

Solution 1Solution 2

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1 # Copyright © 2020 AlgoExpert, LLC. All rights reserved.
2
3 # O(2^(n + m)) time | O(n + m) space - where n is the length
4 # of the first string and m is the length of the second string
5 def interweavingStrings(one, two, three):
6     if len(three) != len(one) + len(two):
7         return False
8
9     return areInterwoven(one, two, three, 0, 0)
10
11
12 def areInterwoven(one, two, three, i, j):
13     k = i + j
14     if k == len(three):
15         return True
16
17     if i < len(one) and one[i] == three[k]:
18         if areInterwoven(one, two, three, i + 1, j):
19             return True
20
21     if j < len(two) and two[j] == three[k]:
22         return areInterwoven(one, two, three, i, j + 1)
23
24     return False
25
```