

Problem 1616: Split Two Strings to Make Palindrome

Problem Information

Difficulty: Medium

Acceptance Rate: 31.91%

Paid Only: No

Tags: Two Pointers, String

Problem Description

You are given two strings `a` and `b` of the same length. Choose an index and split both strings **at the same index** , splitting `a` into two strings: `aprefix` and `asuffix` where `a = aprefix + asuffix` , and splitting `b` into two strings: `bprefix` and `bsuffix` where `b = bprefix + bsuffix` . Check if `aprefix + bsuffix` or `bprefix + asuffix` forms a palindrome.

When you split a string `s` into `sprefix` and `ssuffix` , either `ssuffix` or `sprefix` is allowed to be empty. For example, if `s = "abc"`, then `"" + "abc"`, `"a" + "bc"`, `"ab" + "c"`, and `"abc" + ""` are valid splits.

Return `true` _if it is possible to form_ _a palindrome string, otherwise return_ `false` .

Notice that `x + y` denotes the concatenation of strings `x` and `y` .

Example 1:

Input: a = "x", b = "y" **Output:** true **Explanation:** If either a or b are palindromes the answer is true since you can split in the following way: aprefix = "", asuffix = "x" bprefix = "", bsuffix = "y" Then, aprefix + bsuffix = "" + "y" = "y", which is a palindrome.

Example 2:

Input: a = "xbdef", b = "xecab" **Output:** false

Example 3:

****Input:**** a = "ulacfd", b = "jizalu" ****Output:**** true ****Explanation:**** Split them at index 3:
aprefix = "ula", asuffix = "fd" bprefix = "jiz", bsuffix = "alu" Then, aprefix + bsuffix = "ula" +
"alu" = "ulaalu", which is a palindrome.

****Constraints:****

* `1 <= a.length, b.length <= 105` * `a.length == b.length` * `a` and `b` consist of lowercase English letters

Code Snippets

C++:

```
class Solution {  
public:  
    bool checkPalindromeFormation(string a, string b) {  
  
    }  
};
```

Java:

```
class Solution {  
public boolean checkPalindromeFormation(String a, String b) {  
  
}  
}
```

Python3:

```
class Solution:  
    def checkPalindromeFormation(self, a: str, b: str) -> bool:
```