**Lab Assignment – 9**  
**Due Date: 10/21/2018 (Monday), 11.59 pm**  
**Total 100 points**

1. Write a program that simulates an XOR operation. The input should be a word representing a binary number (0s and 1s). Your program should XOR all the digits from left to right and output the results as “True” or “False”. In an XOR operation, a XOR b is true if a or b is true but not both; otherwise it is false. In this program, we will consider the character “1” to represent true and a “0” to represent false. For instance, if the input is 1011, then the output would be 1 (1 XOR 0 is 1, then 1 XOR 1 is 0, then 0 XOR 1 is 1, which causes the output to be “True”). You can assume that the input word is guaranteed to contain only 0 and 1s.

Run the program the for the following values:

1011010010  
1101010011010  
11010111010101111

1. Write a program that takes a sentence as an input and checks whether that sentence is a palindrome. A palindrome is a word, phrase, or sentence that is symmetrical; that is, it is spelled the same forward and backward. Examples, are “otto”, “mom” “bob”. Your program should be case-insensitive; that is, “Otto” should also be counted as a palindrome.

(Not required but, to challenge yourself) - You are welcome to modify the program so that it can also handle palindrome sentences like “*Eva Can I Stab Bats In A Cave*”. You would have to remove the whitespace from the input string before you start testing whether the string is a palindrome.

Test your program with 3 of your favorite palindromes from Internet search.

**Things to turn in:**

* In a word document, type your name and the assignment number at the top. Change the font type to “Courier New” and layout to “Landscape”.
* Program – I: Copy the source code, output of the 3 runs of the program for the provided inputs and screen shot of the program.
* Program – II: Copy the source code, output of the 3 runs of the program for the palindromes inputs you chose and screen shot of the program.
* Zip your NetBeans project folder
* Submit your word document along with your zipped NetBeans project folder.