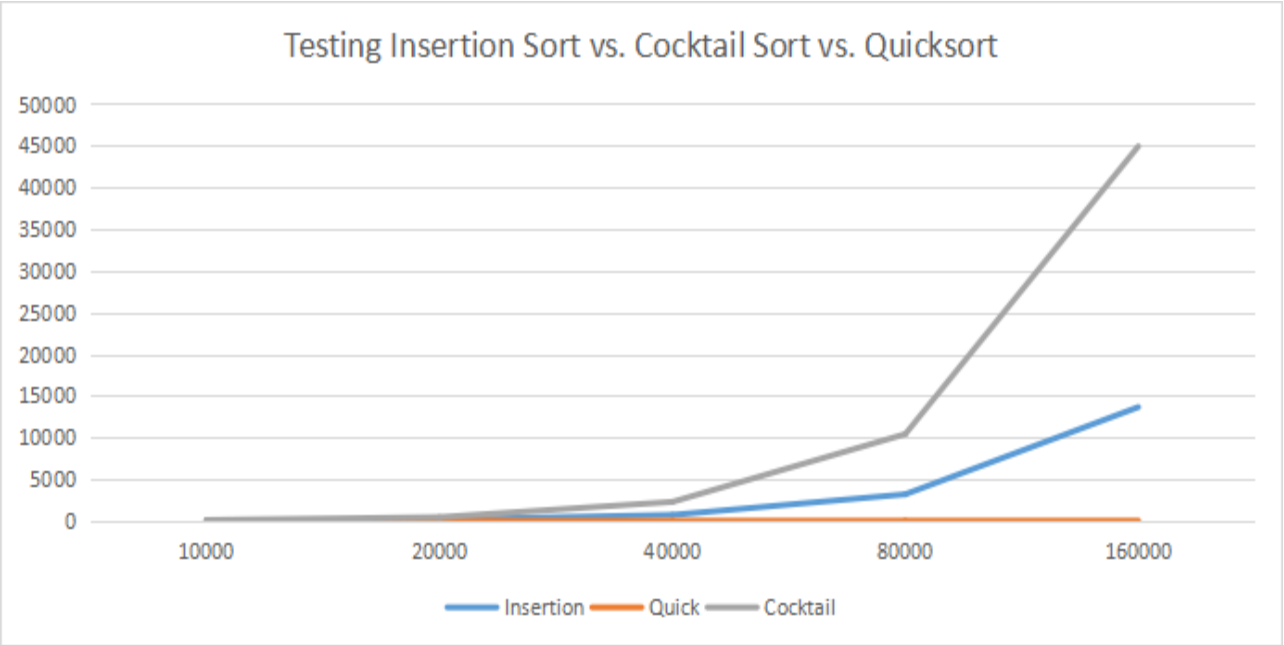
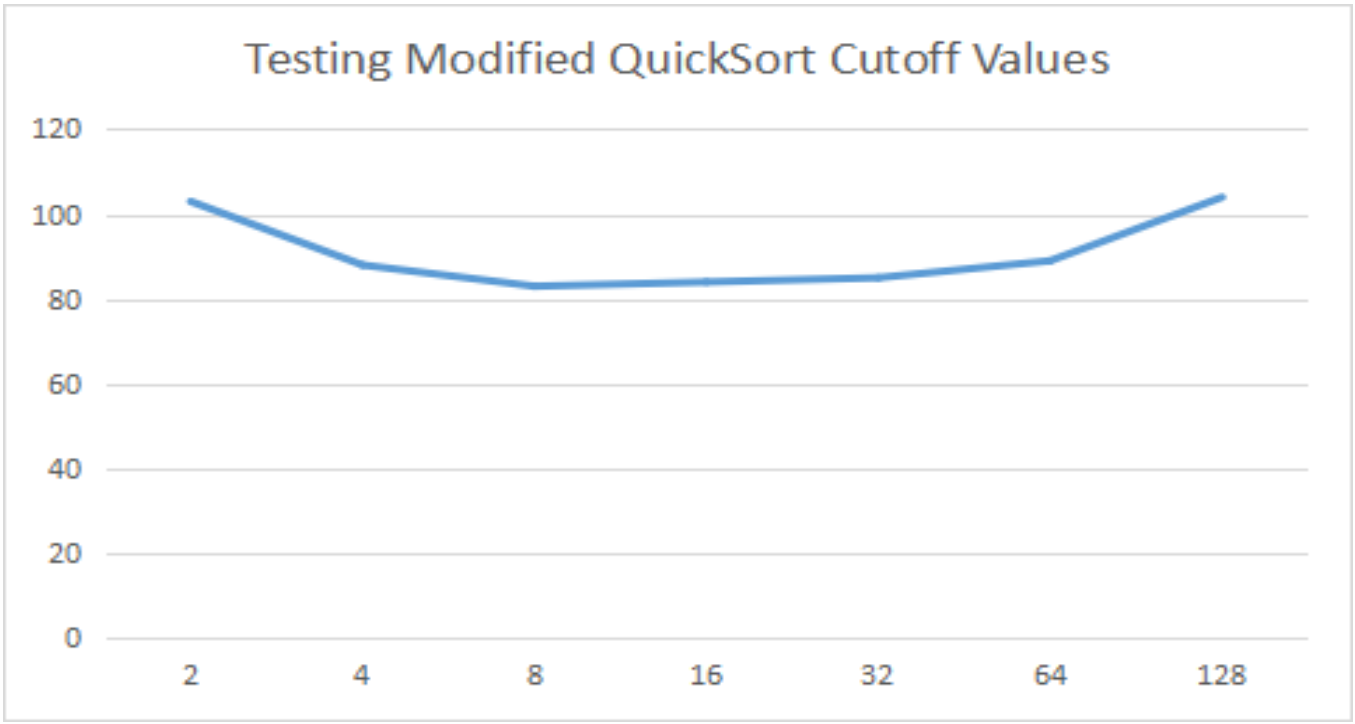
Testing Insertion Sort vs. Cocktail Sort vs. Quicksort



Among these three sorting methods, the one with the shortest run time is QuickSort, and the second is InsertionSort. CocktailSort takes the longest run time. This is because the runtime for QuickSort is O(nlogn), the runtime for InsertionSort is O(n^2), the runtime for cocktailSort is also O(n^2).

Testing Modified QuickSort Cutoff Values



From the graph above, we can see that the lowest runtime is when the curoff value is 8. So the cutoff value 8 will give us the fastest performance.

Testing Traditional QuickSort vs. Modified QuickSort