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CSCD 304 ASSIGNMENT
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SUMMARY ON INSERTION SORT

Insertion sort is a simple sorting algorithm that builds the final sorted array (or list of elements) one item at a time. It is much less efficient on large lists than more advanced algorithms such as quicksort, heapsort, merge sort and the likes . However, insertion sort provides several advantages. Some of these advantages are briefly stated in the subsequent paragraphs.

- Simple implementation,
- Efficient for small data sets, much like other quadratic sorting algorithms
- More efficient in practice than most other simple quadratic.
- Efficient for data sets that are already substantially or closely sorted .

Unlike other sorting algorithms like selection sort and bubble sort which rely primarily on comparing and swapping, the insertion sort achieves a sorted data set by identifying an element that out of order relative to the elements around it, removing it from the list, shifting elements up one place and then placing the removed element in its correct location. Follows the process until the elements are sorted.

In relation to Performance;

Worst case performance : O(n^2) comparisons and swaps .
Best case performance : O(n) comparisons and O(1) swaps.