CM1210 coursework 2 report

In short report I shall be talking about the recently completed 2nd coursework in which we were tasked with creating 3 different programs. In this report I will be talking mainly about the 2nd program but will also talk a little bit about the 3rd program.

For the 2nd part we were tasked with coding a merge sort and an insertion sort program. We then had to count the amount of comparisons and swaps that were made in each algorithm, we also had to time it as well. We then had to do all of this for 100, 200, 300 and 400 words in the text document.

I have displayed the results of the timings, comparisons and swaps 3 different graphs. I grouped the insertion sort, comparisons and moves, in one graph and the merge sort in the other. I then compared the two different algorithms times in one graph. As we can see from the graphs the merge sort does a lot more comparisons and moves yet follows a similar trend to the insertion sort where the moves and comparisons are similar in number. For the time we see that the insertion sort is a lot faster up to 300 words when the merge sort starts to get quicker. After this we can see that insertion sort rises rapidly and the merge sort becomes faster. This means that for a small set of words insertion is definitely the correct algorithm but when you get past 300 words it would be a better idea to go with merge.

