# D. CGCDSSQ

time limit per test: 2 seconds
memory limit per test: 256 megabytes
input: standard input
output: standard output

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.

## Examples

**input** Copy

```
3
2 6 3
5
1
2
3
4
6
```

**output** Copy

```
1
2
2
0
1
```

**input** Copy

```
7
10 20 3 15 1000 60 16
10
1
2
3
4
5
6
10
20
60
1000
```

**output** Copy

```
14
0
2
2
2
0
2
2
1
1
```

brute force | data structures | math | *2000

No tag edit access

## → Contest materials

- Announcement (en)
- Tutorial