In Touch

Time Limit: 8000/4000 MS (Java/Others) Memory Limit: 131072/131072 K (Java/Others)
Total Submission(s): 1825 Accepted Submission(s): 493

Problem Description

There are n soda living in a straight line. soda are numbered by $1, 2, \ldots, n$ from left to right. The distance between two adjacent soda is 1 meter. Every soda has a teleporter. The teleporter of i-th soda can teleport to the soda whose distance between i-th soda is no less than l_i and no larger than r_i. The cost to use i-th soda's teleporter is c_i.

The 1-st soda is their leader and he wants to know the minimum cost needed to reach i-th soda ($1 \le i \le n$).

Input

There are multiple test cases. The first line of input contains an integer T, indicating the number of test cases. For each test case:

The first line contains an integer n ($1 \le n \le 2 \times 10^5$), the number of soda.
The second line contains n integers $l_1, l_2, \ldots, l_n$. The third line contains n integers $r_1, r_2, \ldots, r_n$. The fourth line contains n integers $c_1, c_2, \ldots, c_n$.
($0 \le l_i \le r_i \le n, 1 \le c_i \le 10^9$)

Output

For each case, output n integers where i-th integer denotes the minimum cost needed to reach i-th soda. If 1-st soda cannot reach i-the soda, you should just output -1.

Sample Input

```
1
5
2 0 0 0 1
3 1 1 0 5
1 1 1 1 1
```

Sample Output

```
0 2 1 1 -1
```

Hint

If you need a larger stack size,
please use #pragma comment(linker, "/STACK:102400000,102400000") and submit your solution using C++.

Author

zimpha@zju

Source

2015 Multi-University Training Contest 6

Recommend

wange2014 | We have carefully selected several similar problems for you: 5659 5657 5655 5654 5653