Problem D. Pekora and Trampoline

Time limit 2000 ms
Mem limit 262144 kB

There is a trampoline park with n trampolines in a line. The i-th of which has strength S_i.

Pekora can jump on trampolines in multiple passes. She starts the pass by jumping on any trampoline of her choice.

If at the moment Pekora jumps on trampoline i, the trampoline will launch her to position $i + S_i$, and S_i will become equal to $\max(S_i - 1, 1)$. In other words, S_i will decrease by 1, except of the case $S_i = 1$, when S_i will remain equal to 1.

If there is no trampoline in position $i + S_i$, then this pass is over. Otherwise, Pekora will continue the pass by jumping from the trampoline at position $i + S_i$ by the same rule as above.

Pekora can't stop jumping during the pass until she lands at the position larger than n (in which there is no trampoline). Poor Pekora!

Pekora is a naughty rabbit and wants to ruin the trampoline park by reducing all S_i to 1. What is the minimum number of passes she needs to reduce all S_i to 1?

Input

The first line contains a single integer t ($1 \le t \le 500$) — the number of test cases.

The first line of each test case contains a single integer n ($1 \le n \le 5000$) — the number of trampolines.

The second line of each test case contains n integers $S_1, S_2, \ldots, S_n$ ($1 \le S_i \le 10^9$), where S_i is the strength of the i-th trampoline.

It's guaranteed that the sum of n over all test cases doesn't exceed 5000.

Output

For each test case, output a single integer — the minimum number of passes Pekora needs to do to reduce all S_i to 1.

Sample 1

Input	Output
3 7 1 4 2 2 2 2 2 2 2 3 5 1 1 1 1 1	4 3 0

Note

For the first test case, here is an optimal series of passes Pekora can take. (The bolded numbers are the positions that Pekora jumps into during these passes.)

- $[1, 4, \mathbf{2}, 2, \mathbf{2}, 2, \mathbf{2}]$
- $[1, \mathbf{4}, 1, 2, 1, \mathbf{2}, 1]$
- $[1, \mathbf{3}, 1, 2, \mathbf{1}, \mathbf{1}, \mathbf{1}]$
- $[1, \mathbf{2}, 1, \mathbf{2}, 1, \mathbf{1}, \mathbf{1}]$

For the second test case, the optimal series of passes is show below.

- $[\mathbf{2}, 3]$
- $[1, \mathbf{3}]$
- $[1, \mathbf{2}]$

For the third test case, all S_i are already equal to 1.