

Plot regularisation

Recently, Rampur district court has been receiving numerous cases of land disputes. The disputes are often of the nature of overlapping claims to the same piece of land. The barrage of cases coming to the district court resulted in over-burdening of the court and delay in the justice. To improve the situation, the government decided to set up a special court to deal with the land disputes in Rampur. However, the government lacks the data of possible land disputes. The government appointed you to help in that task. You are given coordinates of the land claimed by each person. You need to figure out whether there are any overlapping claims i.e, you need to figure out if there is any plot / piece of plot that is claimed by more than one person. Two plots of land are overlapping if they share at least one interior point. On the other hand, if two plots share only a corner point or an edge, they are non-overlapping.

Note: All the plots are in the shape of rectangles. P.S: You need to make use of object oriented programming concepts while coding your solution.

Input Format

First line contains **T**, the number of test cases that follow.

Further, for each test case:

- The first line contains **N**, the number of plots
- Following **N** lines contain details of **N** rectangular plots, i.e, each line contains details of one rectangular plot.
- Each plot is specified by four integers separated by space: **x1 y1 x2 y2**. (**x1, y1**) and (**x2,y2**) are co-ordinates of the lower left and upper right corners of the rectangular plot.

Kindly note that all the rectangles are axis-parallel i.e, the sides of the rectangles are parallel to x and y axes.

Constraints

- $1 \leq T \leq 20$
- $2 \leq N \leq 200$
- $-100 \leq x1,y1,x2,y2 \leq 100$

Output Format

The output contains one number corresponding to each test case. For each test case, print the number of plots that can have disputes i.e, print the number of plots that have some part of them overlapping with some other plot.

Clarification: Say A and B are two plots that have some part overlapping. You need to count both A and B as disputed plots.

Sample Input 0

```
2
3
1 2 6 7
-5 1 3 9
-8 2 -2 8
3
1 2 6 7
```

```
-5 1 3 9
-8 2 2 12
```

Sample Output 0

```
3
3
```