

PromptScratchpadOur Solution(s)Video Explanation

Run Code

Solution 1Solution 2Solution 3Solution 4

```
1 // Copyright © 2020 AlgoExpert, LLC. All rights reserved.
2
3 using System.Collections.Generic;
4
5 public class Program {
6     // O(nm*min(n, m)) time | O(nm*min(n, m)) space
7     public static List<char> LongestCommonSubsequence(string str1, string str2) {
8         List<List<List<char> > > lcs = new List<List<List<char> > >();
9         for (int i = 0; i < str2.Length + 1; i++) {
10             lcs.Add(new List<List<char> >());
11             for (int j = 0; j < str1.Length + 1; j++) {
12                 lcs[i].Add(new List<char>());
13             }
14         }
15         for (int i = 1; i < str2.Length + 1; i++) {
16             for (int j = 1; j < str1.Length + 1; j++) {
17                 if (str2[i - 1] == str1[j - 1]) {
18                     List<char> copy = new List<char>(lcs[i - 1][j - 1]);
19                     lcs[i][j] = copy;
20                     lcs[i][j].Add(str2[i - 1]);
21                 } else {
22                     if (lcs[i - 1][j].Count > lcs[i][j - 1].Count) {
23                         lcs[i][j] = lcs[i - 1][j];
24                     } else {
25                         lcs[i][j] = lcs[i][j - 1];
26                     }
27                 }
28             }
29         }
30         return lcs[str2.Length][str1.Length];
31     }
32 }
33
```