H. Free numbers (round 2)

Input: standard input (from the keyboard)
Output: standard output (to the screen)
Time limit: 20 seconds
Memory limit: 256 Mb

Problem

There are N "special" natural numbers. All of them are coprime (it means that the greatest common divisor of any two special numbers is 1). Also, a natural number is called "free" if it is not divisible by any of special numbers.

For given intervals $[a_i, b_i]$ compute quantity of free numbers in them.

Input

The first line of the input contains one integer N – quantity of special numbers ($0 \le N \le 100$). N special numbers are written in the second line: s_i – i^{th} special number ($1 \le s_i \le 2 \cdot 10^9$).

The third line contains one integer M – number of intervals ($0 \le M \le 10$). There are two natural numbers in each of the following M lines: a_i and b_i – the bounds of i^{th} interval ($1 \le a_i \le b_i \le 2 \cdot 10^9$).

Output

The output should contain M lines. In each line the quantity of free numbers of the corresponding interval should be written.

Example

Input	Output
3 2 5 21 2 1 11 17 46	5 11

Chairman of the Judiciary Board G.B. Varlamov