Divide-And-Conquer – Closest Pair

**Purpose**

This lab was designed to teach you how to use the divide and conquer problem solving paradigm to solve a real-world problem.

**Description**

Given a set of n points in a plane, ascertain the closest pair in a plane by calculating their Euclidian distance. You may assume that all points have unique (x, y) coordinates. This can be done easily by brute force with two loops in quadratic time. The trick is to solve this in n log n time. Implement the algorithm discussed in lecture.

**Program Shell**

Create your own.

**Sample Execution**

Input:

10000000(size of 10 million pairs of points)

5 3

-5555553 664000 and so on

Output:

7.0710678118654755

java.awt.Point[x=-34848881,y=35949363]

java.awt.Point[x=-34848874,y=35949364]

Time taken: 40 seconds