Assignment 6 - Sorting - Report

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For assignment 6, We had to implement six different sorting algorithms, including Quick Sort, Merge Sort, Selection Sort, Insertion Sort, and Bubble Sort. Also, times were supposed to be checked to see which sorting algorithms were the fastest. Quick Sort was the fastest sorting algorithm. Then, it came merged, then selected Sort, then bubble sorted, and was finally inserted. The choice of programming language was C++, and C++ was probably the best option as it is faster than other programming languages to compile the algorithms to machine code. In terms of CPU usage, quick Sort and merge Sort did not require much CPU compared to the amounts of CPU that insert Sort, select Sort, and bubble sort required. The time differences between quick Sort and merge sort were not too drastic. However, using merge sort required additional arrays to complete the sorting algorithms, which required a large increase in memory usage. Quick Sort is probably the best choice as it does not require as much memory or CPU compared to the other sorting algorithms. Also, quicksort is the fastest sorting algorithm. For all these reasons, quicksort is the fastest, most straightforward, and most efficient sorting algorithm to use. Due to the limited CPU and limited memory usage, quick Sort stands out to be the most efficient of all the sorting algorithm choices.