CS250 Assignment 1

Palindrome Checker

Date Assigned: Wednesday, February 7, 2007

Date Due: Friday, February 16, 2007

Points: 30

Write a program that will test whether one or more character strings listed in a file are palindromes. A palindrome is a sentence (or word) that reads the same forwards and backwards. For example, both *rotor* and *toot* are palindromes. Most definitions of a palindrome do not count spaces or special characters as significant, thus the following sentence is also a palindrome: "A man, a plan, a canal, Panama!".

The input to your program will be a file containing a list of words or sentences, which may or may not be palindromes. Each word or sentence will appear on a separate line.

The output should be two files, the first will list all the palindromes, one per line, the second will list all the non-palindromes, again one per line. Each file must also start with a sentence showing the number of palindromes or non-palindromes that will be listed.

```
****************************************
*          Palindrome Checker          *
****************************************
Please enter the name of the file containing
the phrases: input.dat

Please enter the name of the file that will hold
the palindromes: pal.dat

Please enter the name of the file that will hold
the non-palindrome phrases: nonPal.dat

Thank you for using the program.
```

For this assignment, you must use pointer notation instead of array notation throughout your code. You should also break your program up into well-defined functions and code/test your solution one function at a time.

You must use at least five functions in your program and you must follow the coding standards found at `http://zeus.cs.pacificu.edu/shereen/cs250sp07/codingstandards.htm`

How to submit

- Submit a hard copy of the code by 9am on the day the assignment is due.

- Test your code on the file I will place in the CS250 public folder on Turing. You must place a copy of this file in your submitted project folder.

- Place the complete project folder in the CS250 drop folder on Turing by 9am on the day the assignment is due.

Notes

- Tackle this project one step at the time.

- Section 12.4 on page 781 contains some useful character functions.

- Assume that the longest sentence contains 80 characters.

- Section 3.10 on page 128 describes C-strings and how to read text into a string