Problem K

Odd GCD Matching

Supposed there are N integers $A_{1..N}$. A_i can be paired with A_j if $\mathrm{GCD}(A_i, A_j)$ is an odd number. $\mathrm{GCD}(a, b)$ is the greatest common divisor of a and b. For example, 6 can be paired with 9 because $\mathrm{GCD}(6, 9) = 3$ is an odd number; however, 12 cannot be paired with 8 because $\mathrm{GCD}(12, 8) = 4$ is an even number.

An odd GCD matching of $A_{1..N}$ is a set of pairs which satisfies the following.

- Each pair contains two integers (i, j) where $1 \leq i < j \leq N$.
- Each integer i only appears at most once in the set.
- If (i, j) is in the set, then A_i must be able to be paired with A_j.

Given $A_{1..N}$, your task is to find the size of a maximum odd GCD matching of $A_{1..N}$. An odd GCD matching is maximum if and only if there are no other odd GCD matching which has more pairs than it.

For example, let $A_{1..5} = \{6, 8, 9, 12, 13\}$. The size of a maximum odd GCD matching in this example is 2; one such example is $\{(1, 3), (2, 5)\}$ which corresponds to the pairs ($A_1 = 6$ with $A_3 = 9$) and ($A_2 = 8$ with $A_5 = 13$). Note that $\{(1, 3)\}$ with the size of 1 is also a valid odd GCD matching, but it is not a maximum one. On the other hand, $\{(2, 4)\}$ is not a valid odd GCD matching as $A_2 = 8$ cannot be paired with $A_4 = 12$ in this example.

Input

Input begins with a line containing an integer: N ($1 \leq N \leq 20\,000$) representing the size of A. The next line contains N integers: A_i ($1 \leq A_i \leq 10^6$) representing the array A.

Output

Output in a line an integer representing the size of a maximum odd GCD matching of $A_{1..N}$.

Sample Input #1

```
5
6 8 9 12 13
```

Sample Output #1

```
2
```

Explanation for the sample input/output #1

This is the example from the problem description.

Sample Input #2

```
3
10 10 10
```

Sample Output #2

```
0
```

Explanation for the sample input/output #2

With 3 elements, the candidate pairs are only $(1, 2)$, $(1, 3)$, and $(2, 3)$. However, none of these candidates are valid as all $\text{GCD}(A_i, A_j)$ are not an odd number, thus, the maximum odd GCD matching for this case is an empty set $\{\}$ with a size of 0.

Sample Input #3

```
7
4 3 2 4 5 6 3
```

Sample Output #3

```
3
```

Explanation for the sample input/output #3

One example maximum odd GCD matching is $\{(1, 5), (2, 4), (3, 7)\}$ which contains 3 pairs.