

Given an unsorted array “arr” of “N” integers. Return the length of the longest consecutive sequence. The consecutive sequence is in the form [num, num+1, num+2,...,num+L] where num is the starting integer of the sequence and L+1 is the length of the sequence.

Note:

If there are any duplicates in the given array we will count only one of them in the consecutive sequence.

For Example-

For the given array [9,5,4,9,10,10,6]

Output = 3

The longest consecutive sequence is [4,5,6].

Follow Up:

Can you solve this in $O(N)$ time and $O(N)$ space complexity?

Input Format :

The first line of input contains a single integer T, representing the number of test cases or queries to be run.

Then the T test cases follow.

The first line of each test case contains integer N denoting the size of the array.

The second line of each test case contains N single space-separated integers, elements of the array.

Output Format :

For each test case, print the length of the longest consecutive sequence in a single line.

Note :

You are not required to print the expected output; it has already been taken care of. Just implement the function.

Constraints :

```
1 <= T <= 10
1 <= N <= 10^5
-10^9 <= arr[i] <= 10^9
```

Time Limit: 1sec

Sample Input 1 :

```
1
5
33 20 34 30 35
```

Sample Output 1 :

3

Explanation To Sample Input 1 :

The longest consecutive sequence is [33, 34, 35].

Sample Input 2 :

```
1
7
1 9 3 10 4 20 2
```

Sample Output 2 :

4

Explanation To Sample Input 2 :

The consecutive sequence is in the form [num, num+1, num+2,...,num+L]. So in the given array, the longest consecutive sequence is [1,2,3,4] where num = 1 and L = 3. And the length of the sequence will be L+1 = 4.