97. Interleaving String

Given strings s1, s2, and s3, find whether s3 is formed by an interleaving of s1 and s2.

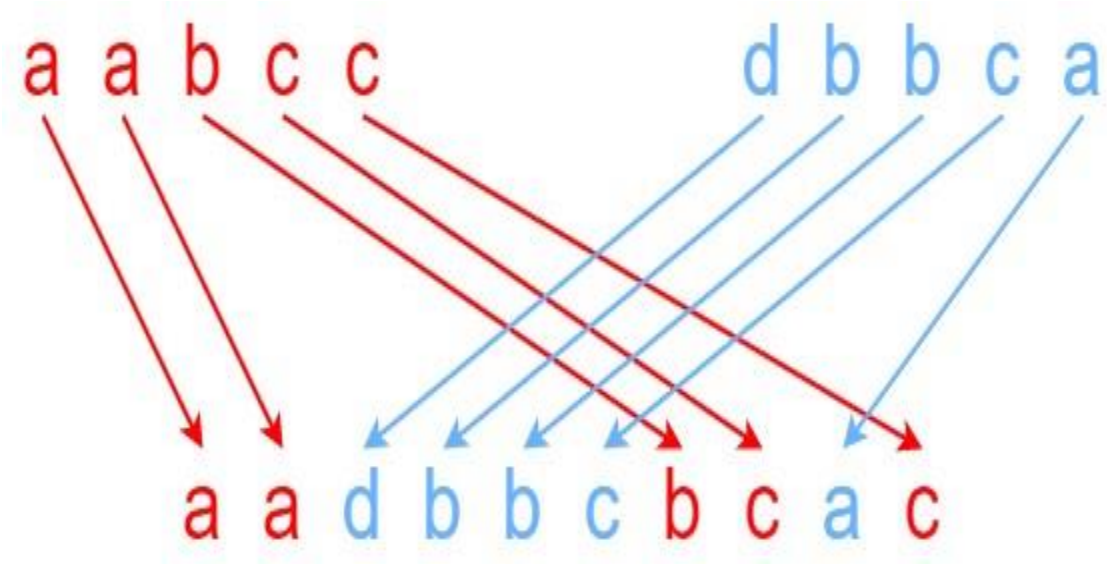
An interleaving of two strings s and t is a configuration where s and t are divided into n and m

Substrings respectively, such that:

- s = s1 + s2 + ... + sn
- t = t1 + t2 + ... + tm
- |n - m| <= 1
- The interleaving is s1 + t1 + s2 + t2 + s3 + t3 + ... or t1 + s1 + t2 + s2 + t3 + s3 + ...

Note: a + b is the concatenation of strings a and b.

Example 1:



Input: s1 = "aabcc", s2 = "dbbca", s3 = "aadbbcbcac"

Output: true

Explanation: One way to obtain s3 is:

- Split s1 into s1 = "aa" + "bc" + "c", and s2 into s2 = "dbbc" + "a".
- Interleaving the two splits, we get "aa" + "dbbc" + "bc" + "a" + "c" = "aadbbcbcac".
- Since s3 can be obtained by interleaving s1 and s2, we return true.

Example 2:

Input: s1 = "aabcc", s2 = "dbbca", s3 = "aadbbbaccc"

Output: false

Explanation: Notice how it is impossible to interleave s2 with any other string to obtain s3.

Example 3:

Input: s1 = "", s2 = "", s3 = ""

Output: true

Constraints:

- 0 <= s1.length, s2.length <= 100
- 0 <= s3.length <= 200
- s1, s2, and s3 consist of lowercase English letters.

Follow up: Could you solve it using only O(s2.length) additional memory space?