Points On a Line



Given n two-dimensional points in space, determine whether they lie on some vertical or horizontal line. If yes, print YES; otherwise, print NO.

Input Format

The first line contains a single positive integer, n, denoting the number of points.

Each line i of n subsequent lines contain two space-separated integers detailing the respective values of x_i and y_i (i.e., the coordinates of the ith point).

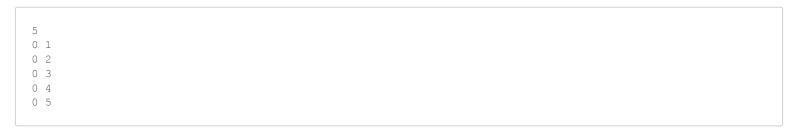
Constraints

- $2 \le n \le 10$
- $-10 \le x_i, y_i \le 10$

Output Format

Print YES if all points lie on some horizontal or vertical line; otherwise, print NO.

Sample Input 0



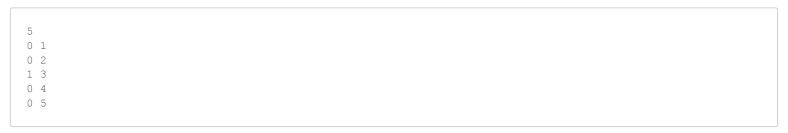
Sample Output 0

YES

Explanation 0

All points lie on a vertical line.

Sample Input 1



Sample Output 1

NO

Explanation 1

The points do not all form a horizontal or vertical line.