

Solution 1

Solution 2

```
1 // Copyright © 2020 AlgoExpert, LLC. All rights reserved.
2
3 class Program {
4     // O(2^(n + m)) time | O(n + m) space - where n is the length
5     // of the first string and m is the length of the second string
6     func interweavingStrings(_ one: String, _ two: String, _ three: String) -> Bool {
7         if three.length != one.length + two.length {
8             return false
9         }
10        return areInterwoven(one, two, three, 0, 0)
11    }
12
13    func areInterwoven(_ one: String, _ two: String, _ three: String, _ i: Int, _ j: Int) -> Bool {
14        let k = i + j
15        if k == three.length {
16            return true
17        }
18
19        let oneI = one.index(one.startIndex, offsetBy: i)
20        let twoJ = two.index(two.startIndex, offsetBy: j)
21        let threeK = three.index(three.startIndex, offsetBy: k)
22        if i < one.length, one[oneI] == three[threeK] {
23            if areInterwoven(one, two, three, i + 1, j) {
24                return true
25            }
26        }
27
28        if j < two.length, two[twoJ] == three[threeK] {
29            return areInterwoven(one, two, three, i, j + 1)
30        }
31
32        return false
33    }
34 }
35
```

