Money Heist -II

Input file:	standard input
Output file:	standard output
Time limit:	2 second
Memory limit:	256 megabytes

Now one of the robbers, Tokyo, wants to make some teams from the hostages based on the performance score. A team can have any number of hostages.
In order to make the teams work as a unit, the robber forms the teams based on following rules:

- Every member of the team must have a **unique** performance score in the team,
  e.g. the team of 3 hostages having scores {1,2,2} is not allowed since 2 is not unique.
- Every member's performance score in the team $A[i]$, is the previous member's performance score + 1, i.e., $A[i-1]+1,\ i>0$.
  e.g. {1,0-1,2} is valid (sort yields{-1,0,1,2}) while {-1,0,2} is not valid since 2 is not the previous member's score (0) + 1.
  Note: A hostage can have a negative performance score as well.

The more members in a team, more work can be done at a time so the robber wants to form such teams of the hostages that the smallest team is as large as possible.

Description

- ***n***: an integer representing the number of hostages, can be 0 as well.
- ***A:*** array of integers representing the performance score of each hostage
- **t**: number of test cases

Input

The first line contains an integer, ***t,*** the number of test cases.
Each of the next ***t*** lines contains a space separated integers, ***n,*** followed by ***n*** integers ***A[i],*** a list of hostages' score performance.

Constraints

- $1 \le t \le 100$
- $0 \le n \le 10^6$
- $-10^5 \le A[i] \le 10^5$

Output

For each test case, output the size of the largest possible smallest team on the separate line.

Example

standard input	standard output
1 6 -1 0 1 2 2 3	2
2 7 4 5 2 3 -4 -3 -5 7 1 -2 -3 -4 2 0 -1	3 7

Explanation

1. Number of hostages = 6
   Performance scores = [-1 0 1 2 2 3]
   There are many ways in which the teams can be formed.
   For e.g. {-1}, {0}, …{3}. Or {-1,0,1,2,3},{2}. But we want the largest smaller team size. Hence the optimal distribution will be {-1,0,1,2} and {2,3}. Size of the smallest team = 2.
2. 1st case:-
   Number of hostages = 7
   Performance scores = [4 5 2 3 -4 -3 -5]
   Optimal two teams {-4,-3,-5} and {4,5,2,3}. Size of smallest team = 3
   2nd case:-
   Number of hostages = 7
   Performance scores = [1 -2 -3 -4 2 0 -1]
   Optimal one teams {1 -2 -3 -4 2 0 -1}. Size of smallest team = 7.
