Problem K
Two Pylons

Time limit: 2 seconds
Memory limit: 256 megabytes

Problem Description

There are n buildings on a 2D plane. The location of building i is (x_i, y_i). In order to supply electricity to a building, we have to build a pylon. A pylon may supply electricity to arbitrarily many buildings, and we can construct a pylon at any location. However, the distance between the building and the pylon must be no more than some given constant r, otherwise we cannot transfer electricity from the pylon to the building. Due to limited budget, we can only build at most two pylons. Please write a program to determine whether we can transfer electricity to all buildings by only two pylons. In other words, you may choose two locations to build the pylons, and all buildings can reach a pylon within a distance r.

Input Format

The first line of the input file contains an integer T ($T \leq 100$) indicating the number of test cases. The first line of each case contains two integers n ($n \leq 20$) and r ($r \leq 300$) separated by a blank where n is the number of buildings and r is the distance limit. The i-th of the following n lines contains two integers x_i and y_i indicating that the coordinate of the i-th building is (x_i, y_i). You may assume $x_i, y_i \in [-100, 100]$.

Output Format

For each test case, print `yes` if all buildings can be supplied by two pylons. Otherwise, print `no`.

Sample Input

```
3
3 1
0 0
3 3
6 6
2 1
0 100
100 0
3 1
0 0
1 1
2 2
```

Sample Output

```
no
yes
yes
```