

APPENDIX A – Charts corresponding to Question 2 on the project report

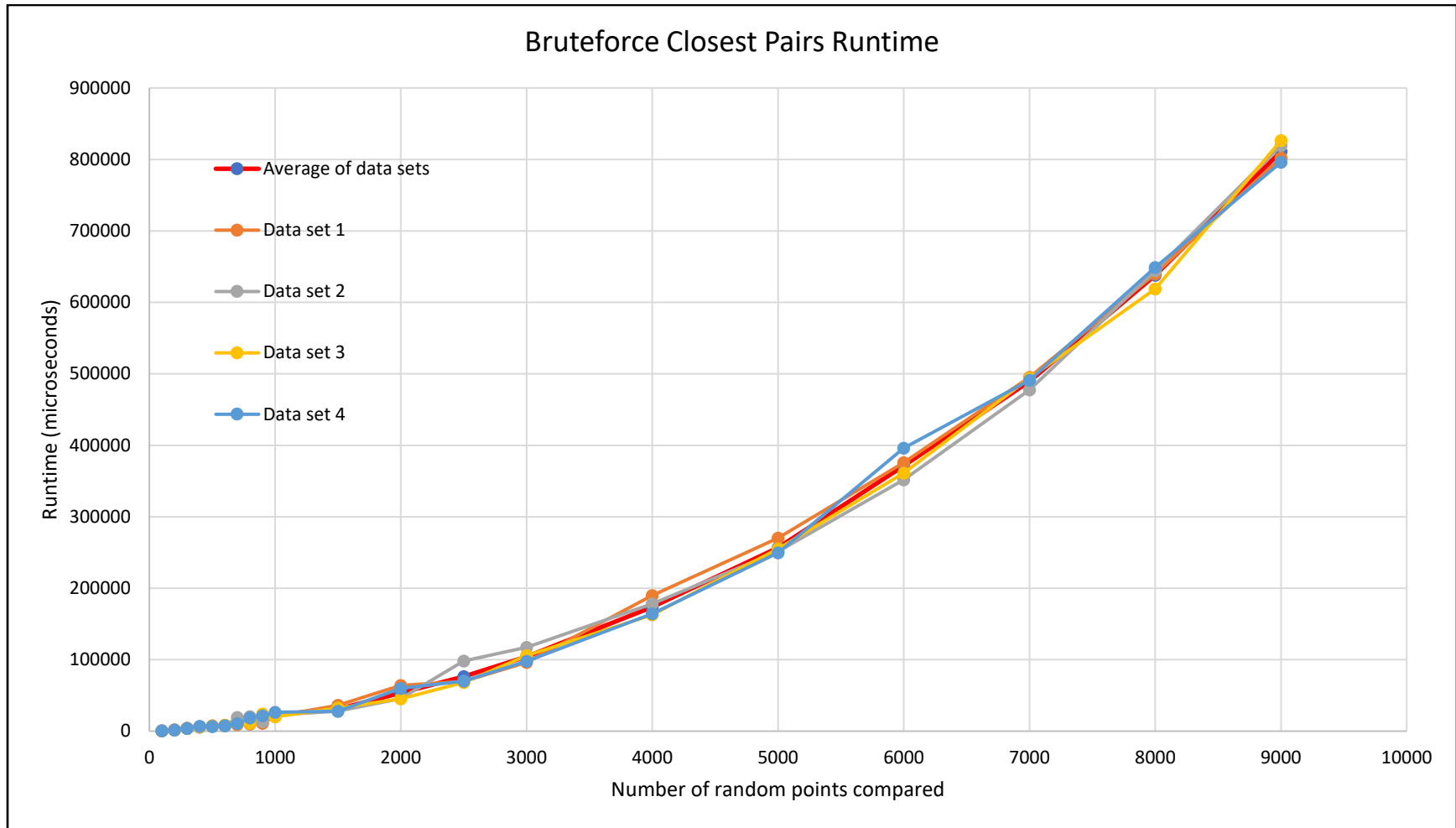


Figure 1 – The four data sets generated by the brute-force implementation of the closest pairs algorithm. The average of the data sets is charted in red. The input $n=100000$ is excluded for practical reasons and is discussed in a later figure.

