



Last Moment Tutions



Coding Section

TCS-NQT Paper Solutions

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Problem Statement 1

An automobile company manufactures both a two wheeler (TW) and a four wheeler (FW). A company manager wants to make the production of both types of vehicle according to the given data below:

- 1st data, Total number of vehicle (two-wheeler + four-wheeler)=v
- 2nd data, Total number of wheels = W

The task is to find how many two-wheelers as well as four-wheelers need to manufacture as per the given data.

Example :

Input :

- 200 -> Value of V
- 540 -> Value of W

Output :

- TW =130 FW=70

Explanation:

$130+70 = 200$ vehicles

$(70*4)+(130*2)= 540$ wheels

Constraints :

- $2 \leq W$
- $W \% 2 = 0$
- $V < W$

Print "INVALID INPUT" , if inputs did not meet the constraints.

The input format for testing

The candidate has to write the code to accept two positive numbers separated by a new line.

- First Input line – Accept value of V.
- Second Input line- Accept value for W.

The output format for testing

- Written program code should generate two outputs, each separated by a single space character(see the example)
- Additional messages in the output will result in the failure of test case

Soln of Program (java)

```
import java.util.*;
public class Solution
{
    public static void main(String[] args)
    {
        Scanner sc=new Scanner(System.in);
        int v=sc.nextInt();
        int w=sc.nextInt();
        float res=((4*v)-w)/2;
        if(w>=2 && (w%2==0) && v<w )
            System.out.println("TW= "+(int)(res)+" FW=
"+(int)(v-res));
        else
            System.out.println("INVALID INPUT");
    }
}
```

Problem Statement 2

Given a string S(input consisting) of '*' and '#'. The length of the string is variable. The task is to find the minimum number of '*' or '#' to make it a valid string. The string is considered valid if the number of '*' and '#' are equal. The '*' and '#' can be at any position in the string.

Note : The output will be a positive or negative integer based on number of '*' and '#' in the input string.

- (*>#): positive integer
- (#>*): negative integer
- (#=*): 0

Example 1:

Input 1:

- ###*** -> Value of S

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Output :

- 0 → number of * and # are equal

Soln of Program (java):

```
import java.util.*;
public class Solution
{
    public static void main(String[] args)
    {
        Scanner sc=new Scanner(System.in);
        String str=sc.next();
        int count1=0,count2=0;
        for(int i=0;i<str.length();i++)
        {
            if(str.charAt(i)=='*')
                count1++;
            else if(str.charAt(i)=='#')
                count2++;
        }
        System.out.println(count1-count2);
    }
}
```

Problem Statement:

A washing machine works on the principle of Fuzzy System, the weight of clothes put inside it for washing is uncertain But based on weight measured by sensors, it decides time and water level which can be changed by menus given on the machine control area.

For low level water, the time estimate is 25 minutes, where approximately weight is between 2000 grams or any nonzero positive number below that.

For medium level water, the time estimate is 35 minutes, where approximately weight is between 2001 grams and 4000 grams.

For high level water, the time estimate is 45 minutes, where approximately weight is above 4000 grams.

Assume the capacity of machine is maximum 7000 grams

Where approximately weight is zero, time estimate is 0 minutes.

Write a function which takes a numeric weight in the range [0,7000] as input and produces estimated time as output is: "OVERLOADED", and for all other inputs, the output statement is

"INVALID INPUT".

Input should be in the form of integer value –

Output must have the following format –

Time Estimated: Minutes

Example:

- Input value

2000

- Output value

Time Estimated: 25 minutes

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Problem Statement:

FULLY AUTOMATIC VENDING MACHINE – dispenses your cuppa on just press of button. A vending machine can serve range of products as follows:

Coffee

1. Espresso Coffee
2. Cappuccino Coffee
3. Latte Coffee

Tea

1. Plain Tea
2. Assam Tea
3. Ginger Tea
4. Cardamom Tea
5. Masala Tea
6. Lemon Tea
7. Green Tea

8. Organic Darjeeling Tea

Soups

1. Hot and Sour Soup
2. Veg Corn Soup
3. Tomato Soup
4. Spicy Tomato Soup

Beverages

1. Hot Chocolate Drink
2. Badam Drink
3. Badam-Pista Drink

Write a program to take input for main menu & sub menu and display the name of sub menu selected in the following format (enter the first letter to select main menu):

Welcome to CCD

Enjoy your

Example 1:

● **Input:**

- c
- 1

● **Output**

- Welcome to CCD!
- Enjoy your Espresso Coffee!

Example 2:

● **Input**

- t
- 9

● **Output**

- INVALID OUTPUT!

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