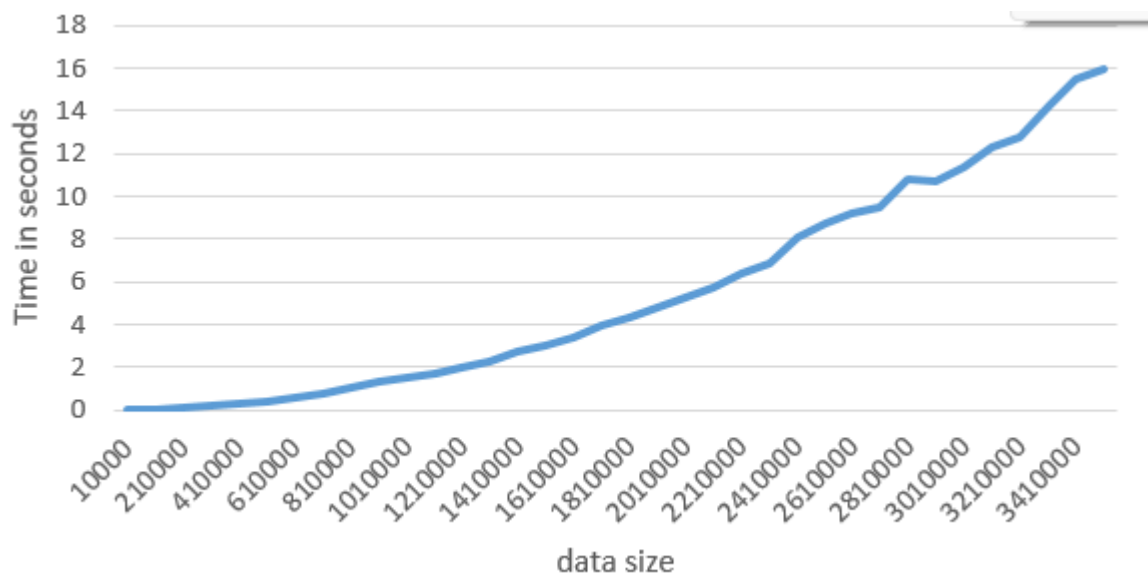
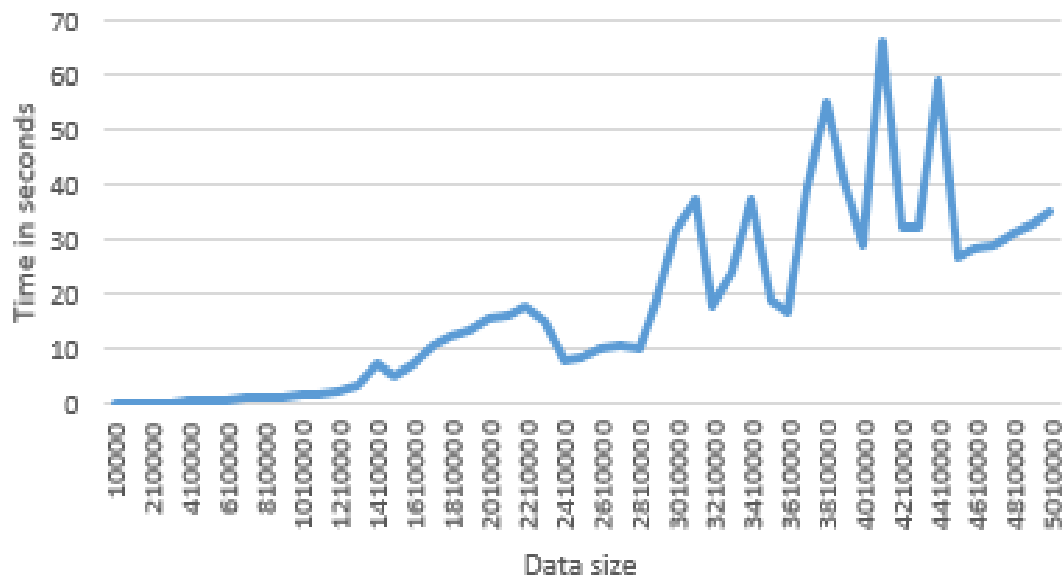
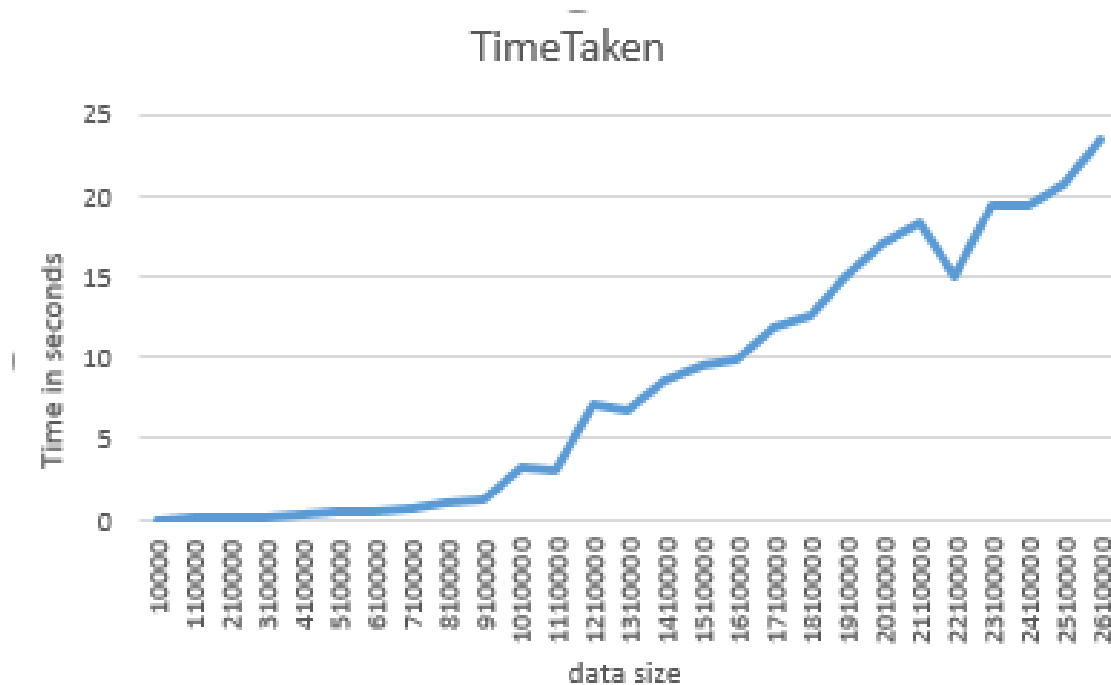


Report on Lab5 (Quick Sort)





The above graphs represent the time complexity of quicksort in three different trials.

The first graph is the most distorted in shape. This could be due to random generation of data. since the data are randomly generated, some could have gone into worst case scenario while some could have gone into best or average case scenario.

The second graph is the smoothest of all. From this we can clearly see that the time complexity of quicksort in average case is $n \log n$.

Though quite rough the third graph is also aligned with $n \log n$ graph.

From this we can conclude that, quicksort has time complexity of $n \log n$.

However, in worst cases (all data size taken into consideration), the plot can be n^2 as mentioned in the theory.