Name _____ ( )

Class _____ Date _____

Knowledge Management

Opened Date: 15 Feb22 Reg ID : CS/KS(P)100 Filing Date:

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Type: Implementations

Topic: Kick start 2022 Code Practice #1
Sample Test

Discipline of Learning:

- Computer Science
  - Programming (|)
    - Number Operation (%) Remainder

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Content (Modifiers)

- **This kind of "knowledge registration" will merge into the sub-directory.**

Kick Start 2022 Code Practice #1 — Sample

In this question, participants should take serval rounds of test cases, with contain 3 sets of numbers, one is the bag of candy, then the quantity of children's, and the last thing is the array of bags.

This question is ask you to check how many candies will remain when you shared all of your candy in all of your bags equally to a given number of children.

Solving this question does not need knowing about the array, but it will a beneficial,using a for-loop is enough.

A summation process was done between the item stream passing into the loop, and you just only take the sum-up value and number of children passing through a remainder operation, the returned remainder is the final answer of each test case.

The formula is denoted below:

$$\left\{ \left[\sum_{i=1}^{N} c_i \right] \% M \right\}$$

Coding Practice with Kick Start Session #1 - Kick Start 2022

Sample Problem

Problem

You have gathered N bags of candy and you want to distribute the candy amongst M kids. The i-th bag contains C_i pieces of candy. You want to make sure that every kid get the same amount of candy and that the number of pieces of candy they receive is the greatest possible. You can open each bag and mix all pieces of candy before distributing them to the kids.

How many pieces of candy will remain after you share the candy amongst kids, based on the rules described above?

Input

The first line of the input gives the number of test cases, T. T test cases follow.

Each test case consists of two lines. The first line of each test case contains two integers: integer N, the number of candy bags, and M, the number of kids.

The next line contains N non-negative integers $C_1, C_2, \ldots, C_N$ C1,C2,...,CN representing array C, where the i-th integer represents the number of candies in the i-th bag.

Output

For each test case, output one line containing `Case #x: y`, where x is the test case number (starting from 1) and y is the number of candies that will remain if you divide candies between kids according to the rules described above.

Limits

ANS:

$$\left[\sum_{i=1}^{N} C_i\right] \% M$$

Time limit: 40 seconds.
Memory limit: 1 GB.

Test Set 1

$1 \le T \le 100$ 1≤T≤100.
$1 \le N \le 10^5$ 1≤N≤105.
$1 \le M \le 10^4$ 1≤M≤104.
$0 \le C_i \le 1000$ 0≤Ci≤1000, for all i from 1 to N.

Sample

Sample Input save_alt content_copy

```
2
7 3
1 2 3 4 5 6 7
5 10
7 7 7 7 7
```

Sample Output save_alt content_copy

```
Case #1: 1
Case #2: 5
```

In Sample Case #1, we have $N = 7$ N=7 bags of candy. In total we have $1 + 2 + 3 + 4 + 5 + 6 + 7 = 28$ 1+2+3+4+5+6+7=28 candies that we want to divide between $M = 3$ M=3 kids. Every kid can get 99 pieces of candy, so $28 - 3 \times 9 = 1$ 28−3×9=1 pieces of candy will remain.

In Sample Case #2, we have $N = 5$ N=5 bags of candy. In total we have $7 + 7 + 7 + 7 + 7 = 35$ 7+7+7+7+7=35 candies that we want to divide between $M = 10$ M=10kids. Every kid can get 33 pieces of candy, so $35 - 10 \times 3 = 5$ 35−10×3=5 pieces of candy will remain.