

Problem K. Segments

Input file: `segments.in`
Output file: `segments.out`
Time limit: 3 seconds
Memory limit: 256 megabytes

There are N segments on the plane. Each segment is either vertical or horizontal. Find the amount of segment pairs that have at least one common point.

Input

First line contains one number N ($1 \leq N \leq 100\,000$). Each of the next N lines contains four integers — coordinates of the segment's endpoints $x_1\ y_1\ x_2\ y_2$ ($-1\,000\,000 \leq x_1, y_1, x_2, y_2 \leq 1\,000\,000$).

Output

In the single line of the output file print the amount of segment pairs that have at least one common point.

Example

<code>segments.in</code>	<code>segments.out</code>
4 0 0 0 0 0 0 1 0 0 -1 0 1 1 -1 1 1	4