Problem J. Prime Game

Input file: standard input
Output file: standard output

Given a sequence of n integers a_i.

Let $\text{mul}(l, r) = \prod_{i=l}^{r} a_i$ and $\text{fac}(l, r)$ be the number of distinct prime factors of $\text{mul}(l, r)$.

Please calculate $\sum_{i=1}^{n} \sum_{j=i}^{n} \text{fac}(i, j)$

Input

The first line contains one integer n ($1 \le n \le 10^6$) — the length of the sequence.

The second line contains n integers a_i ($1 \le i \le n, 1 \le a_i \le 10^6$) — the sequence.

Output

Print the answer to the equation.

Examples

standard input	standard output
10 99 62 10 47 53 9 83 33 15 24	248
10 6 7 5 5 4 9 9 1 8 12	134