**Scoring Rubric for Project 6: Insertion Sorting a Linked List**

*Due 10/31/2019 @ 3:30 pm*

|  |
| --- |
| Student Name: Ryan Phadnis |

|  |  |  |
| --- | --- | --- |
|  | **Score** | **Maximum** |
| **Execution (50 pts):** | | |
| Program compiles without errors (warnings are okay) | 50 | **50** |
| **Implementation (45 pts):** | | |
| Implements the LinkedList class to be a friend of the Node class and contain only one pointer “head” | 5 | **5** |
| Implements a member function of LinkedList to do the insertion sort: implementation designs can vary, but some operations should be encapsulated in helper functions and it should be quadratic time | 15 | **15** |
| Implements the “big three”: copy constructor, copy assignment operator, and destructor for the LinkedList class | 12.5 | **15** |
| Plots the execution time vs. N for the vector and linked list | 4 | **5** |
| Describes the similarity or difference observed in the performance of the InsertionSort algorithm for a vector vs. Linked List | 5 | **5** |
| **Style (5 pts):** | | |
| The driver and functions are easy to follow based on the use of comments | 3 | **3** |
| Easily identifiable variable names | 2 | **2** |
| **Total (100 pts):** | 96.5 | **100** |

Notes:

Your plot should have time on the y-axis, not clock cycles, since clock speed varies on different computers. Just divide the clock cycles that you get by CLOCKS\_PER\_SEC to get the time.

Your copy constructor needs to iterate over all the values in the list you’re passing in to the function and assign them to the current list.