

4-DP-Longest non-decreasing Subsequence

Started on	Friday, 24 October 2025, 2:06 PM
State	Finished
Completed on	Friday, 24 October 2025, 2:08 PM
Time taken	2 mins 38 secs
Marks	1.00/1.00
Grade	10.00 out of 10.00 (100%)

Question 1 | [Correct](#) [Mark 1.00 out of 1.00](#) [Flag question](#)

Problem statement:

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

Eg:

Input:9

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

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

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 main() {
8     int n;
9     scanf("%d", &n);
10
11     int arr[n];
12     for (int i = 0; i < n; i++) {
13         scanf("%d", &arr[i]);
14     }
15
16     int dp[n];
17
18     int max_len = 1;
19
20     for (int i = 0; i < n; i++) {
21         dp[i] = 1;
22         for (int j = 0; j < i; j++) {
23             if (arr[j] <= arr[i]) {
24                 dp[i] = max(dp[i], dp[j] + 1);
25             }
26         }
27         if (dp[i] > max_len)
28             max_len = dp[i];
29     }
30
31     printf("%d\n", max_len);
32
33     return 0;
34 }
```

	Input	Expected	Got	
✓	9 -1 3 4 5 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.

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