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 $gcd(a_l, a_{l+1}, ..., a_r) = x_i$.

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

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

output

```
1
2
2
0
1
```

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
```