4-DP-Longest non-decreasing Subsequence

Started on	Wednesday, 8 October 2025, 9:25 AM
State	Finished
Completed on	Wednesday, 8 October 2025, 9:37 AM
Time taken	11 mins 24 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   int max(int a, int b) {
3       return (a > b) ? a : b;
```

```c
    4  }
    5  int main() {
    6      int n;
    7      scanf("%d", &n);
    8      int seq[n];
    9      for (int i = 0; i < n; i++) {
   10          scanf("%d", &seq[i]);
   11      }
   12      if (n == 0) {
   13          printf("0\n");
   14      }
   15      int dp[n];
   16      int max_len = 0;
   17
   18      for (int i = 0; i < n; i++) {
   19          dp[i] = 1;
   20          for (int j = 0; j < i; j++) {
   21              if (seq[j] <= seq[i]) {
   22                  dp[i] = max(dp[i], dp[j] + 1);
   23              }
   24          }
   25          max_len = max(max_len, dp[i]);
   26      }
   27      printf("%d\n", max_len);
   28      return 0;
   29  }
```

	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.

Finish review

Back to Course