D. Ball

time limit per test: 2 seconds
memory limit per test: 256 megabytes

N ladies attend the ball in the King's palace. Every lady can be described with three values: beauty, intellect and richness. King's Master of Ceremonies knows that ladies are very special creatures. If some lady understands that there is other lady at the ball which is more beautiful, smarter and more rich, she can jump out of the window. He knows values of all ladies and wants to find out how many probable self-murderers will be on the ball. Lets denote beauty of the i-th lady by B_i, her intellect by I_i and her richness by R_i. Then i-th lady is a probable self-murderer if there is some j-th lady that $B_i < B_j$, $I_i < I_j$, $R_i < R_j$. Find the number of probable self-murderers.

Input

The first line contains one integer N ($1 \le N \le 500000$). The second line contains N integer numbers B_i, separated by single spaces. The third and the fourth lines contain sequences I_i and R_i in the same format. It is guaranteed that $0 \le B_i, I_i, R_i \le 10^9$.

Output

Output the answer to the problem.

Examples

input Copy

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

output Copy

```
1
```

Codeforces Beta Round 12 (Div 2 Only)

Finished

Practice

→ Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

Start virtual contest

→ Clone Contest to Mashup

You can clone this contest to a mashup.

Clone Contest

→ Submit?

Language: GNU G++23 14.2 (64 bit, ms

Choose file: Choose File No file chosen

Submit

→ Last submissions

Submission	Time	Verdict
325885735	Jun/24/2025 17:27	Accepted

→ Problem tags

data structures sortings *2400

No tag edit access

→ Contest materials

- Announcement