Problem G: Meeting Points

This problem is very simple. Given n lines lying in the x-y plane, determine the number of intersection points. Here are the details:

1. Each line is specified by two distinct points, (x_1, y_1) and (x_2, y_2), through which the line passes.
2. All n lines are distinct, i.e., no two lines will be coincident (lie on top of each other).
3. You are guaranteed that there is no point in the plane at which three or more lines intersect.

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Input

The first line of input contains an integer n ($2 \leq n \leq 100\,000$). This is followed by n input lines, each containing the specification of a line in the x-y plane given as four space-separated integers, x_1 y_1 x_2 y_2. Each coordinate is at most 10^6 in absolute value.

Output

Output a single integer, the number of intersection points.

Sample Input	*Sample Output*	*Sample Output, with visualized whitespace*
2 -1 0 1 0 0 1 0 -1	1	1\n

Sample Input	*Sample Output*	*Sample Output, with visualized whitespace*
3 1 1 2 2 2 2 3 1 3 1 1 1	3	3\n

Sample Input	*Sample Output*	*Sample Output, with visualized whitespace*
4 0 2 2 0 0 -2 2 0 0 2 0 -2 -1 -1 0 1	6	6\n

Note: ␣ is a space, and \n is a newline character.