**Project 3 Part 3 (full recursive approach O(nlog^2n))**

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Is your lab name l033?(lowercase L followed by digits 033) yes

Did you created a class to store a point? yes

Did you use a vector to store the points you generated? yes

Did you use at least one iterator to traverse the vector you created? yes

Did you sort using the sort method offered by C++? yes

Did you use at least one iterator to traverse the vector you created? yes

Does your main contain only 2 calls of: part2() and part3() (NO part1!!)? yes

(in main you may also have the part to display results for the 2 methods and them also in the txt file)

1. Paste here a clear picture of the graph that compares the running times of the “initial recursive” algorithm and “full recursive” algorithm versus number of points. (use 2 different colors for the 2 graphs, colors that can be visible even if you print in black and white). Each point on this graph should be an average of several runs for that size:
2. **Paste here the content of the results.txt when you run your lab on the content of the file points10k.txt and points100k.dat**

**For 10k:**

**Initial Recursive (0.50000000000000122, 0.49999999999999978) (0.50000000000000122, 0.49999999999999983) Distance: 5.55111512312578270e-17 Time: 40166 microseconds**

**Full Recursive (0.50000000000000122, 0.49999999999999978) (0.50000000000000122, 0.49999999999999983) Distance: 5.55111512312578270e-17 Time: 35966 microseconds**

**For 100k:**

**Initial Recursive (0.49999999999973127, 0.49999999999889994) (0.49999999999975941, 0.49999999999890893) Distance: 2.95459634261005094e-14 Time: 1038426 microseconds**

**Full Recursive (0.49999999999973127, 0.49999999999889994) (0.49999999999975941, 0.49999999999890893) Distance: 2.95459634261005094e-14 Time: 1038188 microseconds**