Problem A – Archmage's Crystals

In the high halls of Numeria, an archmage tends to n magic crystals with powers $a_1, a_2, \ldots, a_n$. With a fusion spell, he may pick any two crystals with powers x and y, remove them, and create a single crystal of power $x + y$. Each spell reduces the number of crystals by 1.

The archmage seeks harmony: he wants the average power of the crystals to become an integer. What is the minimum number of spells he must cast?

Input

The first line contains an integer n ($1 \leq n \leq 10^6$).

The second line contains n integers $a_1, a_2, \ldots, a_n$ ($1 \leq a_i \leq 10^3$).

Output

Print a single integer: the minimum number of spells.

Sample input 1	**Sample output 1**
`4` `5 2 3 5`	`1`

Sample input 2	**Sample output 2**
`5` `11 12 13 14 15`	`0`

Sample input 3	**Sample output 3**
`4` `1 5 3 7`	`0`