AlgoExpert Quad Layout C# 12px Sublime Monokai 00:00:00

Prompt Scratchpad Our Solution(s) Video Explanation Run Code

Solution 1

```
1\, // Copyright @ 2020 AlgoExpert, LLC. All rights reserved.
   using System;
   using System.Collections.Generic;
 6 public class Program {
     // O(n^2) time | O(n) space
      public static List<List<int> > MaxSumIncreasingSubsequence(int[] array) {
        int[] sequences = new int[array.Length];
10
        Array.Fill(sequences, Int32.MinValue);
        int[] sums = (int[]) array.Clone();
11
12
        int maxSumIdx = 0;
        for (int i = 0; i < array.Length; i++) {</pre>
13
          int currentNum = array[i];
14
15
          for (int j = 0; j < i; j++) {</pre>
16
            int otherNum = array[j];
17
             \textbf{if} \ (\texttt{otherNum} \ < \ \texttt{currentNum} \ \&\& \ \texttt{sums[j]} \ + \ \texttt{currentNum} \ >= \ \texttt{sums[i]}) \ \{ \\
18
              sums[i] = sums[j] + currentNum;
19
               sequences[i] = j;
20
21
22
          if (sums[i] >= sums[maxSumIdx]) {
23
            maxSumIdx = i;
24
25
26
        return buildSequence(array, sequences, maxSumIdx, sums[maxSumIdx]);
27
28
29
      public static List<List<int> > buildSequence(int[] array, int[] sequences, int currentIdx,
30
        int sums) {
31
        List<List<int> > sequence = new List<List<int> >();
        sequence.Add(new List<int>());
32
        sequence.Add(new List<int>());
33
34
        sequence[0].Add(sums);
        while (currentIdx != Int32.MinValue) {
35
          sequence[1].Insert(0, array[currentIdx]);
36
37
          currentIdx = sequences[currentIdx];
38
39
        return sequence;
40
41 }
```