

Make them equal !

You have an array containing **N** elements. At any move, you choose two indices **i** and **j** ($0 \leq i, j < N$ and $i \neq j$) and increment value at one index and decrement value at other index. You can make this move any number of times. What is the maximum number of elements which can have the same value (after any number of moves) ?

Input

First line consists of **T**, the number of test cases. ($1 \leq T \leq 100$)

T sets follow. Each set contains **N**, the number of elements in the array, in the first line. ($1 \leq N \leq 100000$)

Next line of each set consists of **N** space separated integers ($0 \leq \text{value} \leq 100000$)

Output

Output **T** lines each containing the required answer.

Example

Input:

```
1
4
1 2 3 4
```

Output:

```
3
```