Segments

Time Limit:1000MS **Memory Limit:**65536K
Total Submissions:11910 **Accepted:** 3756

Description

Given n segments in the two dimensional space, write a program, which determines if there exists a line such that after projecting these segments on it, all projected segments have at least one point in common.

Input

Input begins with a number T showing the number of test cases and then, T test cases follow. Each test case begins with a line containing a positive integer $n \leq 100$ showing the number of segments. After that, n lines containing four real numbers $x_1 y_1\ x_2\ y_2$ follow, in which (x_1, y_1) and (x_2, y_2) are the coordinates of the two endpoints for one of the segments.

Output

For each test case, your program must output "Yes!", if a line with desired property exists and must output "No!" otherwise. You must assume that two floating point numbers a and b are equal if $|a - b| < 10^{-8}$.

Sample Input

```
3
2
1.0 2.0 3.0 4.0
4.0 5.0 6.0 7.0
3
0.0 0.0 0.0 1.0
0.0 1.0 0.0 2.0
1.0 1.0 2.0 1.0
3
0.0 0.0 0.0 1.0
0.0 2.0 0.0 3.0
1.0 1.0 2.0 1.0
```

Sample Output

```
Yes!
Yes!
No!
```

Source

Amirkabir University of Technology Local Contest 2006