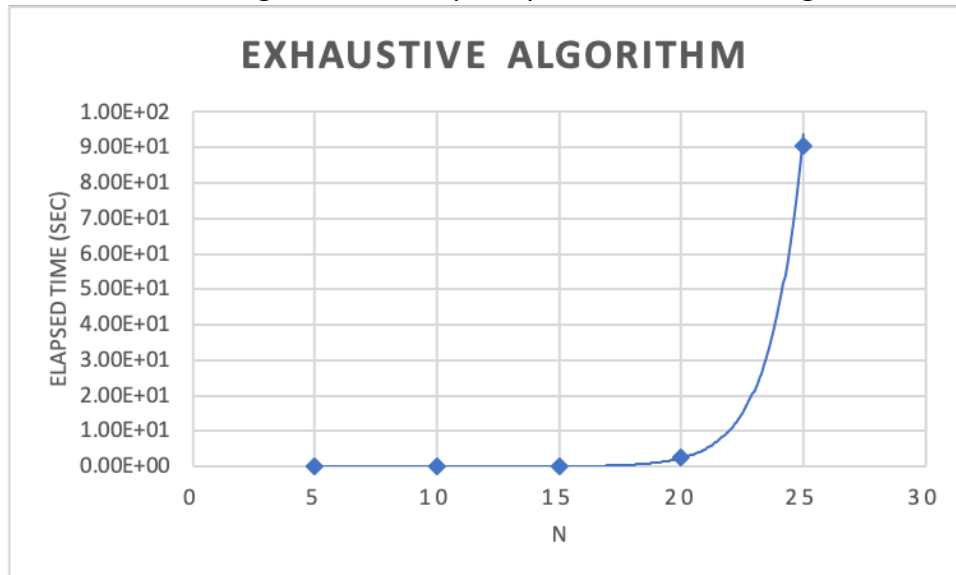Mina Moslehpour (mmoslehpour@csu.fullerton.edu)
Yi-Wei Lee (david83031726@csu.fullerton.edu)
CPSC335
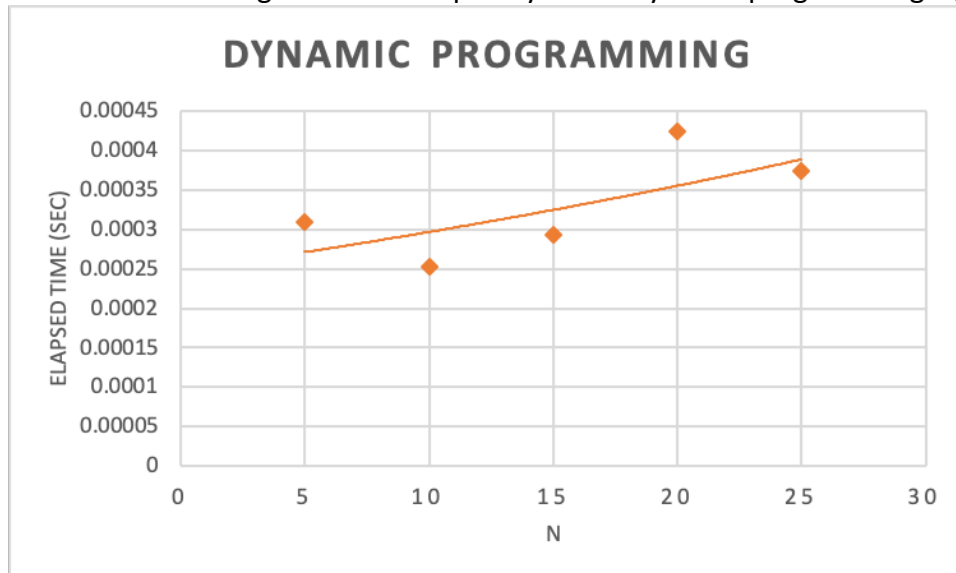## Project 4: iceberg avoidance
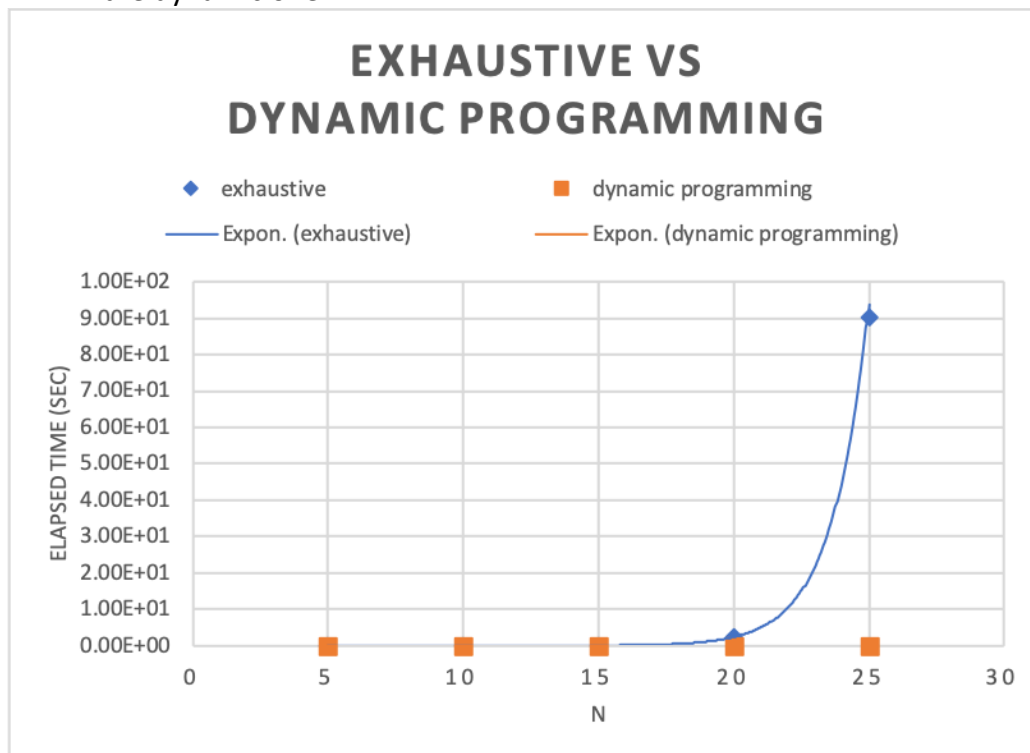
Three scatter plots:

