D - House Explosion

Run-time Limit: 1 second

Memory Limit: 32 MB

DESCRIPTION

A house, located at point (0, 0), has just exploded!

Blankon Jr., which is currently located at point (X, Y), see the explosion. Afraid to get hit by the debris from the explosion, he run towards vector (a, b) with speed V. Let's say there are N debris flying from the exploded house. If i-th debris move towards vector (c_i, d_i) with speed W_i, how many debris will hit Blankon Jr. (assuming both him and all the debris' move at the same time)?

INPUT FORMAT

The first line of the input gives the number of test cases, T. T test cases follow.

Initially, there will be five integer: X, Y, a, b, and V. In the next line, there will be a single integer N. In the following N line, there will be three integer: c_i, d_i, and W_i, representing the vector and the speed of the i-th debris.

OUTPUT FORMAT

For each test case, output one line containing “Case #X: Y”, where X is the test case number (starting from 1) and Y is the number of debris Blankon Jr. will get hit with.

Constraints

$1 <= T <= 100$

$1 <= N <= 100$

$0 <= V, W_i <= 100$

$-100 <= X, Y, a, b, c_i, d_i <= 100$

Note:

If a thing is moving with speed Vx to the direction (x, y), that means the thing has move Vx unit in 1 second to direction (x, y).

INPUT EXAMPLE

```
2
6 0 -3 4 5
2
3 4 5
1 1 1
6 0 -3 4 5
2
3 4 10
1 1 1
```

OUTPUT EXAMPLE

```
Case #1: 1
Case #2: 0
```

EXPLANATION

In sample Case #1, initially Blankon Jr. is located at (6, 0). After 1 second:

- Blankon Jr. will be at coordinate (3, 4);
- Debris #1 will be at coordinate (3, 4);
- Debris #2 will be at coordinate (sqrt(2)/2, sqrt(2)/2);

Because only Debris #1 will ever hit Blankon Jr., then the answer is 1.

In sample Case #2, initially Blankon Jr. is located at (6, 0). After 1 second:

- Blankon Jr. will be at coordinate (3, 4);
- Debris #1 will be at coordinate (6, 8);
- Debris #2 will be at coordinate (sqrt(2)/2, sqrt(2)/2);

Because no debris will ever hit Blankon Jr., then the answer is 0.