

PromptScratchpadOur Solution(s)Video Explanation

Run Code

Solution 1Solution 2Solution 3Solution 4

```
1 // Copyright © 2020 AlgoExpert, LLC. All rights reserved.
2
3 #include <vector>
4 using namespace std;
5
6 // O(nm*min(n, m)) time | O(nm*min(n, m)) space
7 vector<char> longestCommonSubsequence(string str1, string str2) {
8     vector<vector<vector<char>>>> lcs;
9     for (int i = 0; i < str2.length() + 1; i++) {
10         lcs.push_back(vector<vector<char>>>());
11         for (int j = 0; j < str1.length() + 1; j++) {
12             lcs[i].push_back(vector<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                 vector<char> copy = lcs[i - 1][j - 1];
19                 copy.push_back(str2[i - 1]);
20                 lcs[i][j] = copy;
21             } else {
22                 lcs[i][j] = lcs[i - 1][j].size() > lcs[i][j - 1].size() ? lcs[i - 1][j]
23                                     : lcs[i][j - 1];
24             }
25         }
26     }
27     return lcs[str2.length()][str1.length()];
28 }
29
```