**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) (0.5  
0000000000000122, 0.49999999999999983) Distance: 5.55111512312578  
270e-17 Time: 741839 microseconds   
Full Recursive (0.50000000000000122, 0.49999999999999978) (0.5000  
0000000000122, 0.49999999999999983) Distance: 5.55111512312578270  
e-17 Time: 741232 microseconds**

**For 100k:**

**Initial Recursive (0.49999999999973127, 0.49999999999889994) (0.4  
9999999999975941, 0.49999999999890893) Distance: 2.95459634261005  
094e-14 Time: 61215953 microseconds   
Full Recursive (0.49999999999973127, 0.49999999999889994) (0.4999  
9999999975941, 0.49999999999890893) Distance: 2.95459634261005094  
e-14 Time: 60828866 microseconds**