

Range Equals Size

Input file: **standard input**
Output file: **standard output**
Time limit: 0.25 seconds
Memory limit: 4 megabytes

Su wants to take her beloved students on a field trip. To avoid complications, she will mark each student with an arbitrary integer. Then she will ask students to form groups according to the following rule:

- Two or more students can form a group only if the difference between their maximum and minimum elements equals the group's size.

To prepare for the trip, she wants to know the size of the largest possible group.

Input

The first line of the input contains a single integer, t ($1 \leq t \leq 10^4$) — the number of test cases.

The first line of each test case contains a single integer, n ($1 \leq n \leq 2 \cdot 10^5$) — the number of students.

The second line of each test case contains n integers, a_1, a_2, \dots, a_n ($-10^9 \leq a_i \leq 10^9$) — the number assigned to each student.

It is guaranteed that the sum of n over all test cases does not exceed $2 \cdot 10^5$.

Output

For each test case, output a single integer — the size of the largest group, such that the difference between its maximum and minimum elements equals its size, or 0 if there is no such group.

Example

| standard input | standard output |
|----------------|-----------------|
| 4 | 0 |
| 2 | 4 |
| 0 1 | 5 |
| 4 | 4 |
| 0 1 1 -3 | |
| 6 | |
| 3 10 5 9 5 9 | |
| 6 | |
| 8 1 4 5 1 8 | |

Note

In the first test case, there is no valid group.

In the second test case, the only valid group is $\{-3, 0, 1, 1\}$.

In the third test case, the largest group is $\{5, 5, 9, 9, 10\}$. Note that $\{5, 5, 9, 9\}$ is also valid, but smaller.

In the fourth test case, there are two groups of maximum size: $\{1, 1, 4, 5\}$ and $\{4, 5, 8, 8\}$.