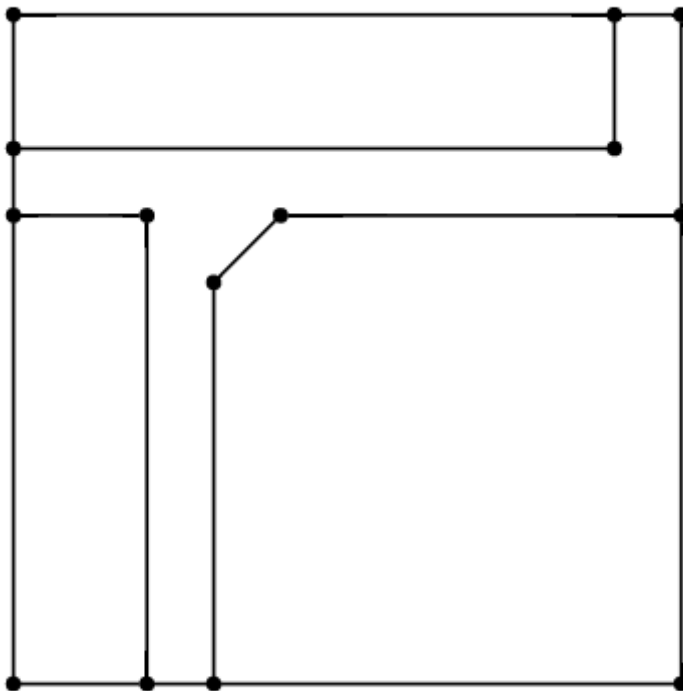# C - Counting Rooms

The problem

You are looking for a new apartment. You want to have lots of rooms, so the first thing that you need to know about every potential apartment is how many rooms it has. Unfortunately, your real estate agent has not given you this information directly, but has provided you only with a plan of each apartment.

Since you plan to consider a lot of apartments, you want to write a program to automate the counting of rooms. For example, given the following plan:

The program should count 4 rooms.

You can assume that plans include only walls (i.e., windows, doors and anything else is omitted). Also, walls are always straight and each end of every wall coincides at least with one end of another wall (i.e., all corners join at least 2 walls). Walls don't intersect each other (except at their ends).

The Input

The input format is as follows:

An integer in a single line which says the number of problems to solve. Then, for each problem:

- An integer indicating the number of walls in the plan.

- One line for each wall, each one containing four integers separated by spaces:

- The first two integers correspond to the coordinates of one end of the wall.

- The other two integers correspond to the coordinates of the other end of the wall.

The Output

The output for each problem consists of a single integer in a line by itself indecating the number of rooms found.

Sample Input

```
2
4
1000 0 1000 1000
1000 1000 0 1000
0 1000 0 0
0 0 1000 0
17
0 1000 900 1000
900 1000 1000 1000
0 0 0 700
0 700 0 800
0 800 0 1000
0 0 200 0
200 0 300 0
300 0 1000 0
0 700 200 700
200 700 200 0
0 800 900 800
900 800 900 1000
1000 0 1000 700
1000 700 1000 1000
1000 700 400 700
400 700 300 600
300 600 300 0
```

Sample Output

```
1
4
```