CS 7B - Fall '19 - Project 3: Graphs and Paths

In this project we'll begin experimenting with data structures for studying graphs and paths contained in those graphs. Start with a solution to an older graph exercise for visualizing graphs in a pleasing arrangement. The code for this can be found at http://geofhagopian.net/CS007B/CS7B-F19/code/GraphVisualizer01.zip. That code is pretty clunky as-is, and will bear significant improvement! Feel free to start from scratch, if you prefer. The goal, briefly is to adapt tools from that project produce a new project that will, given a start node and an end node use the methods of

- depth first search
- breadth first search
- the Dijkstra algorithm
- the A* algorithm

to find a path from the start node to the end node.

Have a look at https://web.stanford.edu/class/archive/cs/cs106b/cs106b.1172/handouts/search.html to see what we're shoot for.

You may work alone or in pairs on this project.

Ultimately, we'll want to use dynamic memory allocation with pointers for this, and to look at some well-established libraries like the boost-graph library, but that's not required at this stage.