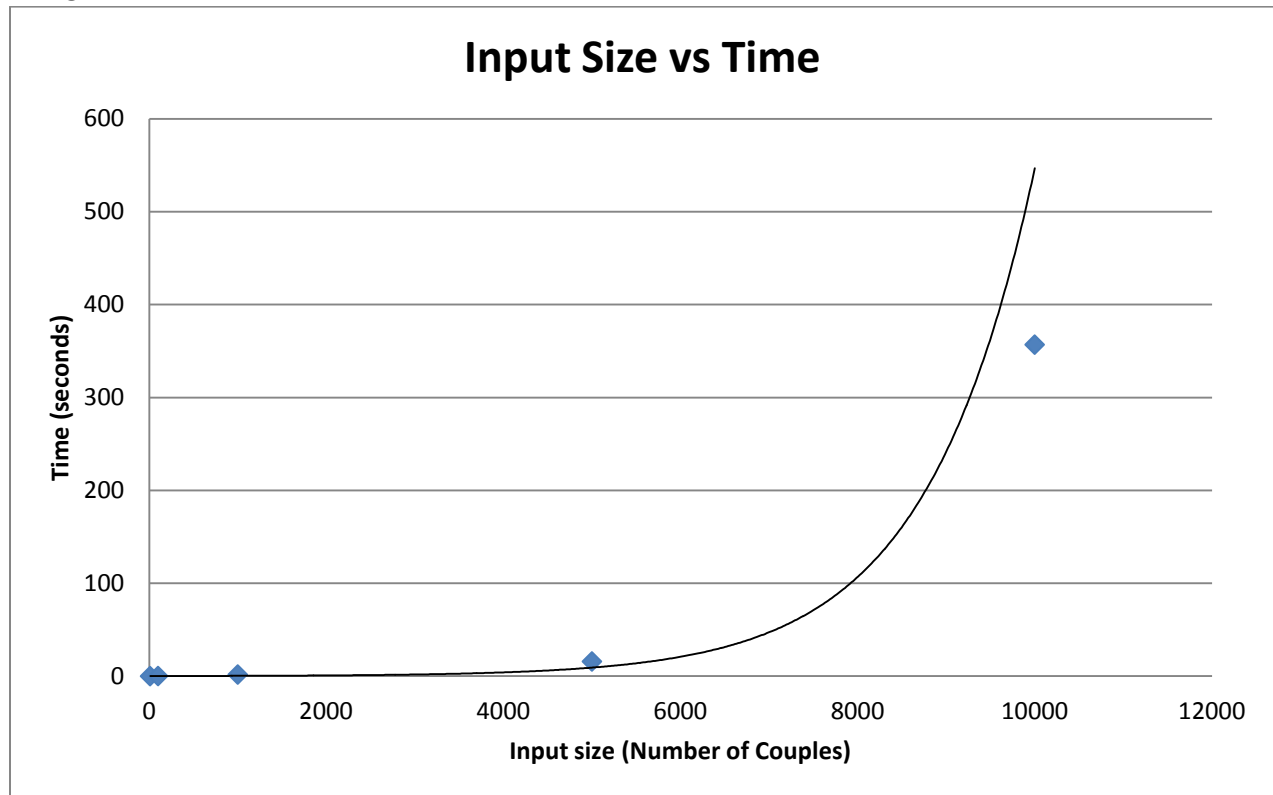


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CSC440
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Assignment 1

