

Interleaving String

97. Interleaving String

Medium

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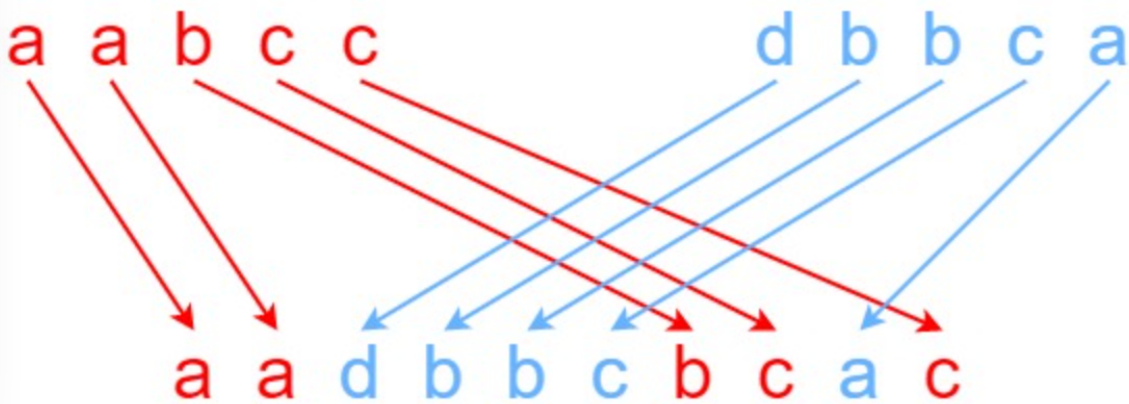
Given strings s_1 , s_2 , and s_3 , find whether s_3 is formed by an **interleaving** of s_1 and s_2 .

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:

- $s = s_1 + s_2 + \dots + s_n$
- $t = t_1 + t_2 + \dots + t_m$
- $|n - m| \leq 1$
- The **interleaving** is $s_1 + t_1 + s_2 + t_2 + s_3 + t_3 + \dots$ or $t_1 + s_1 + t_2 + s_2 + t_3 + s_3 + \dots$

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

Example 1:



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

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"
= "aadbcbcbac".

Since s3 can be obtained by interleaving s1 and s2, we return true.

Example 2:

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

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.