

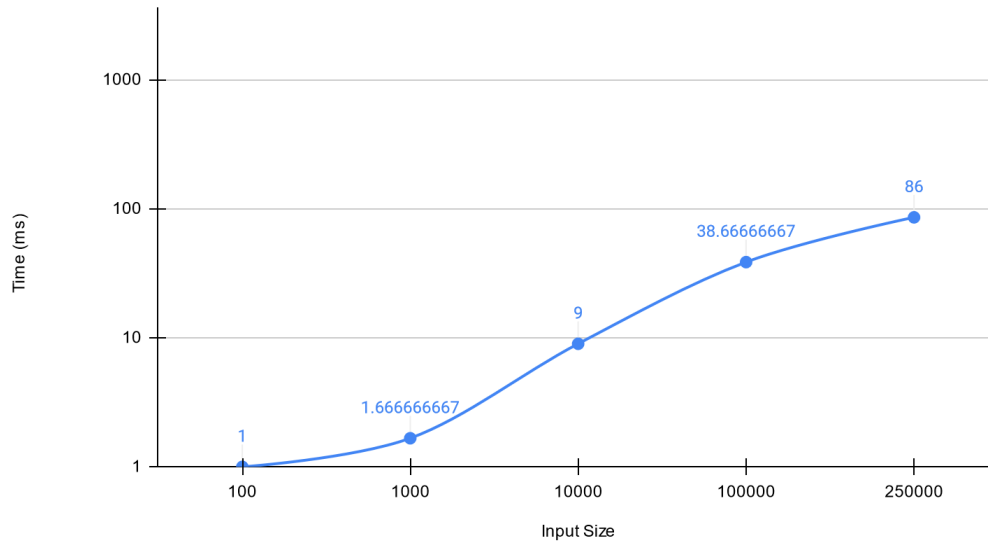
Conner McKevitt

Q2

Each algorithm was done 3 times for each input size and the total time in ms for each input was then averaged. The range of numbers increased with the inputs size so for inputs size 1000 the range of numbers was 1-1000.

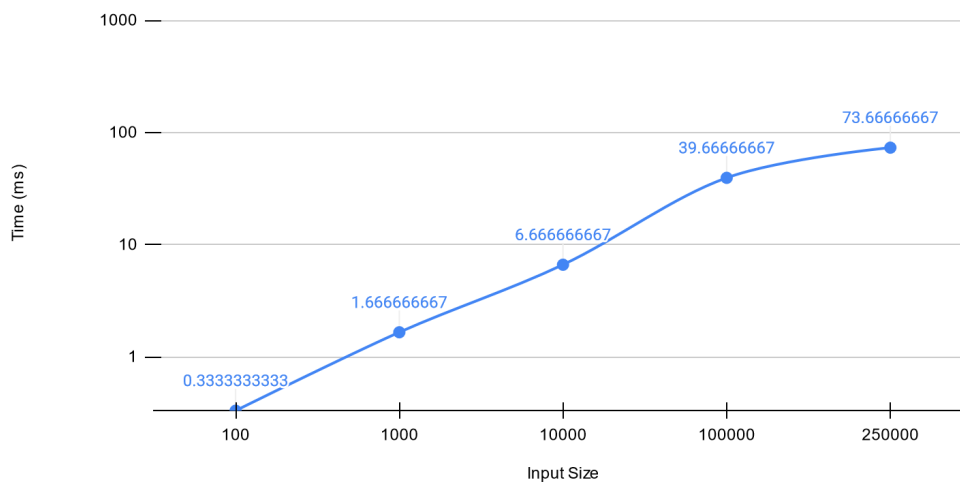
HeapSort

HeapSort



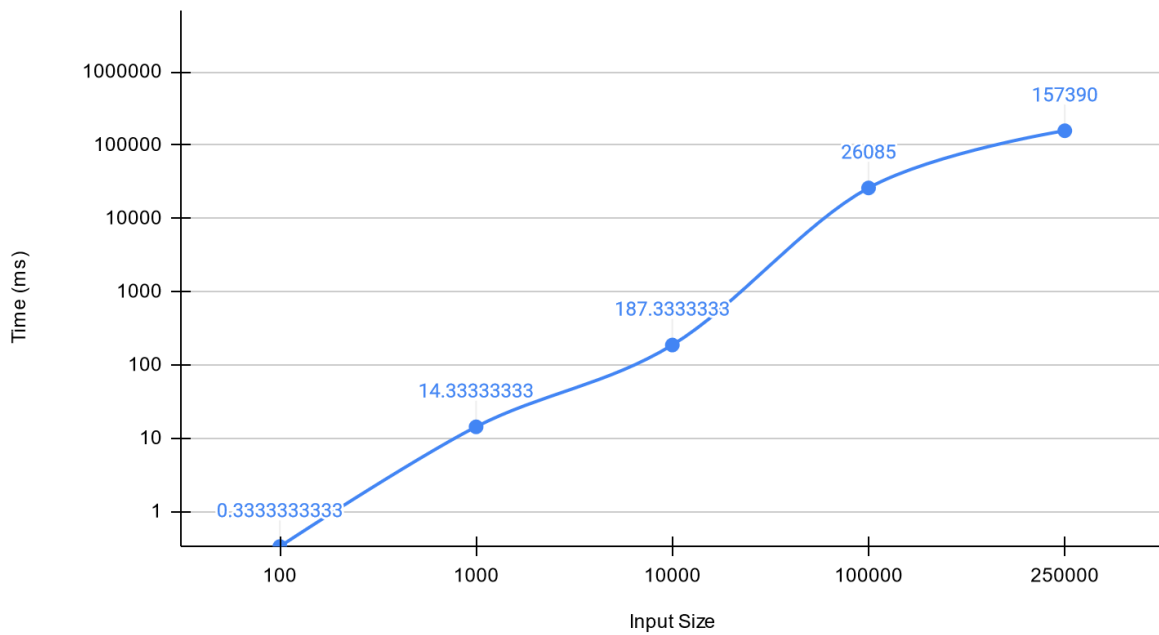
QuickSort

QuickSort



InsertionSort

InsertionSort



Heapsort has an average running time of $O(n \log n)$ which is reflected in the collected data. Based on the experimental data it is slightly slower than quicksort which also has an average runtime of $O(n \log n)$. Quicksort's $O(n \log n)$ is also reflected in the data. Insertion sort's $O(n^2)$ is also reflected in the data. Overall insertion sort is the slowest, then heapsort, and quicksort is the fastest.