

Little Daniel has a bag of candy and N cards.

Each of the cards has a positive integer P_i written on it. While Daniel was eating his candy, he thought of a fun game. He can tie together two cards with labels a and b , and then he must eat $\min(P_a \% P_b, P_b \% P_a)$ of candy, where operation $x \% y$ denotes the remainder when dividing x with y .

He wants to tie together pairs of cards in a way that, when he lifts one of them, all the rest are also lifted up. Each card can be directly connected with a tie to any number of other cards. As Daniel is watching his figure, he doesn't want to consume too much, so he is asking you to calculate the minimal number of candy he must eat so all cards are connected.

INPUT

The first line of input contains the positive integer N . ($1 \leq N \leq 10^5$)

Each of the following N lines contains a positive integer P_i ($1 \leq P_i \leq 10^7$).

OUTPUT

The first and only line of output must contain the required value from the task.

SCORING

In test cases worth 30% of total points, it will hold $N \leq 10^3$.

In test cases worth 40% of total points, it will hold $P_i \leq 10^6$.

In test cases worth 70% of total points, at least one of the two conditions will hold.

SAMPLE TESTS

input

4
2
6
3
11

output

1

input

4
1
2
3
4

output

0

input

3
4
9
15

output

4

Clarification of the first test case:

Daniel can connect the first and second card and eat 0 candy, the second and third and eat 0 candy, and the first and fourth and eat 1 candy.