## Insertion Sort

Insertion sort is a simple sorting algorithm that involves swapping adjacent elements.

It works as follows; * if the next element is smaller, algorithm loops through the unsorted array for the next smaller element. *If the next element is greater than the previous element, it ignores swapping. *However, if the next element is smaller it compares itself to the sorted sequence of the array and insert itself to one position ahead of their current position. This process is repeatedly done.

It normally works the way we play cards in our hands. For instance you normally sort all your cards per rank and place any particular card per previous cards.

Algorithm

// Sort an arr[ ] of size n

insertionSort(arr,n)

loops from 1=1 to n -1

i) Pick element arr [ i ]

ii) Insert it into sorted sequence arr[ 0..i-1 ]

Insertion Sort has a time complexity of 0(n*2).

Insertion sort is less efficient. It takes maximum time to sort if elements are sorted in reverse order.