- One showing the time complexity of the exhaustive algorithm.

- One showing the time complexity of the dynamic programming algorithm.

- One showing the performance of both algorithms together on the same plot. This will probably need to be zoomed-in since the exhaustive algorithm is so much slower than the dynamic one.

Answers to the following questions, using complete sentences.
- Are the fit lines on your scatter plots consistent with these efficiency classes? Justify your answer.

  In the first figure that show fit line to the exhaustive is consistent with these efficiency classes. because in this figure that the line is slow curve and the exhaustive program algorithm is $O(n^2n^2)$.
   And in the second figure that show fir line is consistent with the dynamic programing because in this figure the line is a cube curve and the dynamic program algorithm is $O(n^3)$.

- Is this evidence consistent or inconsistent with the hypothesis stated on the first page? Justify your answer.

  In the figure 3, we conclude that the hypothesis stated for this project is consistent with our data. The reason that is consistent is because the graph is fit for that dynamic programming is better than the exhaustive algorithms in solve the same problem.

- Compare and contrast the difficulty you found in implementing the two algorithms. What was the most challenging part of implementing each algorithm. Overall, which

implementation did you find harder, and why? Which algorithm implementation do you prefer?

The difficulty for me is the dynamic program algorithms, the challenging part in the algorithms is not the normal matrix and this make us need to learn more about the C++ rule and a new method to use the matrix. For me I prefer the dynamic program algorithms even though the exhaustive program algorithm is easier than the second algorithm, but in the dynamic program algorithms that has better time complexity and that we can learn new thing in this algorithm.