

Chocolate Feast



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Little Bobby loves chocolate, and he frequently goes to his favorite 5&10 store, Penny Auntie, with n dollars to buy chocolates. Each chocolate has a flat cost of c dollars, and the store has a promotion where they allow you to trade in n chocolate wrappers in exchange for n free piece of chocolate.

For example, if m=2 and Bobby has n=4 dollars that he uses to buy 4 chocolates at c=1 dollar apiece, he can trade in the 4 wrappers to buy 2 more chocolates. Now he has 2 more wrappers that he can trade in for 1 more chocolate. Because he only has 1 wrapper left at this point and 1 < m, he was only able to eat a total of 7 pieces of chocolate.

Given n, c, and m for t trips to the store, can you determine how many chocolates Bobby eats during each trip?

Input Format

The first line contains an integer, *t*, denoting the number of trips Bobby makes to the store.

Each line i of the t subsequent lines contains three space-separated integers describing the respective n, c, and m values for one of Bobby's trips to the store.

Constraints

- $1 \le t \le 1000$
- $2 \le n \le 10^5$
- $1 \le c \le n$
- $2 \le m \le n$

Output Format

For each trip to Penny Auntie, print the total number of chocolates Bobby eats on a new line.

Sample Input

Sample Output

6 3 5

Explanation

Bobby makes the following ${\bf 3}$ trips to the store:

- 1. He spends his 10 dollars on 5 chocolates at 2 dollars apiece. He then eats them and exchanges all 5 wrappers to get 1 more chocolate. We print the total number of chocolates he ate, which is 6.
- 2. He spends his 12 dollars on 3 chocolates at 4 dollars apiece; however, he needs 4 wrappers to trade for his next chocolate. Because he only has 3 wrappers, he cannot purchase or trade for any more chocolates. We print the total number of chocolates he ate, which is 3.
- 3. He spends 6 dollars on 3 chocolates at 2 dollars apiece. He then exchanges 2 of the 3 wrappers for 1 additional piece of chocolate. Next, he uses his third leftover chocolate wrapper from his initial purchase with the wrapper from his trade-in to do a second trade-in for 1 more piece of chocolate. At this point he has 1 wrapper left, which is not enough to perform another trade-in. We print the total number of chocolates he ate, which is 5.

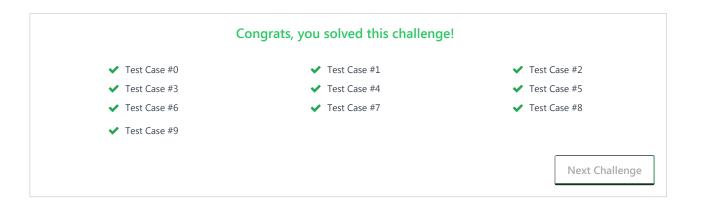






Submissions: 59534
Max Score: 25
Difficulty: Easy
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Current Buffer (saved locally, editable) & 🔊
                                                                                  C#
                                                                                                                Ö
    using System;
 2
    using System.Collections.Generic;
 3
    using System.IO;
    using System.Linq;
 5
   ▼ class Solution {
 6
 7
        static void Main(String[] args) {
 8
             int t = Convert.ToInt32(Console.ReadLine());
 9
             for(int a0 = 0; a0 < t; a0++){
                 string[] tokens_n = Console.ReadLine().Split(' ');
10
11
                 int n = Convert.ToInt32(tokens_n[0]);
12
                 int c = Convert.ToInt32(tokens_n[1]);
                 int m = Convert.ToInt32(tokens_n[2]);
13
14
15
                 int chocolates_comidos = n / c;
16
                 int envoltorios = chocolates_comidos;
17
                 do
18 •
19
                     chocolates_comidos += envoltorios / m;
                     int resto_envoltorios = envoltorios % m;
20
21
                     envoltorios = envoltorios / m + resto_envoltorios;
22
23
                 } while (envoltorios >= m);
24
                 Console.WriteLine(chocolates_comidos);
25
26
27
28
29
                                                                                                       Line: 15 Col: 13
                     Test against custom input
                                                                                             Run Code
                                                                                                         Submit Code
1 Upload Code as File
```



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