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My closest pair algorithms were implemented primarily through the use of XYPoint Arrays. I made helper methods that did all of the work and then called them in the static methods where I also formatted the input so that the tests would be passed. All of the data and parameters that were passed through were stored as XYPoint Arrays in the helper methods that were later accessed by the main methods to calculate the correct data and produce the correct output.

I did notice that there was a point where my code was running 80,000 points faster than 60,000 points, but later attributed that to a small logic error in my Ystrips that was fixed later.

Average running time for Random Inputs was 14.53 ms.

Max running time was 63 ms.

Min running time was 0 ms.

Average running time was for Same Inputs was 14.49ms

Max running time was 47 ms.

Min running time was 0 ms.

I conclude that the variation between one input to the next compared to the variation for 100 iterations of the same input in almost negligible. The output is almost identical for both types of inputs, and thus I conclude that the variance of the input does not affect the runtime of the algorithm significantly.