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Started on	Tuesday, 5 November 2024, 2:37 PM
State	Finished
Completed on	Tuesday, 5 November 2024, 2:49 PM
Time taken	11 mins 50 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: [-1,3,4,5,2,2,2,3]

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

Output:6

Answer: (penalty regime: 0 %)

```

1  #include <stdio.h>
2
3  int main() {
4      int n;
5      scanf("%d", &n);
6      int arr[n];
7
8      for (int i = 0; i < n; i++) {
9          scanf("%d", &arr[i]);
10     }
11
12     int dp[n];
13
14     for (int i = 0; i < n; i++) {
15         dp[i] = 1;
16     }
17
18     for (int i = 1; i < n; i++) {
19         for (int j = 0; j < i; j++) {
20             if (arr[i] >= arr[j]) {
21                 if (dp[i] < dp[j] + 1) {
22                     dp[i] = dp[j] + 1;
23                 }
24             }
25         }
26     }
27
28     int maxLength = 0;
29     for (int i = 0; i < n; i++) {
30         if (dp[i] > maxLength) {
31             maxLength = dp[i];
32         }
33     }
34
35     printf("%d\n", maxLength);
36
37     return 0;
38 }
39

```

	Input	Expected	Got	
✓	9 -1 3 4 5 2 2 2 2 3	6	6	✓

	Input	Expected	Got	
✓	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 ▶](#)