

1170. Shortest Common Supersequence

Difficulty : Hard

<https://leetcode.com/problems/shortest-common-supersequence>

Given two strings `str1` and `str2`, return *the shortest string that has both `str1` and `str2` as **subsequences***. If there are multiple valid strings, return **any** of them.

A string `s` is a **subsequence** of string `t` if deleting some number of characters from `t` (possibly \emptyset) results in the string `s`.

Example 1:

Input: `str1 = "abac", str2 = "cab"`

Output: `"cabac"`

Explanation:

`str1 = "abac"` is a subsequence of `"cabac"` because we can delete the first `"c"`.

`str2 = "cab"` is a subsequence of `"cabac"` because we can delete the last `"ac"`.

The answer provided is the shortest such string that satisfies these properties.

Example 2:

Input: `str1 = "aaaaaaaa", str2 = "aaaaaaaa"`

Output: `"aaaaaaaa"`

Constraints:

- `1 <= str1.length, str2.length <= 1000`
- `str1` and `str2` consist of lowercase English letters.