CS1337 Spring 2019 Assignment 7 – Recursion

Recursive functions call themselves. Write a recursive function that determines if an input string is a palindrome. Keep in mind the following rules:

1. Punctuation and spaces don’t count, and capital letters are the same as lower-case, so you’ll have to deal with that using functions you have already learned. Digits are allowed, as in the example below. For example, “A man, a plan, a canal. Panama” is a palindrome. So are “kayak” and “12421”.
2. Use the “string” class for your input parameter. That lets you use all of the string functions.

Consider carefully the base case for returning from recursive calls. Your function declaration is:

bool isPalindrome(string);

Note that this function takes exactly one parameter. If your function takes more than that, you will lose at least 20 points.

Write a driver program that asks for a string, displays the string, and prints whether it is a palindrome or not. Then go back to the top of the loop and ask for another string. The program should stop if you enter a single asterisk (\*) character.

**To hand in:** Your C++ file(s). You can probably do this in a single .CPP file.

|  |  |
| --- | --- |
| **Grading**: |  |
| Program compiles and runs and is recursive. You will lose a minimum of 30 points for writing an iterative, non-recursive isPalindrome function. | 50% |
| Program is well-designed and uses good variable names | 40% |
| Comments in the code | 10% |

**Other grading criteria:**

Using a static variable: -30

Stopping after processing only one string: -10