Data Structure

HW3

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The Bubble Sort method takes time (in nano Time) : 1318930.0000000000

The Merge Sort method takes time (in nano Time) :1275749.0000000000

The Quick Sort method takes time (in nano Time) :1261648.0000000000

The Improved Quick Sort method takes time (in nano Time) : 1240573.0000000000

startTime = System.nanoTime();

ISorting<Double>sorter1 = new merge<>();

result = sorter1.sort(copyOfx);

endTime = System.nanoTime();

System.out.println(startTime);

System.out.println(endTime);

totalTime = endTime - startTime;

System.out.println("The Merge Sort method taks time (in nano Time) :"+ String.format( "%.10f", totalTime ));

System.out.println("This is the sorted result ");

In the main method, I used System.nanoTime() to calculate the running time of different sorting method.

Apparently, the improved quick sort has the lowest running time among three others.

However, the running time varied dramatically in different case, since the number of data is relatively small.