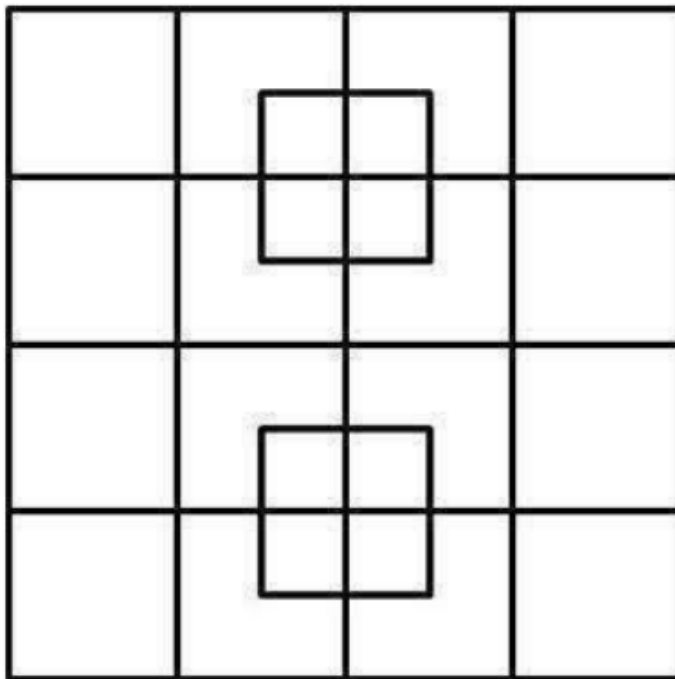


## 6412 Count the Squares

The puzzle “*How many squares can you count in this image?*”



has recently been popular amongst members of some social networking sites. A posting of such a puzzle is usually followed by an endless number of likes, replies with possible answers, and arguments.

Posting a code that calculates the correct number of squares for such a puzzle would be a great spoiler. Your task is to write a program to solve this type of puzzle.

By the way, the answer for the above puzzle, which is an  $8 \times 8$  grid, is **40**.

### Input

The input starts with an integer  $N$ , on a line by itself, that represents the number of puzzles.  $1 \leq N \leq 100$ .

The description for each puzzle starts with an integer  $L$ , on a line by itself, that represents the total number of line segments that form the puzzle. The set of line segments are rectilinear. That is, its elements are parallel to the  $x$ - or  $y$ -axis.  $0 \leq L \leq 2000$ .

Each of the following  $L$  lines contain 4 integers, separated by single blank spaces, that describe a single line segment. The first two integers are the  $x$ - and  $y$ -coordinates of one end, and the second pair of numbers are the  $x$ - and  $y$ -coordinates of the other end. Values of the  $x$ - and  $y$ -coordinates are in the range of 1 to 10000, inclusive.

### Output

The output consists of a single line, for each test case, which contains an integer that represents the total number of squares.

**Sample Input**

```
2
9
1112
1213
1222
2122
2223
2131
2232
3132
3233
8
1141
1114
1444
4144
3363
3336
3666
6366
```

**Sample Output**

```
1
3
```