

You have successfully solved Chocolate Feast

Share Tweet

You are now 71.38 points away from the gold level for your problem solving badge.

Try the next challenge | Try a Random Challenge

Problem Submissions Leaderboard Discussions Editorial Topics

Little Bobby loves chocolate. He frequently goes to his favorite **5 & 10** store, Penny Auntie, to buy them. They are having a promotion at Penny Auntie. If Bobby saves enough wrappers, he can turn them in for a free chocolate.

For example, Bobby has $n = 15$ to spend on bars of chocolate that cost $c = 3$ each. He can turn in $m = 2$ wrappers to receive another bar. Initially, he buys **5** bars and has **5** wrappers after eating them. He turns in **4** of them, leaving him with **1**, for **2** more bars. After eating those two, he has **3** wrappers, turns in **2** leaving him with **1** wrapper and his new bar. Once he eats that one, he has **2** wrappers and turns them in for another bar. After eating that one, he only has **1** wrapper, and his feast ends. Overall, he has eaten **5 + 2 + 1 + 1 = 9** bars.

Function Description

Complete the chocolateFeast function in the editor below. It must return the number of chocolates Bobby can eat after taking full advantage of the promotion.

chocolateFeast has the following parameter(s):

- n : an integer representing Bobby's initial amount of money
- c : an integer representing the cost of a chocolate bar
- m : an integer representing the number of wrappers he can turn in for a free bar

Note: Little Bobby will always turn in his wrappers if he has enough to get a free chocolate.

Input Format

The first line contains an integer, t , denoting the number of test cases to analyze.

Each of the next t lines contains three space-separated integers: n , c , and m . They represent money to spend, cost of a chocolate, and the number of wrappers he can turn in for a free chocolate.

Constraints

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

Output Format

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

Sample Input

```
3
10 2 5
12 4 4
6 2 2
```

Sample Output

```
6
3
5
```

Explanation

Bobby makes the following **3** trips to the store:

- 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. He eats **6** chocolates.
- He spends his **12** dollars on **3** chocolates at **4** dollars apiece. He has **3** wrappers, but needs **4** to trade for his next chocolate. He eats **3** chocolates.
- He spends **6** dollars on **3** chocolates at **2** dollars apiece. He then exchanges **2** of the **3** wrappers for **1** additional piece. 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. At this point he has **1** wrapper left, which is not enough to perform another trade-in. He eats **5** chocolates.

Author shashank21j

Difficulty Easy

Max Score 25

Submitted By 115616

NEED HELP?

View discussions

View editorial

View top submissions

RESOURCES

Div Mod

RATE THIS CHALLENGE

☆☆☆☆

MORE DETAILS

Download problem statement

Download sample test cases




Suggest Edits

CHOOSE A TRANSLATION

Portuguese


Change Theme

C++



```
1  #include <bits/stdc++.h>
2
3  using namespace std;
4
5  vector<string> split_string(string);
6
7  // Complete the chocolateFeast function below.
8  int chocolateFeast(int n, int c, int m) {
9      int count= n/c;
10     count = count + (count-1)/(m-1);
11     return count;
12     //https://www.geeksforgeeks.org/program-chocolate-wrapper-puzzle/
13     //explanation line 3: https://cs.stackexchange.com/questions/112224/
14     //how-to-get-to-the-efficient-solution-of-a-problem-on-buying-with-exchange-policy
15 }
16
17 int main()
18 {
19     ofstream fout(getenv("OUTPUT_PATH"));
20
21     int t;
```

Line: 13 Col: 23

 Upload Code as File

☐ Test against custom input

Run Code

Submit Code

Congratulations

You solved this challenge. Would you like to challenge your friends?

Next Challenge

✔ Test case 0

✔ Test case 1

✔ Test case 2

✔ Test case 3

✔ Test case 4

✔ Test case 5

✔ Test case 6

Compiler Message

Success

Input (stdin)

Download

1 3

2 10 2 5

3 12 4 4

4 6 2 2

Expected Output

Download

1 6

2 3

3 5