

## Problem Segments

Input file        `stdin`  
Output file      `stdout`

Ionut has  $N$  segments in the  $XY$  plane and would like to know how many pairs of these segments intersect. Two segments are considered to intersect even if they only touch at a single point.

### Task

Help Ionut find the answer.

### Input Data

The first line of the standard input will contain an integer  $N$ , the number of segments. This is followed by  $N$  lines, each of the form  $X_1, Y_1, X_2, Y_2$ , representing the coordinates of the endpoints of one of the segments. Coordinates on each line are separated by spaces.

### Output Data

The standard output will contain a single number on the first line, representing the number of pairs of segments that intersect.

### Restrictions and Clarifications

- $1 \leq N \leq 500$ .
- The coordinates of the segment endpoints are all integers between  $-10,000$  and  $10,000$ , inclusive.

### Examples

Input file	Output file	Explanations
3 -1 -1 1 1 0 -1 0 1 -1 0 1 0	3	