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.

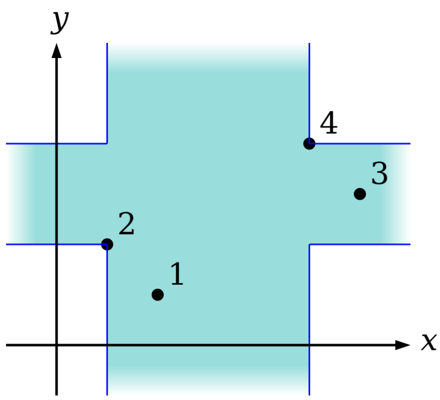

Figure J.1. The cross area specified by two points numbered 2 and 4

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.

$$
\begin{array}{l}
n \\
x_1\ y_1 \\
\vdots \\
x_n\ y_n
\end{array}
$$

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	Sample Output 1
4 2 1 1 2 6 3 5 4	4

Sample Input 2	Sample Output 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	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.