ADV05

Count the number of rectangles given coordinates of points in a plane

Description:

Overview:

Go Go Tomago is training with her brand new superhero equipment. Despite possessing an immense natural talent for sports, even Go Go requires some getting used to the superspeed magnetic skates. To do this, she decides to skate as quickly in rectangles as she can between different accessible parts of San Fransokyo. However, she also wants to make sure she's taken the most advantage of the city's layout in her speed training; she wants to make sure she hasn't missed any potential routes. Can you help her determine the total number of possible paths she could have taken around the city, and thus, whether she has missed any potential routes?

Go Go provides you with a series of integer coordinates to represent the accessible parts of the city and wants to determine the number of rectangles that can be drawn in the grid. There is always a path between any pair of accessible parts of the city. A rectangle is defined to have 4 sides, with 2 pairs of parallel sides that are opposite to each other. Consecutive sides are 90 degrees to each other. Finally, it is guaranteed you will not be given the same point twice.

Filename: rectangles.{java, cpp, c, cc, py}

Input: The input will contain n+1 lines

The first line contains the number of coordinates *n*

The next n lines contain the coordinates, where each line has 2 integers. The first

number is the x-coordinate and the second number is the y-coordinate.

Output: Output a single integer, the number of rectangles.

Assumptions: $1 \le n \le 1000$. All coordinates are integers with absolute values less than 10⁴.

Sample 4

Input #1: 3 5

3 7

4 5

4 7

1

Sample

Output #1:

Sample 6

Input #2: 1 6

1 10

2 6

2 10

3 6

3 10

Sample

3

Output #2: