(1) Implement both the Divide&Conquer algorithm and the “Compare all pairs” algorithm for finding the closest pair of points in the 2-dimensional plane. (Do use $n \log n$ sorting for the pre-computing step of Divide&Conquer.) Run them both on data sets of $n = 2 \ldots 10000$ or more points, and plot the running times (in seconds, or miliseconds) for both, as a function of $n$. At what point does Divide&Conquer beat brute force?