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<b>Started on</b>	Tuesday, 12 November 2024, 6:51 AM
<b>State</b>	Finished
<b>Completed on</b>	Tuesday, 12 November 2024, 6:52 AM
<b>Time taken</b>	1 min 36 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
3 int max(int a, int b) {
4     return (a > b) ? a : b;
5 }
6
7 int longestNonDecreasingSubsequence(int arr[
8     int dp[n];
9     dp[0] = 1;
10
11     for (int i = 1; i < n; i++) {
12         dp[i] = 1;
13         for (int j = 0; j < i; j++) {
14             if (arr[i] >= arr[j]) {
15                 dp[i] = max(dp[i], dp[j] + 1);
16             }
17         }
18     }
19
20     int maxLength = 0;
21     for (int i = 0; i < n; i++) {
22         maxLength = max(maxLength, dp[i]);
23     }
24
25     return maxLength;
26 }
27
28 int main() {
29     int arr[] = {1, 3, 4, 5, 2, 2, 2, 2, 3};
30     int n = sizeof(arr) / sizeof(arr[0]);
31
32     int maxLength = longestNonDecreasingSubs
33     printf("%d\n", maxLength);
34
35     return 0;
36 }

```

	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 ▶](#)