

Started on	Sunday, 17 November 2024, 5:21 PM
State	Finished
Completed on	Sunday, 17 November 2024, 5:50 PM
Time taken	29 mins 7 secs
Marks	1.00/1.00
Grade	10.00 out of 10.00 (100%)

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 main() {
3      int n, i, j, max_len = 1;
4      scanf("%d", &n);
5      int seq[n], dp[n];
6      for(i = 0; i < n; i++) {
7          scanf("%d", &seq[i]);
8          dp[i] = 1;
9      }
10     for(i = 1; i < n; i++) {
11         for(j = 0; j < i; j++) {
12             if(seq[i] >= seq[j]) {
13                 dp[i] = dp[i] > dp[j] + 1 ? dp[i] : dp[j] + 1;
14             }
15         }
16     }
17     for(i = 0; i < n; i++) {
18         if(dp[i] > max_len) {
19             max_len = dp[i];
20         }
21     }
22     printf("%d\n", max_len);
23     return 0;
24 }
25
```

	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](#)

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