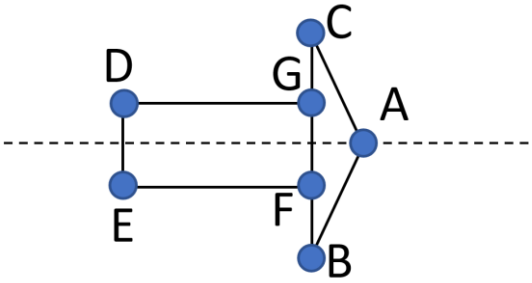
Problem C
Arrow
Time Limit: 1 second

An arrow shape can be considered as a combination of a rectangle and an isosceles triangle.



You are given seven points with integer-number coordinates on a plane. Your task is to check if these points are the vertices of an arrow shape:

- Each of the seven points is a vertex of either the rectangle or the triangle, and we can completely reconstruct a rectangle and an isoscele triangle from these seven points
- One of the rectangle's sides lies along the base of the triangle, and the rectangle and the triangle do not share any more common points.
- The triangle is isosceles and its base is longer than the adjacent side of the rectangle (In the example figure, BC > GF)
- The shape has an axis of symmetry that passes through the tip of the arrow and the center of the rectangle's opposite side (the dotted line in the example figure).

Input

The input has seven lines. Each line contains two integer numbers x_i, y_i, the coordinates of the i^{th} point; $|x_i, y_i| \leq 100$ for $1 \leq i \leq 7$.

Output

Print `"Yes"` (without quotation marks) if an arrow can be plotted based on the given points. Print `"No"` (without quotation marks) otherwise.

Sample Input	Sample Output
5 -1 0 -1 5 2 0 1 5 -2 7 0 5 1	Yes