Professional Integrity Report (CPS101)

Student Name: Brenden O'Brien **Assignment #: 5**

It took me 8 **hours to complete the assignment.**

Other than the textbook and class materials, I received the following help and referenced these resources (provide the details on what you have borrowed and learnt from each).

These parts of the program work well:

The program uses generic versions of bubbleSort, insertionSort, mergeSort, quicksort, and an enhanced quicksort method. The main program runs 3 different trial methods, firstly it tests the algorithm with small data sets of 2 digit values, then 5 digit values. It then perform the trial with large data sets.

These parts of the program don't work well (please identify the specific problem):

I noticed that as soon as I made my bubbleSort and insertionSort methods generic their time to sort large data sets took significantly longer than when the methods could only take primitive int arrays

I learnt the following in doing the assignment:

This assignment helped me understand the quicksort and mergeSort algorithms better, and this assignment also showed me just how applicable quicksort can be in real world applications, even with large data sets quicksort is able to sort those sets in significantly smaller time than bubbleSort or insertionSort would

The difficulties I encountered were:

I had a little difficulty changing the methods to generics, but I did eventually get it I just had a small hiccup. I then had trouble with mergeSort attempting to make comparisons outside of the array length, but I fixed that by setting one of the end indices to -1, because it would try and make a comparison at index 20000 for an array of length 20000

Here are some other comments or suggestions: