

# Roadies

## Problem Statement:

Every year, thousands of youngsters gear up to participate in Roadies auditions in Expocentre, Noida. The title of being a 'Roadie' is very prestigious so naturally the competition is also equally tough.

This year,  $n$  people have come for the auditions and are all waiting in the queue (1 to  $n$ ) to get inside where they will be interviewed by Raghu Ram and his duplicate, Rajiv Ram. But not everyone will get to go inside and to decide who goes inside, they have to first prove their strength. Each participant  $i$  has strength  $s_i$ . Two numbers  $l$  and  $r$  are chosen by random and each pair of participants between  $l$  and  $r$  (inclusive) will fight. When two participants with indices  $i$  and  $j$  fight, participant  $i$  gets one battle point only if  $s_i$  divides  $s_j$  (And participant  $j$  gets one battle point only if  $s_j$  divides  $s_i$ )

After all the fights have been finished, the participants with  $v_i$  battle points gets qualified for the interview only if  $v_i = r - l$ . The rest get disqualified. Raghu and Rajiv want to maximize the number of participants who are getting disqualified so for each pair of  $l$  and  $r$ , they want to know the number of participants who are getting disqualified.

## Input Format:

The first line contains a single integer  $n$  — the number of participants who want to be a roadie.

The second line contains  $n$  integers  $s_1, s_2, \dots, s_n$  - the strengths of the participants.

The third line contains one integer  $t$  - the number of test cases.

The next  $t$  lines contain two integers  $l_i$  and  $r_i$  denoting the segment  $[l_i, r_i]$

## Output Format:

Print  $t$  lines, the  $i^{\text{th}}$  line contains the number of participants getting disqualified from the segment  $[l_i, r_i]$

**Constraints:**

- $1 \leq n \leq 10^5$
- $1 \leq s_i \leq 10^9$
- $1 \leq t \leq 10^5$
- $1 \leq l_i \leq r_i \leq n$

**Sample Input:**

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

**Sample Output:**

```
4
4
1
1
```