



Alchemist's Numbers

Time Limit: 3.0 s | Memory Limit: 512 MiB

The Alchemists of Zeland have discovered a collection of mysterious crystals, known as nubreccia. According to Noble Zelandic Prophet's Chronicles (NZPC), the nubreccia will reveal a hidden message only when they are all synchronised—that is, when every crystal carries the same weight.

Fortunately, the alchemists possess two magical operations.

- Increase the weight of a single nubreccium by multiplying it by a factor of p , where p is any prime number.
- Decrease the weight of a single nubreccium by dividing it by any prime number p (but only if the weight is divisible by p).



A sequence of 5 Nubreccia

Each use of either operation costs exactly one unit of magical energy.

The Royal Alchemist wants to synchronise all crystals while using as little energy as possible.

Given the weights currently engraved on the crystals, determine the minimum number of operations required to make all weights equal.

Input

The first line contains an integer $1 \leq n \leq 10^5$, the number of crystals.

The second line contains n positive integers $w_1, w_2, \dots, w_n$, where $1 \leq w_i \leq 10^6$ is the weight of the i -th crystal.

Output

Output a single integer: the minimum amount of magical energy required to make all weights equal.

Sample Input 1

5
10 6 35 105 42

Sample Output 1

8

Sample Input 2

4
12 24 58 99

Sample Output 2

8

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