



Your Day 18: Queues and Stacks submission got 30.00 points.

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Day 18: Queues and Stacks



by blondiebytes

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 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 *s* isn't a palindrome).

Write the following declarations and implementations:

1. Two instance variables: one for your *stack*, and one for your *queue*.
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 *queue* instance variable.
4. A *char popCharacter()* method that pops and returns the character at the top of the *stack* instance variable.
5. A *char dequeueCharacter()* method that dequeues and returns the first character in the *queue* 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 *s*. It then calls the methods specified above to pass each character to your instance variables.

Constraints

- *s* 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 *s* is a palindrome, the locked stub code will print **The word, *s*, is a palindrome.**; otherwise, it will print **The word, *s*, is not a palindrome.**

Sample Input

racecar

Sample Output

The word, racecar, is a palindrome.

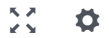
Submissions: 5530

Max Score: 30

Difficulty: Easy

[More](#)Current Buffer (saved locally, editable)  

Python 2



```
1 import sys
2
3 class Solution:
4     # Write your code here
5     def __init__(self):
6         self.stack=[]
7         self.queue=[]
8     def pushCharacter(self,st):
9         self.stack+=st
10        #print self.stack
11    def enqueueCharacter(self,st):
12        self.queue.insert(0,st)
13        #print self.queue
14    def popCharacter(self):
15        a=self.stack.pop()
16        #print a
17        return a
18    def dequeueCharacter(self):
19        b=self.queue.pop()
20        #print b
21        return b
22
23 # read the string s
24 s=raw_input()
25 #Create the Solution class object
26 obj=Solution()
27 l=len(s)
28 # push/enqueue all the characters of string s to stack
29 for i in range(l):
30     obj.pushCharacter(s[i])
31     obj.enqueueCharacter(s[i])
32
33 isPalindrome=True
34 '''
35 pop the top character from stack
36 dequeue the first character from queue
37 compare both the characters
38 '''
39 for i in range(l / 2):
40     if obj.popCharacter()!=obj.dequeueCharacter():
41         isPalindrome=False
42         break
43 #finally print whether string s is palindrome or not.
44 if isPalindrome:
45     sys.stdout.write ("The word, "+s+", is a palindrome.")
46 else:
47     sys.stdout.write ("The word, "+s+", is not a palindrome.")
48
49
```

Line: 20 Col: 10

 Upload Code as File ☐ Test against custom input

Run Code

Submit Code

Congrats, you solved this challenge!

 Test Case #0 Test Case #3 Test Case #6 Test Case #1 Test Case #4 Test Case #2 Test Case #5[Next Challenge](#)

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