Problem J
The Cross Covers Everything
Time Limit: 3 seconds

A cross-shaped infinite area on the x-y plane can be specified by two distinct points as depicted on the figure below.

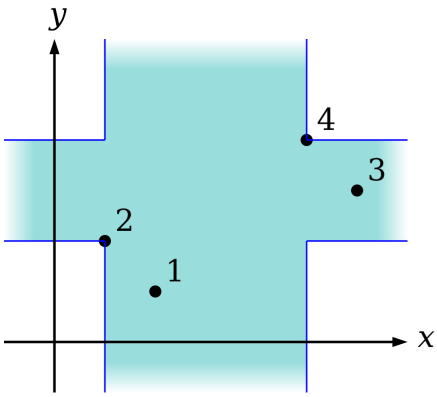


Figure J.1. The cross area specified by two points numbered 2 and 4

Given a set of points on the plane, you are asked to figure out how many pairs of the points form a cross-shaped area that covers all the points. To be more precise, when n points with coordinates (x_i, y_i) $(i = 1, \ldots, n)$ are given, the ordered pair $\langle p, q \rangle$ is said to cover a point (x, y) if $x_p \leq x \leq x_q$, $y_p \leq y \leq y_q$, or both hold. Your task is to find how many pairs $\langle p, q \rangle$ cover all the n points. No two given points have the same x-coordinate nor the same y-coordinate.

Input

The input consists of a single test case of the following format.

n
x_1 y_1
$\vdots$
x_n y_n

The first line contains an integer n $(2 \leq n \leq 2 \times 10^5)$, which is the number of points given. Two integers x_i and y_i in the i-th line of the following n lines are the coordinates of the i-th point $(1 \leq x_i \leq 10^6, 1 \leq y_i \leq 10^6)$. You may assume that $x_j \neq x_k$ and $y_j \neq y_k$ hold for all $j \neq k$.

Output

Print in a line the number of ordered pairs of points that satisfy the condition.

Sample Input 1

```
4
2 1
1 2
6 3
5 4
```

Sample Output 1

```
4
```

Sample Input 2

```
20
15 9
14 13
2 7
10 5
11 17
13 8
9 3
8 12
6 4
19 18
12 1
3 2
5 10
18 11
4 19
20 16
16 15
1 14
7 6
17 20
```

Sample Output 2

```
9
```

Figure J.1 depicts the cross specified by two points numbered 2 and 4, that are the second and the fourth points of the Sample Input 1. This is one of the crosses covering all the points.

Amendment

The conditions $x_p \leq x_q$, and $y_p \leq y_q$, have to be added to be satisfied for the the ordered pair $\langle p, q \rangle$ that are counted. This was announced during the contest.