

## Problem I. Irreducible Fractions

Input file: *standard input*  
Output file: *standard output*  
Time limit: 3 seconds  
Memory limit: 512 mebibytes

Given an array  $a$  consisting of  $n$  positive integers, find the number of quadruples of distinct indices  $(i, j, k, l)$  such that the following fraction is irreducible:

$$\frac{a_i \cdot a_j}{a_k \cdot a_l}$$

### Input

The first line contains an integer  $n$  ( $4 \leq n \leq 2000$ ) denoting the length of the array. The second line contains  $n$  integers  $a_i$  ( $1 \leq a_i \leq 10^{12}$ ), the elements of the array.

### Output

Output a single integer: the number of quadruples satisfying the given condition.

### Examples

standard input	standard output
4 1 1 1 1	24
6 10 11 2 4 5 7	96