Assignment 1: Problem 1

Ash and Pokemon Gyms

Ash has n pokemon of different combat power C_i given by array C. Note that many pokemon can have same combat power. He is planning to visit m pokemon gyms in Hyderabad. The pokemons remain the same when he visits the different gyms. A pokemon can defeat a pokemon gym in a single fight if its combat power is strictly greater than the level of that gym. So, a pokemon of combat power 5 can defeat a gym of level 4 or less, but the same pokemon cannot defeat a gym of level 5 or greater.

Ash wants to find for each pokemon gym, how many of his pokemon can defeat that gym in a single fight. Help him to solve his problem.

Input

The first line contains the integer n ($1 \leq n \leq 10^5$) - the number of pokemon Ash has.
The second line contains a sequence of n integers C_1, C_2, ..., C_n ($1 \leq C_i \leq 10^9$) - the combat powers of the i-th pokemon Ash has.
The third line contains the integer m ($1 \leq m \leq 10^5$) - the number of pokemon gyms Ash is planning to visit.
The fourth line contains a sequence of m integers $L_1, L_2, \ldots L_m$ ($1 \leq L_i \leq 10^9$) - the Level of the i-th gym Ash visits.
All numbers are separated with spaces.

Output

Print m lines. Each line i must be the number of Ash's pokemon that can defeat the i-th gym in a single fight.

Sample Input

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

Sample Output

```
3
0
1
```

Explanation

In the first example, there are 3 pokemon gyms.
Ash has 3 pokemon of combat power - 2 3 and 2 who can defeat the first gym of level 1.
He has no pokemon that can defeat the second gym of level 2, hence the answer is 0 in this case.
He has 1 pokemon of combat power 3 who can defeat the third gym of level 2.

Sample Input

```
10
1 9 8 239 45 2017 68 10 855 68
10
3 9 67 50 11 300 301 880 855 4000
```

Sample Output

```
9
7
5
5
6
2
2
1
1
0
```

Limits

Time: 2 second

Memory: 256 MB