

Problem: Chocolate Fest

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

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

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

Input Format

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

Each line of the subsequent lines contains three space-separated integers describing the respective , , and values for one of Bobby's trips to the store.

Constraints

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-
-
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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 trips to the store:

1. He spends his dollars on chocolates at dollars apiece. He then eats them and exchanges all wrappers to get more chocolate. We print the total number of chocolates he ate, which is .
2. He spends his dollars on chocolates at dollars apiece; however, he needs wrappers to trade for his next chocolate. Because he only has wrappers, he cannot purchase or trade for any more chocolates. We print the total number of chocolates he ate, which is .
3. He spends dollars on chocolates at dollars apiece. He then exchanges of the wrappers for 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 more piece of chocolate. At this point he has wrapper left, which is not enough to perform another trade-in. We print the total number of chocolates he ate, which is .

Solution

```
void calculate(long money, long cost, long exchange)
{
    long chocolates;
    chocolates=money/cost;
    long wrapper=chocolates;
    while(wrapper>exchange-1)
    {
        int remaining=wrapper%exchange;
        int earnedChocolates=(wrapper/exchange);
        wrapper=earnedChocolates+remaining;
        chocolates+=earnedChocolates;
    }
    cout<<chocolates<<endl;
}

int main()
{
    int trips;
    long money, exchange, cost, chocolates;
    cin>>trips;
    for(int i=0; i<trips; i++)
    {
        cin>>money >>cost >>exchange;
        calculate(money, cost, exchange);
    }
}
```