

3719 Grass is Green

This year exactly n people bought land in Squareville—including you. When someone buys land, then the first thing they do is to plant grass on the land; everyone wants to make sure that their grass is greener than the neighbour's. Depending on the type of grass, planting it has a certain cost. The next thing to do is to build a fence around the land; the cost of the fence depends of the type of the fence (green or white, with or without barbed wire, electric or not, etc.) Everyone has a very particular idea about the type of grass and the type of fence they want. In fact, everyone firstly decided upon the type of grass and fence, and then bought the largest piece of land they could afford (i.e., they could buy the land, the grass, and the fence). In Squareville, you can buy only square-shaped land, but you can buy any size you want. We assume that everyone plants grass across the whole area of land and everyone builds a fence around the full perimeter, i.e., on all four sides.

Having a larger garden means that you are more respected in Squareville. Therefore, you would like to know how many of the n people will have larger land than you. Your task is to write a program that calculates this number.

Input

The input contains several blocks of test cases. Each case begins with a line containing an integer $1 \leq n \leq 10000$, the number of people buying land and a real number $0 < c < 100$, the cost of a unit area of land. The next n lines describe the n people; the first of these lines describes you. Each line contains three real numbers: the amount $1 \leq m \leq 100000$ of money this person has, the cost $1 \leq g \leq 100$ of a unit amount of grass this person plants, and the cost $1 \leq f \leq 100$ of a unit length of fence this person builds.

The input is terminated by a block with $n = c = 0$.

Output

For each test case, you have to output a single integer: how many people have larger land than you. Thus, if you have the largest land, then output '0'; if you have the smallest land, then output $n - 1$.

Sample Input

```
5 1
32.0 5.0 1.0
16.0 1.0 1.0
63.0 2.0 3.0
68.0 10.0 3.0
88.0 1.0 10.0
0 0
```

Sample Output

```
1
```