

Problem B

Gopher and Hawks

Input: Standard Input
Output: Standard Output
Time Limit: 2 Seconds

A gopher sits in a hole located at (x_s, y_s) and wants to get to a hole located at (x_t, y_t) . The gopher can run at a constant speed of v m/sec. However, if the gopher is outside of a hole for more than a m minutes he will become a supper to hawks flying over the holes. Can the gopher make it?

Input

The input file contains several sets of input. The description of each set is given below:

The first line of each set contains two positive integer numbers: v -- gopher's speed in meters per second and m -- the time after which the gopher becomes prey to hawks if he stays outside a hole. The second line of input contains two floating-point numbers: the (x_s, y_s) coordinates of the gopher's starting hole. The third line contains the (x_t, y_t) coordinates of the target hole. Each Subsequent line of input contains two floating point numbers: the (x, y) coordinates of a gopher hole. All distances are in meters, to the nearest mm. A blank line terminates the input for each set.

The last input set starts with a line containing two zeroes. This set should not be processed.

Output

For each set of input produce one line of output. The description of this line is given below:

If the gopher can make it to the target hole, the output line should read "**Yes, visiting n other holes.**", where n is the minimal number of intermediate holes the gopher has to visit. If the gopher cannot make it the output line should read "**No.**" There are not more than **1000** gopher holes and all coordinates are between **-10000** and **+10000**. See the sample input and output for details.

Sample Input

```
3 1
0.000 0.000
500.000 0.000
179.000 0.000
358.000 0.000

5 1
0.000 0.000
0.000 550.000
179.000 0.000
0.000 301.000

0 0
```

Output for Sample Input

```
Yes, visiting 2 other holes.
No.
```