In a 2-D Cartesian space, a straight line segment A is defined by two points $A_0 = (x_0, y_0)$, $A_1 = (x_1, y_1)$. The intersection of line segments A and B (if there is one), together with the initial four points, defines four new line segments.

In Figure 1.1, the intersection P between lines B and C defines four new segments. As a result, the toal amount of line segments after the evaluation of intersections is five.

Given an initial set of lines segments, determine the number of line segments resulting from the evaluation of all the possible intersections.

It is assumed, as a simplification, that no coincidences may occur between coordinates of singular points (intersections or end points).

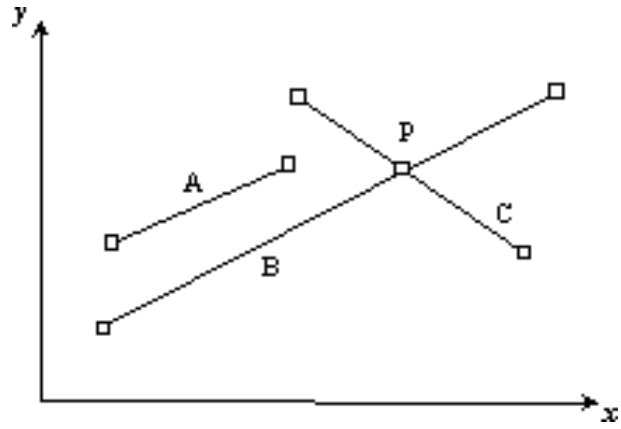

Figure 1.1 - Intersections of line segments

Input

The input begins with a single positive integer on a line by itself indicating the number of the cases following, each of them as described below. This line is followed by a blank line, and there is also a blank line between two consecutive inputs.

The first line of the input contains the integer number N of line segments. Each of the following N lines contains four integer values x_0 y_0 x_1 y_1, separated by a single space, that define a line segment.

Output

For each test case, the output must follow the description below. The outputs of two consecutive cases will be separated by a blank line.

The integer number of lines segments after all the possible intersections are evaluated.

Note: Figure 1.2 corresponds to the sample below.

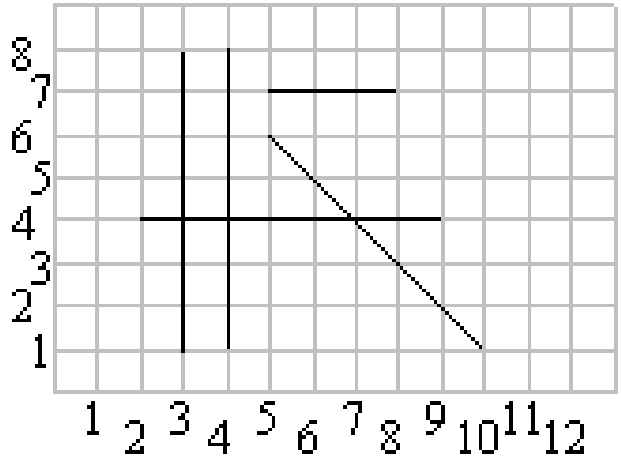

Figure 1.2 – Example

Sample Input

```
1

5
3 1 3 8
4 1 4 8
2 4 9 4
8 7 5 7
5 6 10 1
```

Sample Output

```
11
```