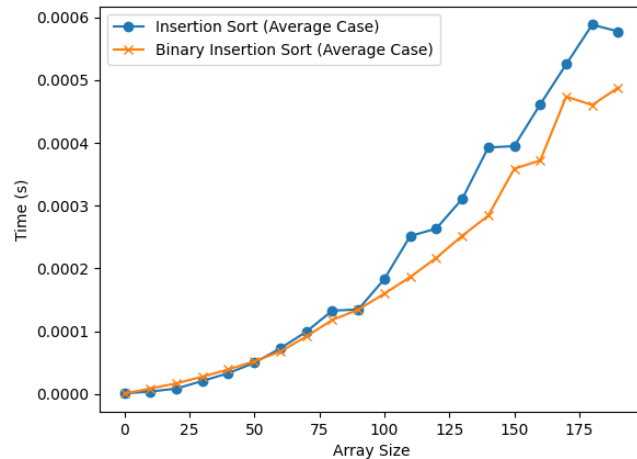# ENSF 338 L03 Exercise #2 Group 7

Question 3:

Question 4:
The Binary Insertion sort and the traditional insertion sort algorithms are both the same complexity of $O(n^2)$. However, despite this the binary insertion sort performs faster at greater array sizes. This occurs due to the faster algorithmic advantage Binary Insertion sort has in comparisons. It can search and find the value much more efficiently thanks to its use of binary search opposed to insertion sort's linear search. However, this does not change its complexity as it still needs to complete the same number of swaps, the only benefit is its ability to find the value that must be swapped (or need to swap) faster.