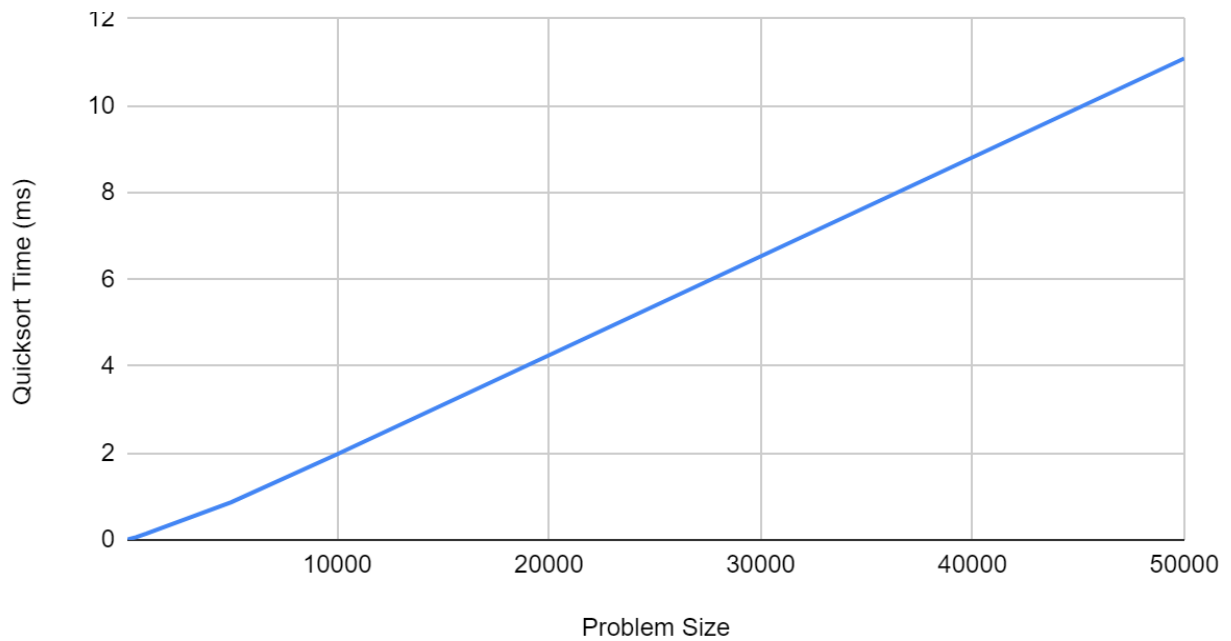
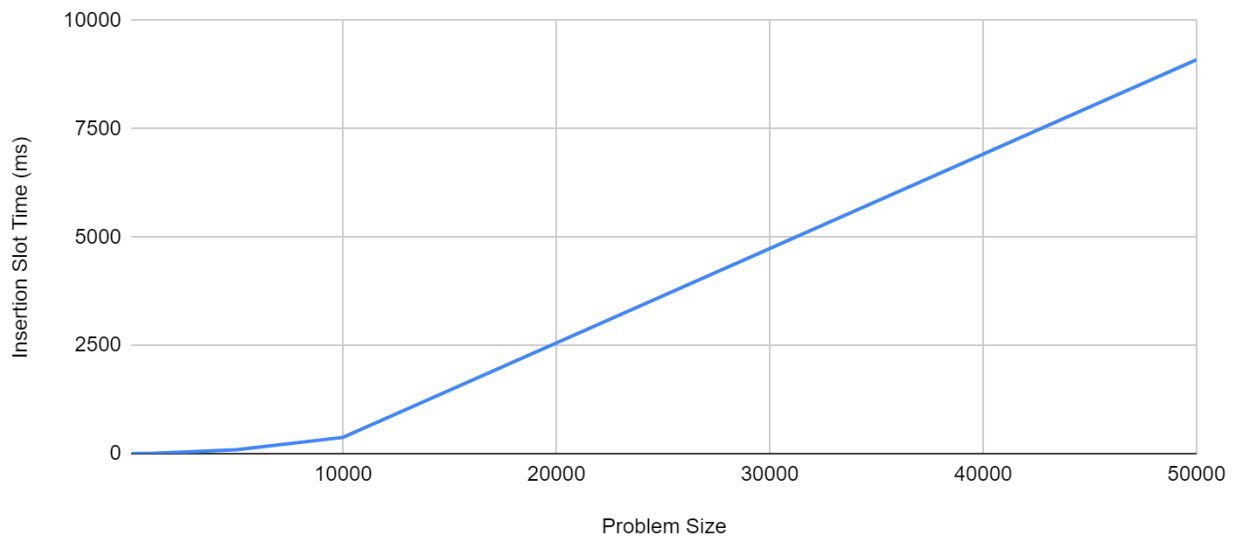


Sorting runtime report

Ethan Shelstad

Results

Insertion Slot Time (ms) vs. Problem Size



Problem Size	Insertion Slot Time (ms)	Quicksort Time (ms)
100.00	0.04	0.01
500.00	0.81	0.06
1,000.00	3.46	0.14
5,000.00	90.44	0.87
10,000.00	373.54	1.97
50,000.00	9,093.80	11.09

The trends do agree with the theory. In the data, the Insertion method indicates its $O(n^2)$, and the Quicksort method shows a trend towards $O(n \log(n))$. These are the same complexities that the theory supposes. Insertion is significantly slower than Quicksort, especially when the data pools are very large.

Collusion

As the results show, the insertion sort is a slower sorting algorithm than the quicksort method.