Insertion sort is a sorting algorithm based on the comparison of two number. It simple, stable and has a complexity of O(n²).

The idea is simple, one element is sorted trivially. Pick element next to the already sorted sequence and insert it to the correct place - move every element of the already sorted sequence, which has a higher value than the element being sorted, one place right, then put the element into the gap (correct place within the sequence).

Worst case performance: O(n²) **-**So if you have 100 elements in your array, at worst, this algorithm will do 10,000 comparisons. This is when your data set is sorted completely opposite of how you wish to sort the data.

Average case performance: O(n²) **-** The average case won’t quite be 10,000 comparisons, but it will be higher than O(n) or O(nlogn) time.

Best case performance: O(n) **-**The best-case performance is when the data set is already sorted and it only needs to iterate each item in the array and do one comparison for each item in the data set.