RAJALAKSHMI ENGINEERING COLLEGE

RAGAVI N 2024-CSE

R2

Started on	Wednesday, 8 October 2025, 3:14 PM
State	Finished
Completed on	Wednesday, 8 October 2025, 3:29 PM
Time taken	14 mins 48 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 %)

```c
#include <stdio.h>

int longest_non_decreasing_subsequence(int arr[], int n) {
    int dp[n];
    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 (arr[i] >= arr[j]) {
                dp[i] = (dp[i] > dp[j] + 1) ? dp[i] : dp[j] + 1;
            }
        }
    }

    int max_length = dp[0];
    for (int i = 1; i < n; i++) {
        if (dp[i] > max_length) {
            max_length = dp[i];
        }
    }

    return max_length;
}

int main() {
    int arr[] = {-1, 3, 4, 5, 2, 2, 2, 2, 3};
    int n = sizeof(arr) / sizeof(arr[0]);

    int result = longest_non_decreasing_subsequence(arr, n);
    printf("%d\n", result);

    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.

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