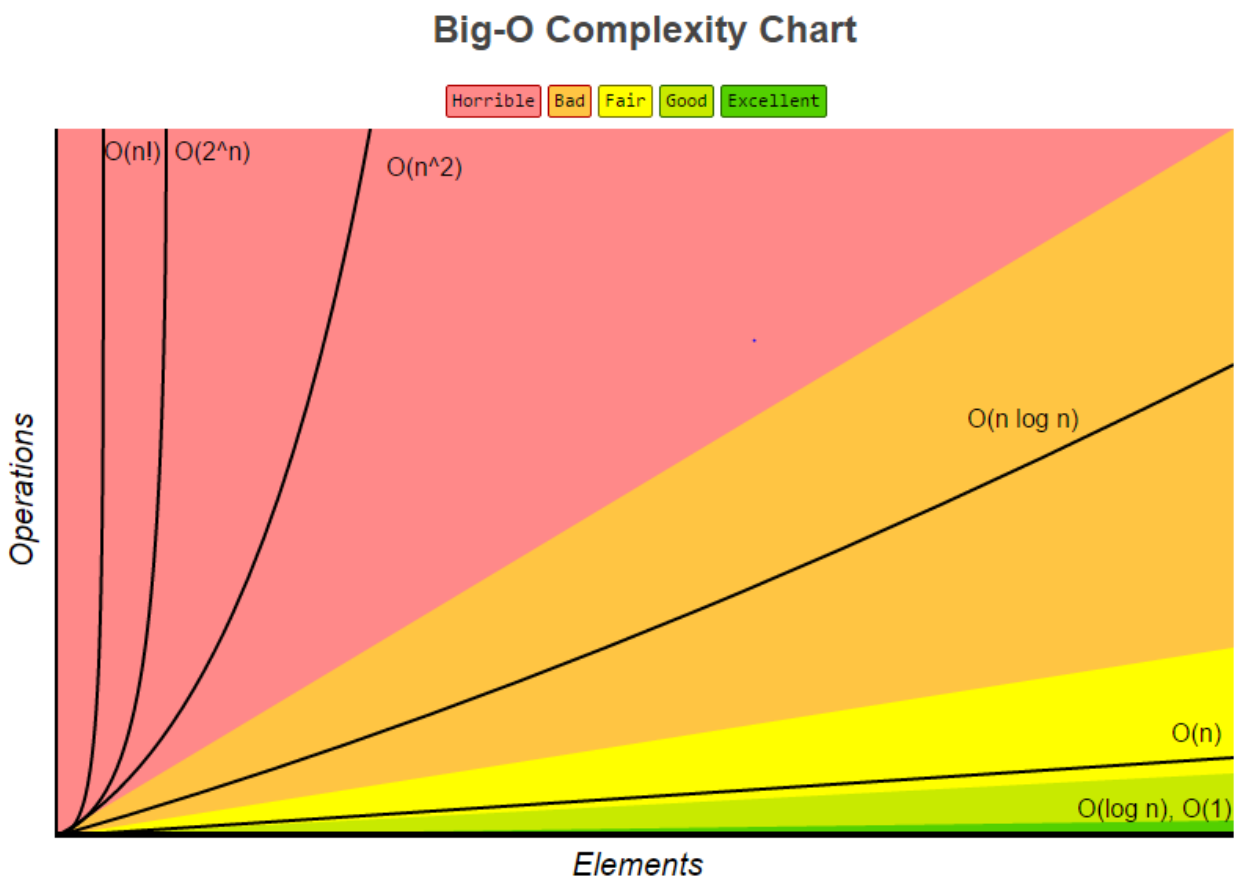


Input Size (Number of Couples)	Time (in seconds)
10	0.03
100	0.16
1000	1.75
5000	15.82
10000	356.88

Looking at the line of best fit generated in the graph above, one can expect that the data will continue to increase exponentially. The plot generated above is similar to the $O(n^2)$ asymptotic complexity of Gale-Shapley due to its parabolic shape. In comparison with the Big O Complexity Graph below, our graph looks like it is between $O(n^2)$ and $O(n \log(n))$ because it is not as steep as $O(n^2)$.

The times that are used in the graph are the averages of three test results received from each input size. According to the line of best fit, the last data

point (input size of 10,000) should be slower than it was recorded to be. This may have been because the laptop that we used to test our code had an i7 processor. Any significant deviations in time from our recorded time may be due to differences in the hardware used.



"Know Thy Complexities!" Big-O Algorithm Complexity Cheat Sheet. Web. 21 Sept. 2016.

<<http://bigocheatsheet.com/>>