Age Demographic

Time limit: 1.0s   **Memory limit:** 256M
Java: 2.0s
Python: 1.5s

You have just uploaded your first video as a content creator.

Curious about which audiences you should be targeting, you have gathered data about N $(1 \leq N \leq 3 \cdot 10^5)$ different viewers. Specifically, you know the ages x_i $(1 \leq x_i \leq 10^9)$ of every single person that has watched your video.

Given Q $(1 \leq Q \leq 3 \cdot 10^5)$ different queries, how many people between the ages of a and b inclusive $(1 \leq a, b \leq 10^9)$ have watched your video?

Input Specification

The first line of input contains an integer N.

The second line of input contains N space-separated integers x_i.

The third line of input contains an integer Q.

The next Q lines of input each contain 2 space-separated integers a and b $(a \leq b)$.

Output Specification

For each query, output the total number of viewers between the ages of a and b inclusive.

Sample Input

```
8
12 8 7 12 14 15 9 28
5
6 12
3 5
13 18
3 20
28 28
```

Sample Output

5
0
2
7
1