

# Closest Points

Determine the **square of** the distance between the closest two points in a set of points. For example, among the points (1,1), (5, 1), and (1,3), the closest distance between two points is 2, the distance between (1,1) and (1,3). So the correct output is  $2^2 = 4$ .

## Input:

The first line is the number of points

Each subsequent line is the X and Y coordinates (positive integers) of one point, separated by a space

## Output:

The **square of** the minimum distance between two of the input points, as an integer.

Input	Output
3 1 1 5 1 1 3	4
8 5 3 4 9 13 9 16 11 22 9 12 1 8 3 9 1	5
4 3 2 9 4 7 2 1 14	8