Choice of Algorithim in Sorting Based on Location

Homework #6

By

John Kiyak

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**Problem Specification**

The goal of this lab was to implement novelSort for the in class portion of the assignment, and for the homework portion, we were to look at a given data set and determine which algorithim is best suited for sorting the array, taking into account elements worked on from previous labs, include space and time complexity.

**Program Design**

For this assignment, we were given some pseudocode in class to implement novelsort. It required a main method to store the array, and a novelsort method to implement novelsort. The novel sort took in as parameters the array, the start of the array (0), and the end of the array (length of the array – 1). It identified the index of the minimum and maximum of the array list, and then swapped the beginning array element with the minimum and the ending array element with the maximum element. It then recursively increased the start index by one, and decreased the end index by one, until they all equaled each other.

**Testing Plan**

The testing plan for this homework was to think about all of the algorithms that we have learned this year, look at the data set that we are given, and figure out which algorithm would be best for the certain data. Considering that part of the array was already sorted (the times for each destination), I concluded that insertionsort would be the best option.

**Analysis and Conclusions**

 The reason I chose insertionsort was because the array was partially sorted in the time department. Since the data set was not very large,and quicksort as efficient for small data sets, in addition to the fact that it only passes through the array once, makes insertionsort a better canidate for sorting the array list, compared to other more advanced algorithms.

**References**

The pseudocode was given to us at the beginning of class on Monday. I also  used the textbook for the big O times for the algorithms.