

Practice (/) BETA

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All-time Popular Problems
Delete without head pointer (/problems/delete-without-head-pointer/1/?ref=self)
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Difficulty Level: [Medium \(https://practice.geeksforgeeks.org/Medium/0/0/\)](https://practice.geeksforgeeks.org/Medium/0/0/)

Submissions: [32446 \(/problem_submissions.php?pid=134\)](/problem_submissions.php?pid=134) Accuracy: 28.09%

Longest Increasing Subsequence

(/topics/Dynamic-Programming/) [Show Topic Tags](#)

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Given a sequence, find the length of the longest increasing subsequence from a given sequence . The longest increasing subsequence means to find a subsequence of a given sequence in which the subsequence's elements are in sorted order, lowest to highest, and in which the subsequence is as long as possible. This subsequence is not necessarily contiguous, or unique.

Note: Duplicate numbers are not counted as increasing subsequence.

For example:

length of LIS for

{ 10, 22, 9, 33, 21, 50, 41, 60, 80 } is 6 and LIS is {10, 22, 33, 50, 60, 80}.

Input:

The first line contains an integer T, depicting total number of test cases.

Then following T lines contains an integer N depicting the size of array and next line followed by the value of array.

Output:

Print the Max length of the subsequence in a separate line.

Constraints:

$$1 \leq T \leq 100$$

$$1 \leq N \leq 1000$$

$$0 \leq A[i] \leq 300$$

Example:

Input

1

16

0 8 4 12 2 10 6 14 1 9 5 13 3 11 7 15

Output

6

**** For More Input/Output Examples Use 'Expected Output' option ****

Author: shef5 (<https://auth.geeksforgeeks.org/user/shef5/practice/>)

All submissions

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C (gcc 5.4)

C++ (g++ 5.4)

C#

Java (1.8)

Python 3

Theme Light



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Reset



```

1 for _ in range(int(input())):
2     n=int(input())
3     l=list(map(int,input().split()))
4     lis=[1]*n
5     i=1
6     j=0
7     while(i<n):
8         while(j<i):
9             if l[j]<l[i]:
10                lis[i]=max(lis[i],lis[j]+1)
11                j+=1
12            i+=1
13            j=0
14     if lis:
15         print(max(lis))
16     else:
17         print(0)
18

```

It is recommended to 'Compile & Test' your code before clicking 'Submit'!

[Compile & Test](#)
[Submit](#)
[Expected Output](#)

Compilation/Execution Result:

Need help with your code? Please use ide.geeksforgeeks.org (<https://ide.geeksforgeeks.org>), generate link and share the link here.

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