B. Increase and Decrease

time limit per test: 2 seconds
memory limit per test: 256 megabytes
input: standard input
output: standard output

Polycarpus has an array, consisting of n integers $a_1, a_2, ..., a_n$. Polycarpus likes it when numbers in an array match. That's why he wants the array to have as many equal numbers as possible. For that Polycarpus performs the following operation multiple times:

- he chooses two elements of the array a_i, a_j $(i \neq j)$;
- he simultaneously increases number a_i by 1 and decreases number a_j by 1, that is, executes $a_i = a_i + 1$ and $a_j = a_j - 1$.

The given operation changes exactly two distinct array elements. Polycarpus can apply the described operation an infinite number of times.

Now he wants to know what maximum number of equal array elements he can get if he performs an arbitrary number of such operation. Help Polycarpus.

Input

The first line contains integer n $(1 \leq n \leq 10^5)$ — the array size. The second line contains space-separated integers $a_1, a_2, ..., a_n$ $(|a_i| \leq 10^4)$ — the original array.

Output

Print a single integer — the maximum number of equal array elements he can get if he performs an arbitrary number of the given operation.

Examples

input
2 2 1
output
1

input
3 1 4 1
output
3