**Graph Theory Project Proposal**

**Comparison of Efficiency between Dijkstra and A\* Pathfinding Algorithms**

**21K-3153**

**21K-3372**

**21K-4529**

**Problem Statement**:  
The A\* pathfinding algorithm is an improved optimization on Dijkstra’s pathfinding algorithm due to an inclusion of a predictive heuristic function.

Is the A\* star really faster than Dijkstra? If so, by how much?

Bonus:

In a given graph, what will be the minimum distance between pairs of non-adjacent vertices?

**Code Implementation**:

JavaScript for algorithmic processing. HTML and CSS for GUI

**Code Output**:  
Drawing of the minimum path between two vertices with different highlighting.

The time taken to compute both Dijkstra and A\* algorithms to figure out which is faster.

The minimum distance between pairs of non-adjacent vertices, with the vertices and distance as output.