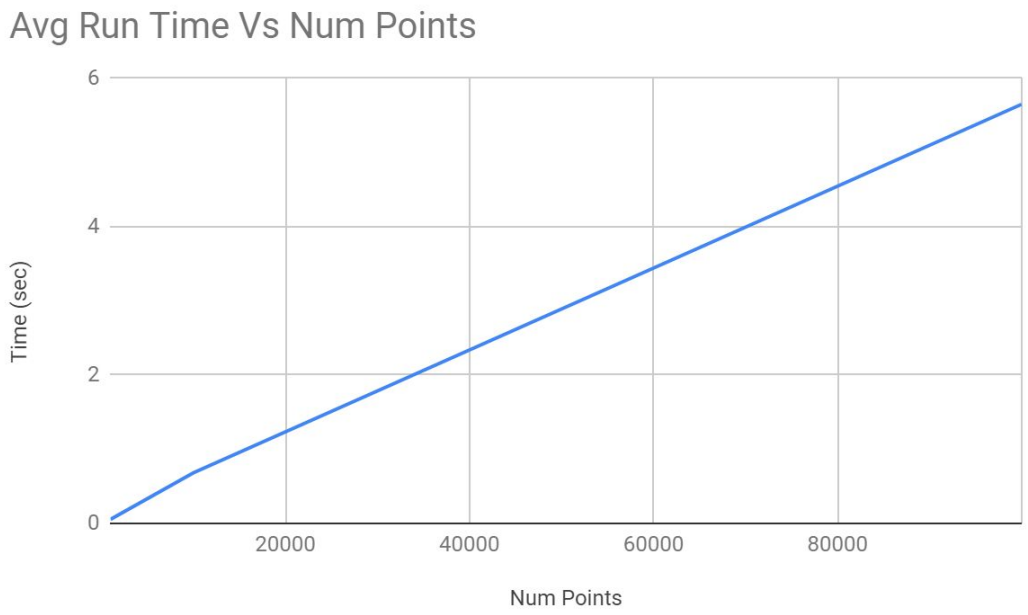
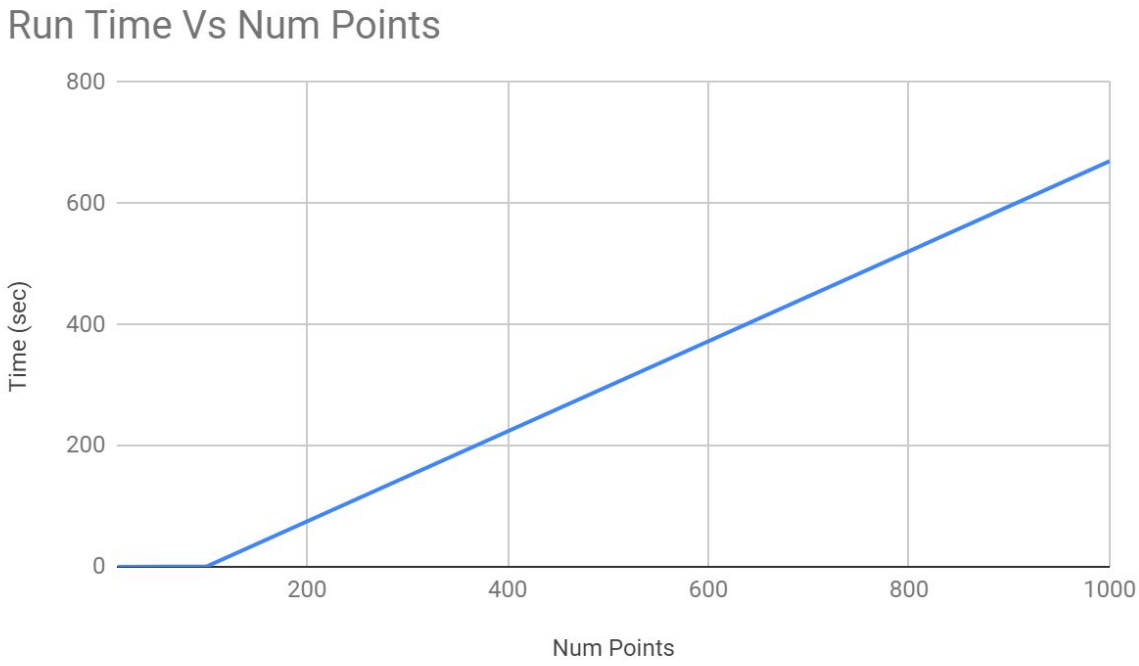


Num Points	Run 1	Run 2	Run 3	Avg
11(baseCase)	0.001	0.0009	0.009	0.001
1000	0.055	0.052	0.056	0.054
10000	0.67	0.69	0.68	0.68
100000	5.61	5.53	5.82	5.65
1000000	0.0006	0.0006	0.0005	0.0006

My algorithm appears to run in n^2 time (the x axis increases by n^2). My algorithm would time out on grade scope for the 1000000 point case so I decided to exit if the test had too many points, so I left it off as to not make the graph look weird. This is slower than the expected run time of nlogn. I think this might be because I do a lot of work to check keep all all of the points with the same x value on the same side by parsing both side and making sure no x values are shared between the 2.



naive	Run 1	Run 2	Run 3	Avg
11	0.000999689102	0	0	0.00099
100	0.5626776218	0.6396152973	0.5606617928	0.58
1000	665	694	652	670

This naive algorithm appears to run in a little more than n^3 time this is in line with what I expected this algorithm to be because the algorithm has to compare all pairs of points against another points resulting in n^3. I would have tested with more points but I was taking a VERY long time