CS620: Applied Algorithms, Fall 2018
Weisberg Division of Computer Science, Marshall University
Assignment 01
Total Points: 50
Due: 4:00 p.m., Sep 17

1. Given an input string, reverse the string word by word. A word is defined as a sequence of non-space characters. The input string does not contain leading or trailing spaces and the words are always separated by a single space. [10 pts]

2. Given a sorted array and a target value, return the index if the target is found. If not, return the index where it would be if it were inserted in order. You may assume no duplicates in the array. [10 pts]

3. Write a program that finds out the longest palindrome in a given string. [10 pts]

4. Simplify a given algebraic string of characters, '+', '-' operators and parentheses. Output the simplified string without parentheses. [10 pts]

5. Given an integer k and a queue of integers, you need to reverse the order of the first k elements of the queue, leaving the other elements in the same relative order. [10 pts]

(Note 1: for all questions, please use hard coding, which means you can provide the input in the program. Please do not ask user to enter any value. Please let me know if you have any question. Thanks.)

(Note 2: For each question, you only submit one source file. In this assignment, we have five questions, so you will submit five source files on Blackboard. The programming language does not matter. Please let me know if you have any question. Thanks.)