RAJALAKSHMI ENGINEERING COLLEGE

Started on	Wednesday, 8 October 2025, 4:03 PM
State	Finished
Completed on	Wednesday, 8 October 2025, 4:04 PM
Time taken	37 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 max(int a, int b) {
    return (a > b) ? a : b;
}

int main() {
    int n;
    scanf("%d", &n);
    int arr[n], dp[n];

    for (int i = 0; i < n; i++) {
        scanf("%d", &arr[i]);
        dp[i] = 1; // Each element is a subsequence of length 1
    }

    // Build DP table
    for (int i = 1; i < n; i++) {
        for (int j = 0; j < i; j++) {
            if (arr[i] >= arr[j]) {
                dp[i] = max(dp[i], dp[j] + 1);
            }
        }
    }

    // Find the maximum value in dp[]
    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.

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