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<b>Started on</b>	Wednesday, 20 November 2024, 7:41 PM
<b>State</b>	Finished
<b>Completed on</b>	Wednesday, 20 November 2024, 7:42 PM
<b>Time taken</b>	1 min 1 sec
<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
3 int longestNonDecreasingSubsequence(int arr[], int n) {
4     int dp[n];
5     for (int i = 0; i < n; i++) {
6         dp[i] = 1;
7     }
8
9     for (int i = 1; i < n; i++) {
10        for (int j = 0; j < i; j++) {
11            if (arr[j] <= arr[i]) {
12                dp[i] = dp[i] > dp[j] + 1 ? dp[i] : dp[j] + 1;
13            }
14        }
15    }
16
17    int maxLength = 0;
18    for (int i = 0; i < n; i++) {
19        if (dp[i] > maxLength) {
20            maxLength = dp[i];
21        }
22    }
23
24    return maxLength;
25 }
26
27 int main() {
28     int n;
29     scanf("%d", &n);
30
31     int arr[n];
32     for (int i = 0; i < n; i++) {
33         scanf("%d", &arr[i]);
34     }
35
36     printf("%d\n", longestNonDecreasingSubsequence(arr, n));
37     return 0;
38 }

```

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