☆ CS Coding Delete the subsets

You are given an array of integers a_1 a_2 .... a_n. At each step you can pickup a subset of integers from this array and delete them. But choosing the subset has a constraint, if $b_1, b_2, b_3..b_k$ is the subset chosen, then the sum $2^{b_1} + 2^{b_2} +.. + 2^{b_k}$ should be equal to 2^x for some non-negative integer x.
You need to calculate the minimum number of steps required to do delete the whole array.

Input:

The first line contains n, the number of inputs ($1<=n<= 10^6$)
The next n lines contains a_i i.e. the integers ($0<= a_i <= 10^6$)

Output:

Minimum number of steps

Examples:

Input:

5
1
1
2
3
3

Output:

2

Input:

4
0
1
2
3