Problem E. 3D Partial Order

Time limit   4000 ms
Memory limit   256MB

Problem Description

You are given a set P of N points in three-dimensional space. For each point $i = (x_i, y_i, z_i)$, count how many points $j = (x_j, y_j, z_j)$ in P satisfy

$$x_j > x_i, \quad y_j > y_i, \quad z_j > z_i.$$

In other words, for every point i, compute the number of points that strictly dominate i in all three coordinates. Print the answers in the same order as the input points.

Input format

The first line contains an integer N ($1 \le N \le 10^5$), the number of points.

Each of the next N lines contains three integers x_i, y_i, z_i ($1 \le x_i$, y_i, $z_i \le N$), describing the coordinates of point i.

Points are not guaranteed to be distinct.

Output format

Print N lines. For each $i = 1, \ldots, N$, on the i-th line print the number of points j such that $x_j > x_i$, $y_j > y_i$, and $z_j > z_i$.

Subtask score

Subtask	Score	Additional Constraints
1	10	$x_i = y_i = z_i$
2	50	$y_i = z_i$
3	40	No Constraints

Sample

Sample Input 1

```
10
7 2 6
8 6 4
6 6 3
3 1 7
8 7 8
8 7 2
7 10 1
5 6 4
1 3 1
7 3 1
```

Sample Output 1

```
1
0
1
1
0
0
0
1
5
3
```