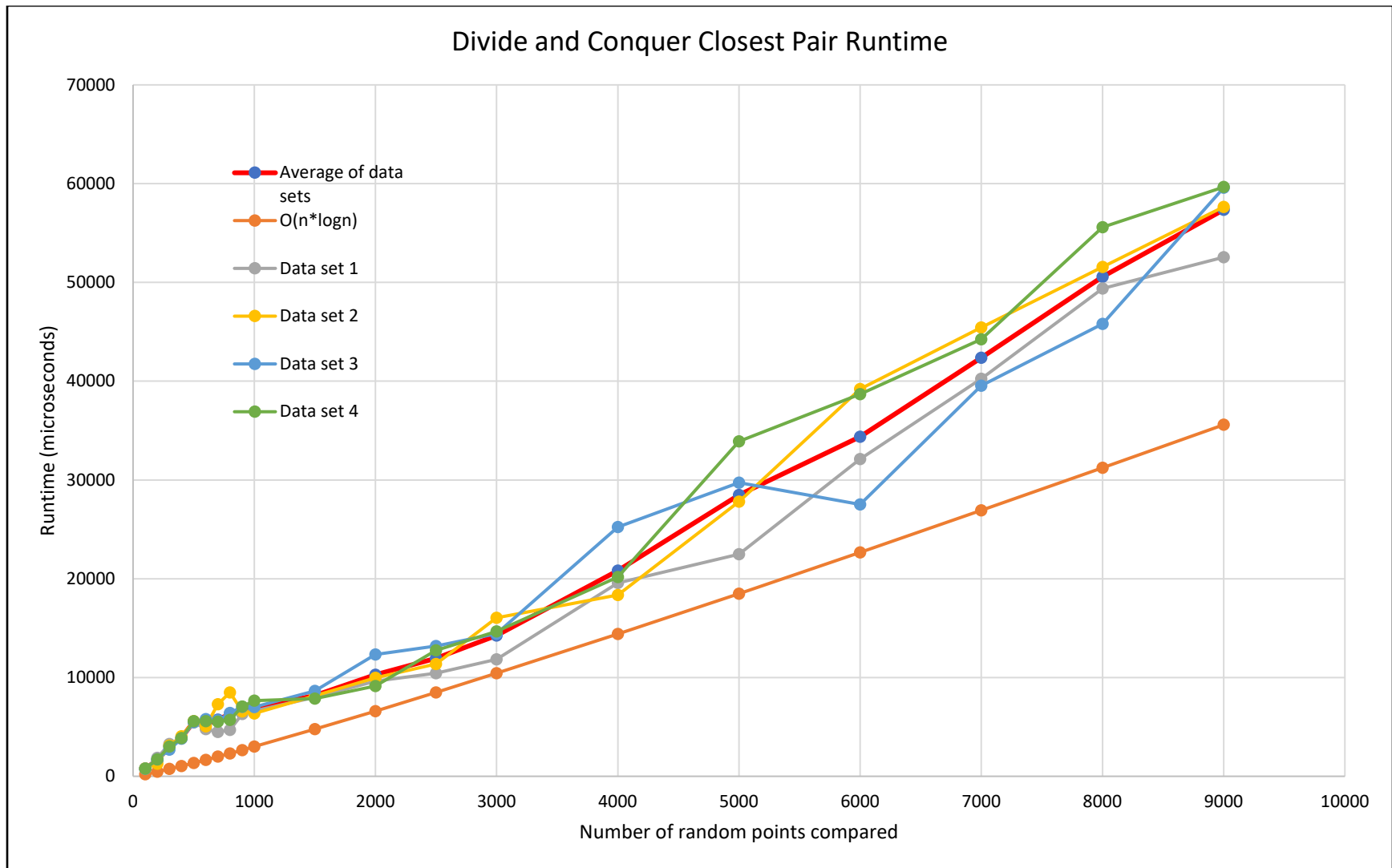


Figure 2 – The four data sets generated by the divide and conquer implementation of the closest pairs algorithm. The average of the data sets is charted in red. The $O(n \log n)$ values are included for comparison. The input $n=100000$ is excluded for practical reasons and is discussed in a later figure.

