

Skyline Problem

Time Limit: 2 seconds

Problem Description

Please refer to the original problem on UVa online judge.

URL: <http://uva.onlinejudge.org/external/1/105.pdf>

Your program should be able to process multiple test cases. Therefore, we have modified the I/O format of this problem.

Technical Specifications

1. The number of test cases is no more than 20.
2. The number of building in a test case now is no more than 20,000.
3. The coordinates are non-negative integers less than 1,000,000,000.

Input Format

The first line of the input file contains an integer indicating the number of test cases. The first line of each test case contains an integer n which denotes the number of buildings. Each of the rest n lines contains a building triple (L_i, H_i, R_i) . *Note: the buildings are not necessarily sorted.*

Output Format

For each test case, output the vector that describes the skyline in a line.

Sample Input

```
2
4
1 1 4
3 3 6
5 5 8
7 2 10
8
1 11 5
2 6 7
19 18 22
12 7 16
24 4 28
```

14 3 25
23 13 29
3 13 9

Sample Output

1 1 3 3 5 5 8 2 10 0
1 11 3 13 9 0 12 7 16 3 19 18 22 3 23 13 29 0