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REPORT → ALGO LAB-6

QUICK SORT

COMMENTS →

The time taken by quick sort to sort sorted array of 10,000 elements is 1759433 nano seconds.

The time taken by quick sort to sort reverse sorted array of 10,000 elements is 1624167 nano seconds.

The time taken by quick sort to sort shuffled array of 10,000 elements is 3179968 nano seconds.

CODE IDEA →

In the method quicksort() I am firstly calculating pivot number, then I am taking pivot as middle index number .Dividing into two arrays. In each iteration, we will identify a number from left side which is greater then the pivot value, and also we will identify a number from right side which is less then the pivot value. Once the search is done, then we exchange both numbers.Then calling quickSort() method recursively.

RANDOMIZED QUICK SORT

COMMENTS →

The time taken by randomized quick sort to sort sorted array of 10,000 elements is 7463062 nano seconds.

The time taken by randomized quick sort to sort reverse sorted array of 10,000 elements is 7630557 nano seconds.

The time taken by randomized quick sort to sort shuffled array of 10,000 elements is 7316076 nano seconds.

CODE IDEA →

In the method quicksort() I am firstly calculating pivot number by generating random no. upto max no. r ie. random(r), then I have used while(pivot<p) it will continue generating random no.s (where p is min no.) . Then in each iteration, we will identify a number from left side which is greater then the pivot value, and also we will identify a number from right side which is less then the pivot value. Once the search is done, then we exchange both numbers.Then calling quickSort() method recursively.