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Started on	Monday, 11 November 2024, 11:59 AM
State	Finished
Completed on	Monday, 11 November 2024, 12:07 PM
Time taken	8 mins 4 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 lnds[n], maxLength = 1;
  for (int i = 0; i < n; i++) lnds[i] = 1;
  for (int i = 1; i < n; i++) {
    for (int j = 0; j < i; j++) {
      if (arr[i] >= arr[j]) {
        lnds[i] = lnds[i] > lnds[j] + 1 ? lnds[i] : lnds[j] + 1;
      }
    }
  }
  for (int i = 0; i < n; i++) {
    if (lnds[i] > maxLength) {
      maxLength = lnds[i];
    }
  }
  return maxLength;
}
int main() {
  int n;
  scanf("%d", &n);
  int arr[n];
  for (int i = 0; i < n; i++) {
    scanf("%d", &arr[i]);
  }
  int length = longestNonDecreasingSubsequence(arr, n);
  printf("%d\n", length);
  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.

◄ 3-DP-Longest Common Subsequence

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