

Fall 2018 CSC 212-04

Program 01

Due date: 10-15-2018 (Monday) in class (demonstration and submission)

Title: Palindrome Checker

Objective:

Given a user-entered string (a word), you have to find out if it is a palindrome or not. A palindrome is a piece of text that reads the same backwards as well. For example: 'noon', 'level', 'radar', etc. are palindromes since each reads the same after you reverse it. On the other hand, some examples of non-palindromes are: 'husky', 'ice', 'morning', etc. By definition, empty strings are palindromes, and single-letter words are not. Word

Implementation:

You have to solve the problem using stack(s). I have provided you a wrapper function that takes an input from the user, and returns a stack containing the individual characters. You will not have direct access to the user-entered string – you will have to use the methods from the stack class along with other python statement constructs to solve the problem. For your convenience, the Stack class along with a function to take the user input and wrap it in a stack are being provided. You can use at most three stacks to solve this problem. Depending on whether the input was a palindrome or not, your program should show the original string followed by the clause: 'is a palindrome' or 'is not a palindrome', respectively. For example, if the user entered 'racecar', then your program should show 'racecar is a palindrome'. *Palindrome check should be performed in a case-insensitive manner.*

File Structure:

The file 'PalindromeChecker.py' accompanying this document contains the definition of the Stack class to be used in this assignment and the helper function that takes a user input and returns a stack containing the characters from the input. You should append your program to the same file and submit it to the instructor by the deadline as well as demonstrate it to the instructor in class on the date mentioned at the beginning of the document. Failing to either submit the file or demonstrate will result in a zero credit for the assignment. See the 'Submission Instructions' section in this document for details on how to submit your work.

Sample output:

Sample #1:

Please enter a sentence: ABCDFGGFEDCBA

ABCDFGGFEDCBA is not a palindrome

Sample #2:

Please enter a sentence: MADAM

MADAM is a palindrome

Additional instructions:

You CANNOT modify the Stack class or the provided function. It's like you have to assume they are made available to you by a third party library.

Submission Instructions:

Rename the file PalindromeChecker.py to **YOURLASTNAME_PalindromeChecker.py**. Compress it to a zip file named **YOURLASTNAME_CSC212_04F18_Pgm_01.zip**, then attach this zip file to an email and send it to: islaamm2@southernct.edu with the following subject line: "YOURLASTNAME_MIDDLE_INITIAL_CSC212_04F18__PGM01" by the due date (before the class lecture starts). Also make sure you have a copy of it accessible from the computer you intend to use for the demonstration in class.

No late submission is allowed. **Failure to submit or demonstrate by the due date will result in a zero credit for the assignment.**

NOTE: Follow the exact naming conventions for files, email subject as described in this document to avoid being penalized by as much as 5% of the assignment.