

[Dashboard](#) / [My courses](#) / [CS23331-DAA-2023-CSE](#) / [Dynamic Programming](#) / [4-DP-Longest non-decreasing Subsequence](#)

<b>Started on</b>	Tuesday, 5 November 2024, 1:46 PM
<b>State</b>	Finished
<b>Completed on</b>	Tuesday, 5 November 2024, 2:46 PM
<b>Time taken</b>	59 mins 25 secs
<b>Marks</b>	1.00/1.00
<b>Grade</b>	<b>10.00</b> out of 10.00 ( <b>100%</b> )

## Question 1

Correct

Mark 1.00 out of 1.00

Problem statement:

Find the length of the Longest Non-decreasing Subsequence in a given Sequence.

Eg:

Input:9

Sequence: [-1,3,4,5,2,2,2,2,3]

the subsequence is [-1,2,2,2,2,3]

Output:6

**Answer:** (penalty regime: 0 %)

```

1 #include <stdio.h>
2 int longest(int arr[], int n) {
3     int a[n], max = 1;
4     for (int i=0;i<n;i++) a[i] = 1;
5     for (int i=1;i<n;i++) {
6         for (int j=0;j<i;j++) {
7             if (arr[i]>=arr[j]) {
8                 a[i]=a[i]>a[j]+1?a[i]:a[j]+1;
9             }
10        }
11    }
12    for (int i=0;i<n;i++) {
13        if (a[i]>max) {
14            max=a[i];
15        }
16    }
17    return max;
18 }
19 int main() {
20     int n;
21     scanf("%d", &n);
22     int arr[n];
23     for (int i=0; i<n; i++){
24         scanf("%d", &arr[i]);
25     }
26     int length=longest(arr, n);
27     printf("%d\n", length);
28     return 0;
29 }

```

	Input	Expected	Got	
✓	9 -1 3 4 5 2 2 2 2 3	6	6	✓
✓	7 1 2 2 4 5 7 6	6	6	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

[◀ 3-DP-Longest Common Subsequence](#)

Jump to...

[1-Finding Duplicates-O\(n^2\) Time Complexity,O\(1\) Space Complexity ▶](#)