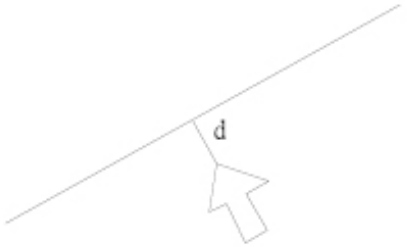
3684 Click the Lines

In many graphic drawing applications, you can click on a line object. A well-known approach to detect if a line is clicked by a mouse is to compute the distance between the click position and the line. For example, in Figure 1, the line is said to be *selected* if the distance d is less than a threshold D ($d \leq D$)



Give you a set of lines (with equation of the form $ax+by+c = 0$), please compute the minimum clicks to select all the lines. For example, to select two lines, the minimum number of clicks is one, that is, you can make a click near the cross point of the two lines.

Note: In the test data, each line at least intersects with another line.

Input

The first line of input data begins with a number N -the number of test cases. Each test case begins with two integers L and D, where L ($L \leq 200$) is the number of lines and D ($D > 0$) is the threshold for testing if a line is selected. The data of lines listed one by one. Each line is represented by ($ax + by + c = 0$). The three *floating* numbers a, b, c, separated by space are given to represent the line.

Output

Please output the minimum number of clicks in a new line for each test case.

Sample Input

```
2
2 5
0 1 0
1 0 0
3 1
0 1 0
1 0 0
1 1 2
```

Sample Output

```
1
2
```