RAJALAKSHMI ENGINEERING COLLEGE

Started on	Saturday, 25 October 2025, 10:22 AM
State	Finished
Completed on	Saturday, 25 October 2025, 10:23 AM
Time taken	1 min 7 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 longestNonDecreasingSubsequence(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[j] <= arr[i] && dp[j] + 1 > dp[i]) {
        dp[i] = dp[j] + 1;
      }
    }
  }
  int maxLen = dp[0];
  for (int i = 1; i < n; i++) {
    if (dp[i] > maxLen)
      maxLen = dp[i];
  }

  return maxLen;
}

int main() {
  int n;
  scanf("%d", &n);

  int arr[n];
  for (int i = 0; i < n; i++)
    scanf("%d", &arr[i]);

  int result = longestNonDecreasingSubsequence(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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