D. CGCDSSQ
Zadanie z Codeforces / Div. 2 / D

Zadanie pochodzi z platformy Codeforces:

https://codeforces.com/problemset/problem/475/D

D. CGCDSSQ

time limit per test: 2 seconds

memory limit per test: 256 megabytes

Given a sequence of integers $a_1, ..., a_n$ and q queries $x_1, ..., x_q$ on it. For each query x_i you have to count the number of pairs (l, r) such that $1 \le l \le r \le n$ and $gcd(a_l, a_{l+1}, ..., a_r) = x_i$.

$\gcd(v_1, v_2, \ldots, v_n)$ is a greatest common divisor of $v_1, v_2, ..., v_n$, that is equal to a largest positive integer that divides all v_i.

Input

The first line of the input contains integer n, $(1 \le n \le 10^5)$, denoting the length of the sequence. The next line contains n space separated integers $a_1, ..., a_n$, $(1 \le a_i \le 10^9)$.

The third line of the input contains integer q, $(1 \le q \le 3 \times 10^5)$, denoting the number of queries. Then follows q lines, each contain an integer x_i, $(1 \le x_i \le 10^9)$.

Output

For each query print the result in a separate line.

Example 1
Input
3
2 6 3
5
1
2
3
4
6

Output

1

2

2

0

1

Example 2

Input

7

10 20 3 15 1000 60 16

10

1

2

3

4

5

6

10

20

60

1000

Output

14

0

2

2

2

0

2

2

1

1