CS23331-Design and Analysis of Algorithms-2023 Batch-CS

Quiz navigation

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Finish review

Status	Finished
Started	Tuesday, 22 April 2025, 1:51 PM
Completed	Tuesday, 22 April 2025, 2:13 PM
Duration	22 mins 14 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 %)

```c
#include <stdio.h>
int main() {
    int n;
    scanf("%d", &n);
    int a[1001];
    for (int i = 0; i < n; i++) {
        scanf("%d", &a[i]);
    }
    int dp[1001];
    for (int i = 0; i < n; i++) {
        dp[i] = 1;
    }
    for (int i = 1; i < n; i++) {
        for (int j = 0; j < i; j++) {
            if (a[i] >= a[j] && dp[i] < dp[j] + 1) {
                dp[i] = dp[j] + 1;
            }
        }
    }
    int maxLen = 0;
    for (int i = 0; i < n; i++) {
        if (dp[i] > maxLen)
            maxLen = dp[i];
    }
    printf("%d\n", maxLen);
    return 0;
}
```

	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

◄ 3-DP-Longest Common Subsequence

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1-Finding Duplicates-O(n^2) Time Complexity,O(1) Space Complexity ►