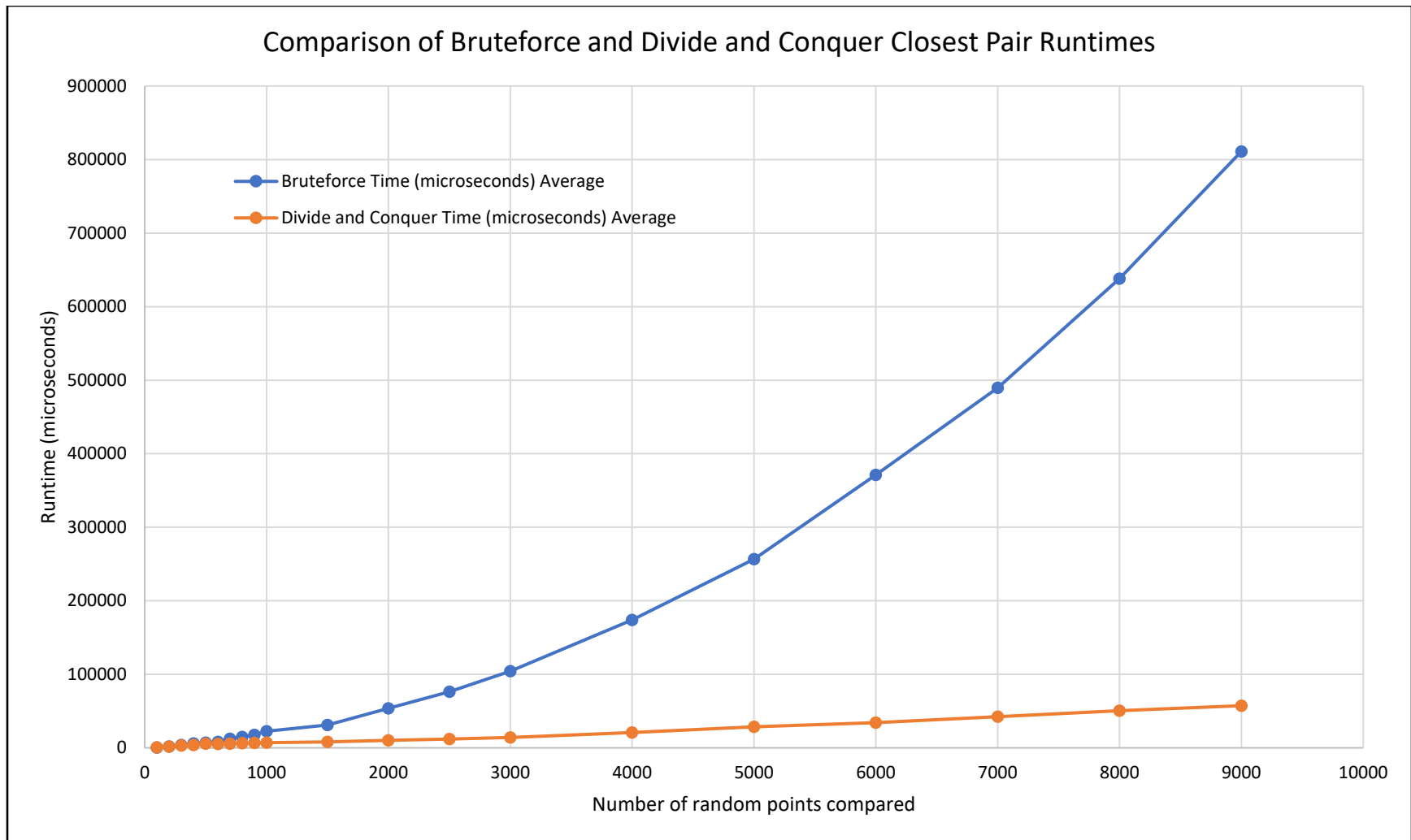


Figure 3 – A comparison of the two implementations of the closest pairs algorithm. The input $n=100000$ is excluded for practical reasons and is discussed in a later figure.

