Friend numbers P22662_en

Let $x_1, \ldots, x_n$ be a non-empty sequence of natural numbers, all of them strictly larger than 1, and let $gcd(x, y)$ stand as usual for the greatest common divisor of x and y. We say that x_i is a friend of x_j if and only if at least one of these conditions hold:

- $gcd(x_i, x_j) > 1$;
- x_i is a friend of some x_k, and x_j is also a friend of x_k.

Write a program such that, given a sequence of numbers, computes the size of the largest set of friends in it.

Input

Input consists of several cases. Every case begins with a number $n \geq 1$, followed by n different integer numbers, all them between 2 and 100000.

Output

For every case, print the size of the largest set of friends.

Sample input 1

```
4
21 2 25 14
3
5 18 7
```

Sample output 1

```
3
1
```

Problem information

Author: Salvador Roura

Generation: 2026-01-25T10:16:08.246Z