

B. Friends and Candies

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

Polycarp has n friends, the i -th of his friends has a_i candies. Polycarp's friends do not like when they have different numbers of candies. In other words they want all a_i to be the same. To solve this, Polycarp performs the following set of actions exactly **once**:

- Polycarp chooses k ($0 \leq k \leq n$) arbitrary friends (let's say he chooses friends with indices i_1, i_2, \dots, i_k);
- Polycarp distributes their $a_{i_1} + a_{i_2} + \dots + a_{i_k}$ candies among all n friends. During distribution for each of $a_{i_1} + a_{i_2} + \dots + a_{i_k}$ candies he chooses new owner. That can be any of n friends. Note, that any candy can be given to the person, who has owned that candy before the distribution process.

Note that the number k is not fixed in advance and can be arbitrary. Your task is to find the minimum value of k .

For example, if $n = 4$ and $a = [4, 5, 2, 5]$, then Polycarp could make the following distribution of the candies:

- Polycarp chooses $k = 2$ friends with indices $i = [2, 4]$ and distributes $a_2 + a_4 = 10$ candies to make $a = [4, 4, 4, 4]$ (two candies go to person 3).

Note that in this example Polycarp cannot choose $k = 1$ friend so that he can redistribute candies so that in the end all a_i are equal.

For the data n and a , determine the **minimum** value k . With this value k , Polycarp should be able to select k friends and redistribute their candies so that everyone will end up with the same number of candies.

Input

The first line contains one integer t ($1 \leq t \leq 10^4$). Then t test cases follow.

The first line of each test case contains one integer n ($1 \leq n \leq 2 \cdot 10^5$).

The second line contains n integers a_1, a_2, \dots, a_n ($0 \leq a_i \leq 10^4$).

It is guaranteed that the sum of n over all test cases does not exceed $2 \cdot 10^5$.

Output

For each test case output:

- the minimum value of k , such that Polycarp can choose exactly k friends so that he can redistribute the candies in the desired way;
- "-1" if no such value k exists.

Example

input	Copy
5	
4	
4 5 2 5	
2	
0 4	

Codeforces Round #725 (Div. 3)

Finished

Practice



→ Virtual participation

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Language: GNU G++14 6.4.0

Choose file: Browse... No file selected.

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greedy math *800

No tag edit access

→ Contest materials

• Announcement



• Tutorial





```
5
10 8 5 1 4
1
10000
7
1 1 1 1 1 1 1
```

output

Copy

```
2
1
-1
0
0
```

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