

13 Turret

时间限制: 15000ms 空间限制: 64MB

13.1 题目描述

Monsters come out of the building. Please set up turrets to resist the monsters.

On a two-dimensional plane, there are four walls forming a square area, with the lower left corner located at $(0, 0)$ and the upper right corner located at $(10000, 10000)$.

There are n buildings in the area, and each building is formed by m points in counterclockwise order. For each building, the first given point is the monster spawn point. Every building is convex and any two buildings do not overlap or contact.

You can set up turrets at any position outside buildings, **including** the edges of the buildings and the walls. Note that the coordinates of the turret **do not** need to be integers. A spawn point can be attacked by a turret when the link of them does not pass inside any building.

Please calculate the minimum number of turrets needed to ensure that each monster spawn point can be attacked by at least one turret.

13.2 输入格式

The first line of the input contains a single integer T ($1 \leq T \leq 10$), indicating the number of test cases.

In each test case:

The first line contains a single integer n ($1 \leq n \leq 15$), representing the number of buildings.

For each building:

The first line contains one integer m ($3 \leq m \leq 20$)

Each of the next m lines contains two integer number x_i, y_i ($0 < x_i, y_i < 10000$), representing the i th point of the building.

It's guaranteed that the for each test case the sum of m do not exceed 200.

13.3 输出格式

Output an integer representing the minimum number of turrets needed.

13.4 输入输出样例

输入样例:

```
1
4
4
1 1
2 1
2 2
1 2
4
3 3
4 3
4 4
3 4
```