Chef and Party

Problem Code: **CHFPARTY** | Contest Code: COOK103 | ✓

Difficulty Rating: **1223** | Show Tags

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Problem

Read problems statements in Hindi, Mandarin Chinese, Russian, Vietnamese and Bengali as well.

Tonight, Chef would like to hold a party for his N friends.

All friends are invited and they arrive at the party one by one in an arbitrary order. However, they have certain conditions — for each valid i, when the i-th friend arrives at the party and sees that at that point, strictly less than A_i other people (excluding Chef) have joined the party, this friend leaves the party; otherwise, this friend joins the party.

Help Chef estimate how successful the party can be — find the maximum number of his friends who could join the party (for an optimal choice of the order of arrivals).

Input

- The first line of the input contains a single integer T denoting the number of test cases. The description of T test cases follows.
- The first line of each test case contains a single integer N.
- The second line contains N space-separated integers $A_1, A_2, \ldots, A_N$.

Output

For each test case, print a single line containing one integer — the maximum number of Chef's friends who could join the party.

Constraints

- $1 \leq T \leq 1,000$
- $1 \leq N \leq 10^5$
- the sum of N over all test cases does not exceed 10^6

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Sample 1:

Input	Output
3 2 0 0 6 3 1 0 0 5 5 3 1 2 3	2 4 0

Explanation:

Example case 1: Chef has two friends. Both of them do not require anyone else to be at the party before they join, so they will both definitely join the party.

Example case 2: At the beginning, friends 3 and 4 can arrive and join the party, since they do not require anyone else to be at the party before they join. After that, friend 2 can arrive; this friend would see that there are two people at the party and therefore also join. Then, friend 1 will also join, so in the end, there would be 4 people attending the party.

Example case 3: No one will attend the party because each of Chef's friends will find zero people at the party and leave, regardless of the order in which they arrive.