G: GCD Pairs

Time Limit: 5 seconds, Memory limit: 2G

In the Shape Galaxy, where all shapes are sentient beings, there is currently a feud between circles and squares. Circles want all pathways to be flat while squares argue that they should be evenly spaced inverted catenary shaped bumps. Because of this feud, circles have begun to dislike all square-biased numbers. A number s is square-biased if it is divisible by x^2, for some integer $x > 1$.

Mr. Circle has taken this feud to heart. He is given the assignment of calculating the greatest common divisor between all pairs of numbers in an array. He wants to go one step further and count the number of greatest common divisors that are not square biased.

Input

The first line of input contains a single integer, n $(1 \leq n \leq 10^5)$, representing the length of the array of numbers.

The next n lines contain the integers a_i $(1 \leq a_i \leq 10^{12})$ which comprise the numbers in the array.

Output

Output a single integer, the number of pairs (i, j) $(1 \leq i < j \leq n)$ such that $\gcd(a_i, a_j)$ is not square-biased.

Sample Input 1	Sample Output 1
6 3 4 6 12 4 1	12

This page is intentionally left blank.