

PROBLEM B**DISCOUNTS****3 POINTS**

The West Harbour Drinks Company needs to boost its sales, which have not fully recovered after the Covid lockdowns. Rebekah, the manager, wants to implement a “buy three get one free” type scheme.

Your job is to write a program to help Rebekah by making it easier for customers to know how much they can save.

**Input**

Input consists of a product scenario. A scenario begins with the name of the product on a line of its own. The name consists of 1 or more words which will be separated by spaces.

The second line of each product scenario consists of two integers, PD and PC, separated by a space, which is the price per item of the product in dollars and cents respectively. PD is the dollar price from 0 to 100 inclusive, PC is a valid number of cents. PD and PC will not both be zero.

The next line contains an integer B which is the number of products that must be bought (from 2 to 150 inclusive) to get 1 free.

The next line is another single number, E, on a line of its own being the number of examples to follow. E is not greater than 100.

The number is followed by E lines each containing a single positive integer less than 200. Each number represents a quantity of items to be purchased. You have to use the available deal to work out the best saving the customer can make.

Output

Output starts with the name of the product on a line of its own. This line is followed by E lines, one for each example in the input. Each line will be of the format

Buy N, pay for P, get F free. Save \$D.

N is the number of items bought. P is the number for which payment must be made and F is the number that are free. D is the amount saved compared to having no free items. The amount D will be in the format

d.dd

That is there will be at least one digit for the dollars, a decimal point and two digits for the cents.

Note that $P + F$ must equal N.

[Turn over for sample input and output]

Sample Input

Fizzy Orange Juice

3 99

12

4

10

26

40

150

Output for Sample Input

Fizzy Orange Juice

Buy 10, pay for 10, get 0 free. Save \$0.00.

Buy 26, pay for 24, get 2 free. Save \$7.98.

Buy 40, pay for 37, get 3 free. Save \$11.97.

Buy 150, pay for 139, get 11 free. Save \$43.89.

Explanation

1. Buy 10 – must pay for all ten as discounts start at 12.
2. Buy 26 – Pay for 12, get 1 free, pay for another 12, get another 1 free.
3. Buy 40 – Pay for 36, 3 lots of 12, get 3 free. Pay for 1 more.
4. Buy 150 – Pay for 132, 11 lots of 12, get 11 free. Pay for 7 more. Note that buying 144 and getting 12 free would give the customer too many drinks and cost more.