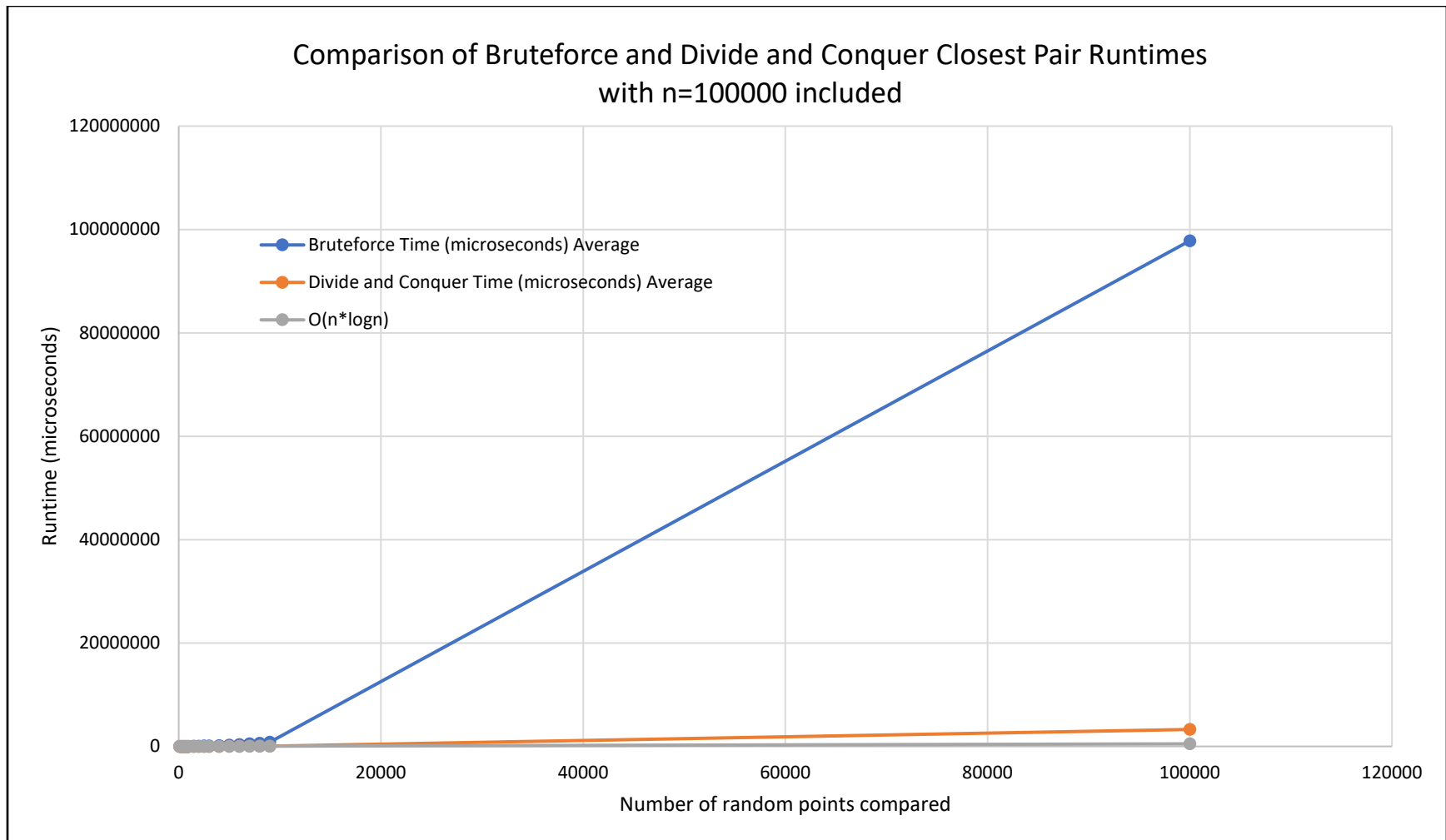


Figure 4 – A comparison of the two implementations of the closest pairs algorithm with the data point $n=100,000$ included. This inclusion creates scaling issues on the axes making the other data points difficult to view and is only included in this figure.