ESCUELA COLOMBIANA DE INGENIERÍA JULIO GARAVITO

Longest Consecutive Subsequence
Extracted from: Practice Geek
Source file name: subsequence.py
Time Limit: 1

Using Python built-in sorting functions is forbidden

Given an array of integers A[], the task is to complete the function which returns an integer denoting the length of the longest sub-sequence such that elements in the sub-sequence are consecutive integers, the consecutive numbers can be in any order.

Input

The first line of input contains an integer T denoting the no of test cases. Then T test cases follow. Each test case contains an integer N. Then in the next line are N space separated values of the array A[].

Output

For each test case in a new line output will be the length of the longest consecutive increasing sub-sequence present in the array A[ ] .

Constraints:
1<=T<=100
1<=N<=100

Sample Input:
2
7
1 9 3 10 4 20 2
11
36 41 56 35 44 33 34 92 43 32 42

Sample Output:
4
5

Explanation:
Input 1: A[] = {1, 9, 3, 10, 4, 20, 2};
Output 1: 4
The subsequence 1, 3, 4, 2 is the longest subsequence of consecutive elements

Input 2: A[] = {36, 41, 56, 35, 44, 33, 34, 92, 43, 32, 42}
Output 2: 5
The subsequence 36, 35, 33, 34, 32 is the longest subsequence of consecutive elements.