

A. Arithmetic Array

time limit per test: 1 second
 memory limit per test: 256 megabytes
 input: standard input
 output: standard output

An array b of length k is called good if its arithmetic mean is equal to 1. More formally, if

$$\frac{b_1 + \dots + b_k}{k} = 1.$$

Note that the value $\frac{b_1 + \dots + b_k}{k}$ is not rounded up or down. For example, the array $[1, 1, 1, 2]$ has an arithmetic mean of 1.25, which is not equal to 1.

You are given an integer array a of length n . In an operation, you can append a **non-negative** integer to the end of the array. What's the minimum number of operations required to make the array good?

We have a proof that it is always possible with finitely many operations.

Input

The first line contains a single integer t ($1 \leq t \leq 1000$) — the number of test cases. Then t test cases follow.

The first line of each test case contains a single integer n ($1 \leq n \leq 50$) — the length of the initial array a .

The second line of each test case contains n integers a_1, \dots, a_n ($-10^4 \leq a_i \leq 10^4$), the elements of the array.

Output

For each test case, output a single integer — the minimum number of non-negative integers you have to append to the array so that the arithmetic mean of the array will be exactly 1.

Example

input	Copy
4 3 1 1 1 2 1 2 4 8 4 6 2 1 -2	
output	Copy
0 1 16 1	

Note

In the first test case, we don't need to add any element because the arithmetic mean of the array is already 1, so the answer is 0.

In the second test case, the arithmetic mean is not 1 initially so we need to add at least one

Codeforces Round #726 (Div. 2)

Finished

Practice



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Clone Contest

→ Submit?

Language: GNU G++14 6.4.0

Choose file: Browse... No file selected.

Be careful: there is 50 points penalty for submission which fails the pretests or resubmission (except failure on the first test, denial of judgement or similar verdicts). "Passed pretests" submission verdict doesn't guarantee that the solution is absolutely correct and it will pass system tests.

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→ Problem tags

greedy math *800

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- Tutorial (en) ✕

more number. If we add 0 then the arithmetic mean of the whole array becomes 1, so the answer is 1.

In the third test case, the minimum number of elements that need to be added is 16 since only non-negative integers can be added.

In the fourth test case, we can add a single integer 4. The arithmetic mean becomes $\frac{-2+4}{2}$ which is equal to 1.

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