

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

$\gcd(v_1, v_2, \dots, v_n)$ is a greatest common divisor of v_1, v_2, \dots, 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 , ($1 \leq n \leq 10^5$), denoting the length of the sequence. The next line contains n space separated integers a_1, \dots, a_n , ($1 \leq a_i \leq 10^9$).

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

Output

For each query print the result in a separate line.

Examples

input	Copy
<pre>3 2 6 3 5 1 2 3 4 6</pre>	
output	Copy
<pre>1 2 2 0 1</pre>	
input	Copy
<pre>7 10 20 3 15 1000 60 16 10 1 2 3 4 5 6 10 20 60 1000</pre>	

output

Copy

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14
0
2
2
2
0
2
2
1
1
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