

Problem D: Ferry Lines

There is a wide and deep river and a set of ferries connecting the opposite banks. There are n banks from either side, and each bank is connected, by a ferry, to exactly one other on the other side. Now, a straight-line segment connecting the two opposite corresponding spots may intersect with that of another one, and you have also noticed that only two lines cross at an intersection point. Let us have a coordinate system that allows us to mark the spots on the two banks by some integers in the range 0 to 10^4 . Given the coordinates of the connected ferry lines, count how many intersections there are.

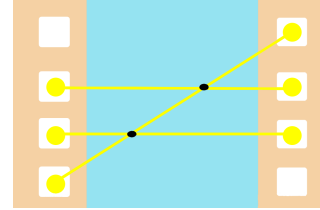


Figure 1: Opposite Banks and Ferry Lines.

Input

The input starts with T , the number of test cases. Then T test cases follow, each starting with $n \leq 1000$ – the number of ferry lines, followed by n pairs of integers a_i b_i , for $i = 1..n$, where a_i and b_i are the left-bank and right-bank coordinates, respectively, of the i -th ferry line.

Output

For each test case, output Case x : y , where x is the number of the test case, and y is the number of intersections.

Sample Input	Sample Output
2	Case 1: 0
1	Case 2: 0
1 9	
2	
5 3	
6 4	