Equalize Juice

Chef is hosting a party. In preparation, he has laid out N glasses of juice on a table, all in a line.
The i-th glass from the left initially has A_i units of juice.

For aesthetic reasons, Chef would really like all the glasses to have an equal amount of juice.
To achieve this, he can do the following:

- Choose an index i ($1 \leq i \leq N$).
- Choose two **non-negative integers** x and y such that $x + y \leq A_i$.
- Then,
  - If $i > 1$, pour x units of juice into glass $i - 1$, i.e. increase A_{i-1} by x.
  - If $i < N$, pour y units of juice into glass $i + 1$, i.e. increase A_{i+1} by y.
  - Remove glass i from the table. This reduces N by 1.
  - Re-index the remaining glasses to start from 1, left-to-right.

Find the **minimum** number of such operations that Chef needs, to ensure that all remaining glasses have an equal amount of juice remaining.

Input Format

- The first line of input will contain a single integer T, denoting the number of test cases.
- Each test case consists of two lines of input.
  - The first line of each test case contains a single integer N — the initial number of glasses.
  - The second line contains N space-separated integers $A_1, A_2, \ldots, A_N$ — the initial amounts of juice in the glasses.

Output Format

For each test case, output on a new line the answer: the minimum number of operations needed to make all the glasses have an equal amount of juice.

Constraints

- $1 \leq T \leq 1000$
- $1 \leq N \leq 5000$
- $1 \leq A_i \leq 10^9$
- The sum of N over all test cases won't exceed 5000.

Sample 1:

Input	Output
3 3 1 6 2 4 7 7 7 7	1 0 3