

PromptScratchpadSolutionsVideo Explanation

Difficulty:  Category: Strings Successful Submissions: 66,373+

### Palindrome Check

☆

Write a function that takes in a non-empty string and that returns a boolean representing whether the string is a palindrome.

A palindrome is defined as a string that's written the same forward and backward. Note that single-character strings are palindromes.

Sample Input

```
string = "abcdcba"
```

Sample Output

```
true // it's written the same forward and backward
```

Hints

Hint 1

Start by building the input string in reverse order and comparing this newly built string to the input string. Can you do this without using string concatenations?

Hint 2

Can you optimize your algorithm by using recursion? What are the implications of recursion on an algorithm's space-time complexity analysis?

Hint 3

Go back to an iterative solution and try using pointers to solve this problem: start with a pointer at the first index of the string and a pointer at the final index of the string. What can you do from there?

Optimal Space & Time Complexity

O(n) time | O(1) space - where n is the length of the input string

Your Solutions

Run Code

Solution 1Solution 2Solution 3

```
1 '''
2 O(n) Time | O(1) Space: Where n is the length of the input string
3 '''
4 def isPalindrome(string):
5     left, right = 0, len(string) - 1
6
7     while left <= right:
8         if string[left] != string[right]:
9             return False
10        left += 1
11        right -= 1
12
13    return True
14
15 # Kunal Wadhwa
16
17 # https://github.com/kunal5042
18 # https://leetcode.com/kunal5042/
19 # https://www.hackerrank.com/kunalwadhwa_cs
20 # https://www.linkedin.com/in/kunal5042/
21
```

TestsQuick TestSandbox

23

```
"string": "aba"
}
```

Test Case 5

123

```
{
  "string": "abb"
}
```

Test Case 6

123

```
{
  "string": "abba"
}
```

Test Case 7

123

```
{
  "string": "abcdefghghgfedcba"
}
```

Test Case 8

123

```
{
  "string": "abcdefghihgfedcba"
}
```

Test Case 9

123

```
{
  "string": "abcdefghihgfeddcba"
}
```

Custom OutputRaw OutputSubmit Code

Yay, your code passed all the test cases!

9 / 9 test cases passed.

✓ Test Case 1 passed!

✓ Test Case 2 passed!

✓ Test Case 3 passed!

✓ Test Case 4 passed!

✓ Test Case 5 passed!

✓ Test Case 6 passed!

✓ Test Case 7 passed!

✓ Test Case 8 passed!