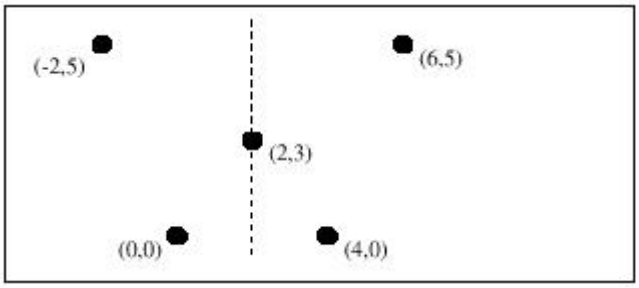
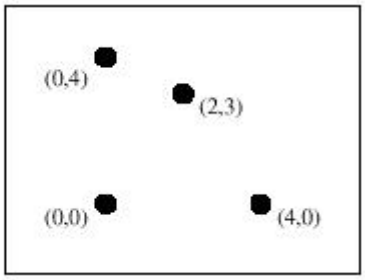
UVa Online Judge

1595 Symmetry

The figure shown on the left is *left-right symmetric* as it is possible to fold the sheet of paper along a *vertical line*, drawn as a dashed line, and to cut the figure into two identical halves. The figure on the right is not left-right symmetric as it is impossible to find such a vertical line.





Write a program that determines whether a figure, drawn with dots, is left-right symmetric or not. The dots are all distinct.

Input

The input consists of T test cases. The number of test cases T is given in the first line of the input file. The first line of each test case contains an integer N, where N $(1 \leq N \leq 1,000)$ is the number of dots in a figure. Each of the following N lines contains the x-coordinate and y-coordinate of a dot. Both x-coordinates and y-coordinates are integers between $-10,000$ and $10,000$, both inclusive.

Output

Print exactly one line for each test case. The line should contain '`YES`' if the figure is left-right symmetric, and '`NO`', otherwise.

Sample Input

```
3
5
-2 5
0 0
6 5
4 0
2 3
4
2 3
0 4
4 0
0 0
4
5 14
6 10
5 10
6 14
```

Sample Output

```
YES
NO
YES
```