

CS23331-DAA-2024-CSE / 4-DP-Longest non-decreasing Subsequence



4-DP-Longest non-decreasing Subsequence

Started on Sunday, 12 October 2025, 7:03 PM

State Finished

Completed on Sunday, 12 October 2025, 7:07 PM

Time taken 4 mins 2 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:[-1,3,4,5,2,2,2,2,3]

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

Output:6

Answer: (penalty regime: 0 %)

```
1 #include <stdio.h>
2
```

```

2
3 int max(int a, int b) {
4     return (a > b) ? a : b;
5 }
6
7 int main() {
8     int n;
9     if (scanf("%d", &n) != 1) return 0;
10
11     int arr[1000];
12     for (int i = 0; i < n; i++) {
13         scanf("%d", &arr[i]);
14     }
15
16     int dp[1000];
17     int maxLen = 1;
18
19     for (int i = 0; i < n; i++) {
20         dp[i] = 1;
21         for (int j = 0; j < i; j++) {
22             if (arr[j] <= arr[i]) {
23                 dp[i] = max(dp[i], dp[j] + 1);
24             }
25         }
26         if (dp[i] > maxLen)
27             maxLen = dp[i];
28     }
29
30     printf("%d\n", maxLen);
31     return 0;
32 }
33
34

```

	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.

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Data retention summary