IT Workshop Endsem Project

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Sorting

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Different Algorithms for Sorting

- Bubble Sort
- Insertion Sort
- Merge Sort
- Quick Sort
- Selection Sort

Bubble Sort

Bubble Sort works by repeatedly stepping through lists that need to be sorted, comparing each pair of adjacent items and swapping them if they are in the wrong order.

Insertion Sort

Insertion Sort inserts each item into its proper place in the final list.The simplest implementation of this requires 2 list structures,the source list and the list in which sorted items are inserted.

Merge Sort

Merge Sort splits the list to be sorted into two equal halves and places them in separate arays.Each array is recursively sorted and then merged back together to get the final sorted list.

Quick Sort

Quick Sort is an in-place, divide and conquer, massively recursvie sort. It is essentially in-place version of the merge sort.

Selection Sort

Selection Sort is an in-place comparison sort.It is inefficient on large lists and generally performs worse than similar insertion sort.

Which is the best Sorting algorithm?

We cannot generalize the order but according to the GNU plot, we can say, Bubble Sort is best for sorting small data while Merge Sort is best for large data.