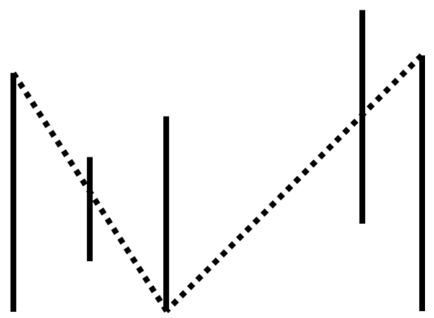
Jumping Spider in Space

There is a forest in space consisting of N trees in a line. There is no ground in space and the trees are just floating in space. Also, each tree looks like a straight vertical line segment. That is, a tree can be represented by one x-coordinate value and two y-coordinate values (corresponding to bottom and top of the tree, respectively).

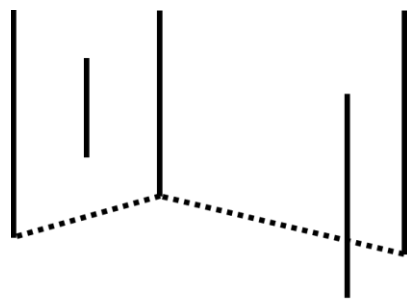
There lives a jumping spider in this forest. The spider is currently located at the leftmost tree, and wants to make (several) jumps to the rightmost tree. The spider can only be at the top or bottom of any tree. This condition holds in the initial situation, too. The spider can jump any distance and thus it can jump to any of the trees. However, it can jump only towards the right (not towards the left nor within a tree). While the spider jumps, the spider is considered to move in the straight line segment connecting the initial and final locations of the jump.

One important restriction is that the spider never want to be outside the forest because there are space monsters that will eat the spider if it goes outside the forest. Being outside the forest is defined to be the situation where the straight jump line goes above the top of a tree or below the bottom of a tree.

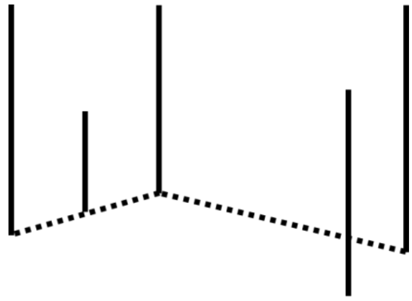
Now, the following figure shows 5 trees (vertical line segments) and 2 jumps (dotted line segments), and it is one of the allowed ways the spider can jump.



The first jump in the following figure is not allowed because the jump line goes below the bottom of a tree.



Write a program, given the information about the trees, that computes the number of allowed ways that the spider may jump from the leftmost tree to the rightmost tree. Be careful about the cases where a jump line goes directly on the top (or bottom) of a tree. In those cases, you have to count both the jump that passes by the top (or bottom) of a tree and the jump that stops at the top (or bottom) of a tree. For example, you have to consider the next figure to represent both the jump that passes by the second tree and the jump that stops at the second tree.



[Input]
In the first line of the input file is given the number of test cases T. (T ≤ 30) The first line of each test case contains N, which is the number of trees. (1 < N ≤ 2,000) In the next N lines tree integers x, y1, y2 are given, which represent the x-coordinate of the three, the y-coordinates of the bottom and top of the tree. No two trees have the same x-coordinate value. For any tree, y2 > y1 holds. All coordinate values are integers between 1 and 1,000,000, inclusive.

The input is given in 3 sets as follows:

- Set 1: N is at most 20.
- Set 2: N is at most 1,000.
- Set 3: N is at most 2,000.

[Output]
For each test case, print remainder when the number of ways that the spider may jump from the leftmost tree to the rightmost tree is divided by 1,000,000,007.

[Input/Output Example]

Input

```
1
3
1 1 4
4 2 4
5 1 2
```

Output

```
9
```