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COMPETE

JOBS

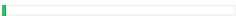
LEADERBOARD

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Days of  
Code



0%



joel\_h\_healy ▾


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# Day 18: Queues and Stacks ▾

 by blondeiebytes

Problem

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Tutorial

Welcome to Day 18! Today we're learning about Stacks and Queues. Check out the [Tutorial](#) tab for learning materials and an instructional video!

A *palindrome* is a word, phrase, number, or other sequence of characters which reads the same backwards and forwards. Can you determine if a given string, `s`, is a palindrome?

To solve this challenge, we must first take each character in `s`, *enqueue* it in a *queue*, and also *push* that same character onto a *stack*. Once that's done, we must *dequeue* the first character



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Max Score 30

Need Help?

from the *queue* and *pop* the top character off the *stack*, then compare the two characters to see if they are the same; as long as the characters match, we continue dequeuing, popping, and comparing each character until our containers are empty (a non-match means isn't a palindrome).

Write the following declarations and implementations:

- 1. Two instance variables: one for your , and one for your .
- 2. A void *pushCharacter(char ch)* method that pushes a character onto a stack.
- 3. A void *enqueueCharacter(char ch)* method that enqueues a character in the instance variable.
- 4. A char *popCharacter()* method that pops and returns the character at the top of the instance variable.
- 5. A char *dequeueCharacter()* method that dequeues and returns the first character in the instance variable.

Input Format

You *do not* need to read anything from stdin. The locked stub code in your editor reads a single line containing string . It then calls the methods specified above to pass each character to your instance variables.

Constraints

- is composed of lowercase English letters.

Output Format

You are *not* responsible for printing any output to stdout. If your code is correctly written and is a palindrome, the locked stub code will print ; otherwise, it will print

Sample Input

racecar


Sample Output

The word, racecar, is a palindrome.

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Python 3   

```
1 import sys
2
3 class Solution:
4     # Write your code here
5     def __init__(self):
```

```

6         self._queue = ""
7         self._stack = ""
8
9
10    def pushCharacter(self, char):
11        self._stack = self._stack + char
12        return None
13
14
15    def enqueueCharacter(self, char):
16        self._queue = self._queue + char
17        return None
18
19
20    def popCharacter(self):
21        char = self._stack[-1]
22        self._stack = self._stack[0:-1]
23        return char
24
25
26    def dequeueCharacter(self):
27        char = self._queue[0]
28        self._queue = self._queue[1:]
29        return char
30
31
32 # read the string s
33 s=input()
34 #Create the Solution class object
35 obj=Solution()
36 l=len(s)
37 # push/enqueue all the characters of string s to stack
38 for i in range(l):
39     obj.pushCharacter(s[i])
40     obj.enqueueCharacter(s[i])
41
42 isPalindrome=True
43 '''
44 pop the top character from stack
45 dequeue the first character from queue
46 compare both the characters
47 '''
48 for i in range(l // 2):
49     if obj.popCharacter()!=obj.dequeueCharacter():
50         isPalindrome=False
51         break
52 #finally print whether string s is palindrome or not.
53 if isPalindrome:
54     print("The word, "+s+", is a palindrome.")
55 else:
56     print("The word, "+s+", is not a palindrome.")

```

Line: 30 Col: 1



Congrats, you solved this challenge!

Challenge your friends:



- ☐ Test Case #0
- ☐ Test Case #3
- ☐ Test Case #6

- ☐ Test Case #1
- ☐ Test Case #4

- ☐ Test Case #2
- ☐ Test Case #5

You've earned 30.00 points. You are now 3 challenges away from the 4th star for your 30 days of code badge.

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