ITWS PROJECT

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Aim Of The Project

To compare five different sorting algorithms and to determine the efficiency of each one of them by testing them against a randomly generated array of different lengths.
Also
We plot the comparisions required by each algorithm to completely sort the array vs the size of the array.

Introduction to Algorithms

This is a project of sorting of array in increasing order through five different algorithims

BUBBLE SORT

simple sorting algorithm that repeatedly steps through the list to be sorted, compares each pair of adjacent items

QUICK SORT

serving as a systematic method for placing the elements of an array in order.

INSERTION SORT

a simple sorting algorithm that builds the final sorted array one item at a time

SELECTION SORT

selection sort is a sorting algorithm, specifically an in-place comparison sort.

MERGE SORT

a recursive algorithm that continually splits a list in half.

Procedure Of The Project

STEP-1

Identify the statements that compare

STEP-2

Number of comparisons depend on array A, its size n and the algorithm used

STEP-3

Write selection sort algorithm on your own

STEP-4

Making library of sorting functions

STEP-5

Plot the results

CONCLUSION

From the different algorithms of sorting we came to know that merge sorting and quick sort are fastest among all the sorting algorithms. They are followed by insertion sort. Then comes the selection sort and bubble sort in the end with the least efficiency.