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Siddhu Prime Numbers

Problem code: SIDPRIME

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As Dheeru wants to go out with his girlfriend now, he wants you to solve the following problem for him. You are given a Siddhu array consisting of **N** integers in which **Ai** denotes ith element of the array.

There are **Q** queries and each query consists two integers **L** and **R**. For each query output the number of Siddhu Primes in between L and R **(both inclusive)**.

A Siddhu Prime number is defined as a number present in the Siddhu array and has only 2 positive divisors.

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Input

First line contains an integer **N** denoting the size of array.
Next line contains N space separated integers **Ai** of the array.
Next line contains an integer **Q** denoting the number of queries.
Each of the next Q lines contain two space separated integers **L** and **R** as described in the problem.

Output

For each query, output your answer in a single line.

Constraints

- $1 \le N \le 10^6$
- $1 \le Ai \le 10^6$
- $1 \le Q \le 10$
- $1 \le L \le R \le 10^6$

Example

Input:
5
4 3 1 7 12
2
1 8
4 13
Output:
2
1

Explanation

Query 1. The two numbers are **3** and **7**
Query 2. The only Siddhu Prime number is **7**.

Author:	saurabhnit
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Time Limit:	1 sec
Source Limit:	50000 Bytes
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