



## Comp 170 - Palindrome

As in the course syllabus, late assignments will not be accepted unless you have a completed the process for using a late pass before the due date.

### 1. Submit

Online as instructed in class before the due date and time.

### 2. Format

Java program using proper programming style and with appropriate comments for pseudo code in the code.

\*\*\*Also turn in a sample of your testing\*\*\*\* cut and paste from the console window into a .doc, .docx, .rtf, or .pdf file. You can do several tests in one run of the program. Include at least two that are and two that are not palindromes.

### 3. Content

Summary: Write a complete program input multiple strings from the user (until they say to stop) and check each to see if it is a palindrome.

Palindromes are sentences (or individual words) the use the same letters from front or back. Usually white space, capitalization, and punctuation are ignored. See a list of palindromes below.

For this assignment you need only remove blanks and the period the may or may not be at the end of the line the user enters. However, it's not much harder to work with a list of punctuation symbols and remove them all!

See the description of the assignment in the text, Chp 7, Programming Projects, 2(palindrome), page 577.

Other Details and suggestions:

- a. Doing it with an array of char is one approach. To convert the user input to a string use the String class toCharArray() method.
- b. You may also do it with Strings directly since they are much like an array of char
- c. You are required to do full and complete pseudo code. You are required to describe a planned user interface in the pseudo code.

- d. \*\*\*Use good TOP DOWN REFINEMENT for problem solving\*\*\*. Do not just start to write code. Don't put it all in main; use some helper functions (some are suggested in the text and you can add and refine).
- e. Test carefully. You are required to turn in some test evidence as well.
- f. Here's a good list of punctuation to remove (including the blank); if you want to be a good programming, don't build removing each symbol into hard code, but use your program to read this string and remove each symbol found in it (called "data driven programming" = much easier to change than hard code).
- g. Optional: keep track of the number of sentences the user enters. When they are finished report how many were and were not palindromes.

Test your program fully and carefully. Try a few things that should not work. Be sure your program allows the user to enter as many strings as they wish to check. You must turn in a sample of your testing as well.

BEWARE: there are many solutions to this on the web. Do NOT cut and paste from anywhere. You will be caught!

## 4. Grading

20 points total. No points if will not compile. -5 points for each logic error that impacts the results. -10 for not allowing multiple input statements in one run of the program. -10 for doing it all in main. Up to -5 for poor programming style. Up to -5 for lack of sufficient documentation and comments.

-5 for not showing your test cases.

## 5. Example Palindromes

A man, a plan, a canal -- Panama  
 Never a foot too far, even.  
 I, man, am regal; a German am I.  
 Sex at noon taxes.  
 Too hot to hoot.  
 Live not on evil deed, live not on evil.  
 Sir, I'm Iris!  
 Name now one man.  
 Mad? Am I, madam?  
 Madam, in Eden I'm Adam!  
 Madam, I'm Adam!  
 Able was I ere I saw Elba.  
 Step on no pets!  
 Niagara, O roar again!  
 Was it a rat I saw?

Adam, I'm Ada!  
A Toyota.  
Never odd or even.  
Was it a car or a cat I saw?  
'Redivider'  
'Aibohphobia'

Assignment Palindrome  
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