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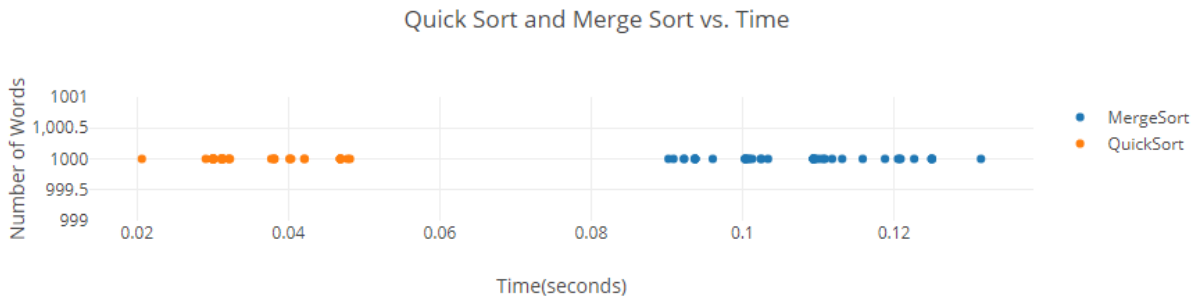
CPSC 335

Merge Sort vs. Quick Sort



Using the mean of Merge Sort, we can determine that the average performance of a 50 population size. The mean is equal to about 0.01075 seconds. The range of the data on the Merge Sort is 0.0347728 seconds this is higher than the range of the Quick Sort. The standard deviation of the Merge Sort is 0.01043. This is a larger standard deviation over the quick sort.

Using the mean of Quick Sort, we can determine that the average performance of a 50 population size. The mean is equal to about 0.03486 seconds. The range of the data on the Quick Sort is 0.02744842 seconds. This range is lower than the Merge Sort and also happens to have a lower standard deviation 0.00659.

This is an interesting result as both of these algorithms are in the same efficiency class. It goes to show how much randomness will affect your algorithms. While at an average it will be quick to sort using these random methods, it does come with a larger range and standard deviation. If sorting many large lists, this is a very effective way to make sure your average sort will be quick, at the cost of it being slower in some cases.