Nice Clique

Given n numbers, $D = \{d_1, d_2, \ldots, d_n\}$, what's the maximum size of a subset of D in which every pair is a *nice pair*?

(A, B) is a nice pair iff at least one of the following condition holds.

1. The Parity of the number of distinct prime divisors of A is equal to that of B. For example, 18 has two distinct prime divisors: 2 and 3.
2. The Parity of the sum of all positive divisors of A is equal to that of B.

Input Format

First line will contain an integer, n, representing the size of array D. In next line there are n space separated integers, $d_1, d_2, \ldots, d_n$, representing the elements of D.

Constraints

- $1 \leq n \leq 200$
- $0 < d_i \leq 10^{15}, where\ i \in [1, n]$

Output Format

Print the maximum size of the subset of D in which every pair is a $nicepair$.

Sample Input

```
4
2 3 6 8
```

Sample Output

```
3
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Explanation

d - Prime divisors (count) - Divisors (sum)
2 - 2 (1) - 1, 2 (3)
3 - 3 (1) - 1, 3 (4)
6 - 2, 3 (2) - 1, 2, 3, 6 (12)
8 - 2 (1) - 1, 2, 4, 8 (15)

(d_1, d_2) nice pair

(d_1, d_3) not

(d_1, d_4) nice

(d_2, d_3) nice

(d_2, d_4) nice

(d_3, d_4) not

==> max subset{2, 3, 8}. ==> S = 3.