10

Loki wants to steal the tesseract but in order to do so, he has to rearrange the elements in an array in a specific manner which is mentioned in a clue. The clue says ‘cursed are the odd and sorted are the even’. Loki manages to decode the clue which translates to “sort the even positioned elements of an array, starting from the element at index 0, in ascending order”. Manipulate the array so as to help Loki steal the tesseract.

Input Description:
Size of the array followed by the elements of the array

Output Description:
Even index array elements sorted in ascending order

Sample Input :
5 3 9 1 44 6

Sample Output :
1 9 3 44 6

PROBLEM 11

- Given an array of N elements.find the number of occurences of each character and print it in the decreasing order of occurences, if 2 or more number occurs the same number of times, print the numbers in decreasing order.

Input Size : |N| <= 100000

Sample Testcase :

INPUT
5
3 3 4 4 7 8

OUTPUT
4 3 8 7

PROBLEM 12

Simi is learning about palindromic numbers. Her teacher gave him the task to count all palindromic numbers present in that range.Simi has told you about this and want your help. You design an algorithm in order to help simi.

Input Description:
You will be given a number ‘n’

Output Description:
Print the count of all palindromic numbers till ’n’(inclusive)

Sample Input :
5

Sample Output :
5

PROBLEM 13

Ajay is given a series(In example).he gone through the series but unable to understand it properly,he has hired you.Your task is to understand the series and print the series 2,6,12,20,30... .You are given with a number ‘n’. Find the nth number of series.

Input Description:
You will be given a number ‘n’

Output Description:
Print the nth number of series

Sample Input :
5

Sample Output : 30

PROBLEM 14

You are given with an array. Your task is to print the left rotated array after k opearations. Time:O(n) Extra Space: O(1)

Input Description:
First line contains two number ‘n’ and ‘k’.Next line contains n space separated numbers.

Output Description:
Print the array as mentioned.

Sample Input :
7 3
1 2 3 4 5 6 7

Sample Output :
4 5 6 7 1 2 3

PROBLEM 15

You are given a postfix expression. Evaluate the given expression and print the result.

Input Description:
The first line of the input is a string N, containing operators and numbers seperated by the single space which forms a postfix expression.

Output Description:
Evaluate the post expression and print the result.

Sample Input :
5 3 1 * + 9 -

Sample Output :
-1