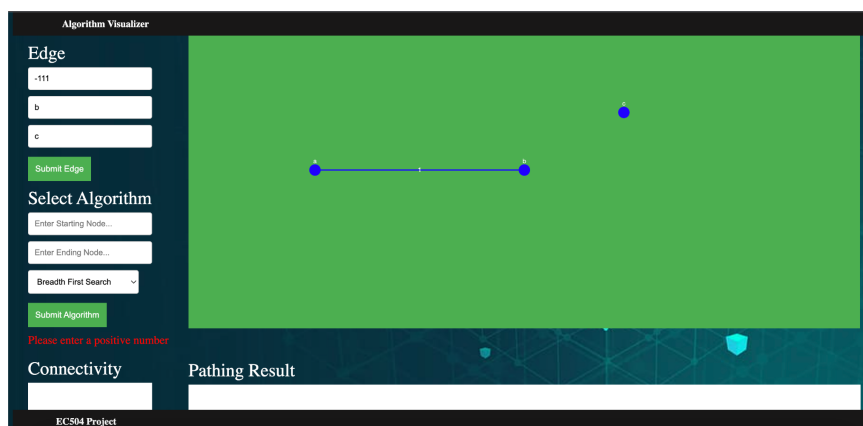


Here you can add vertices by typing in your desired vertex name. Note that you may have to zoom out on the graph visualization to see the new vertice created.

You can also add weighted edges between any two vertices.

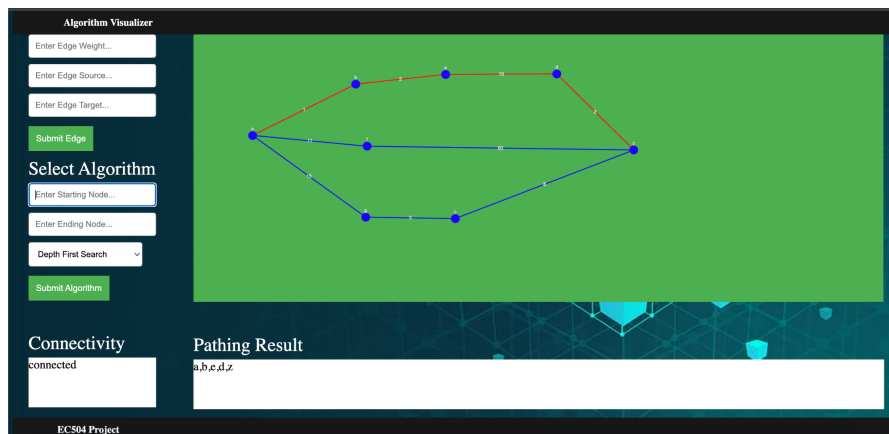
Lastly, if you scroll down, you can run DFS, BFS, or Dijkstra's on a start and ending node. After running, the path should glow red on the visualization and the list of all vertices in the path should appear below.

There is error checking for duplicate vertices, edges, incorrect edge or negative edge weights, and checking if vertices exist. DFS and BFS ignores edge weights and Dijkstra's uses edge weights.

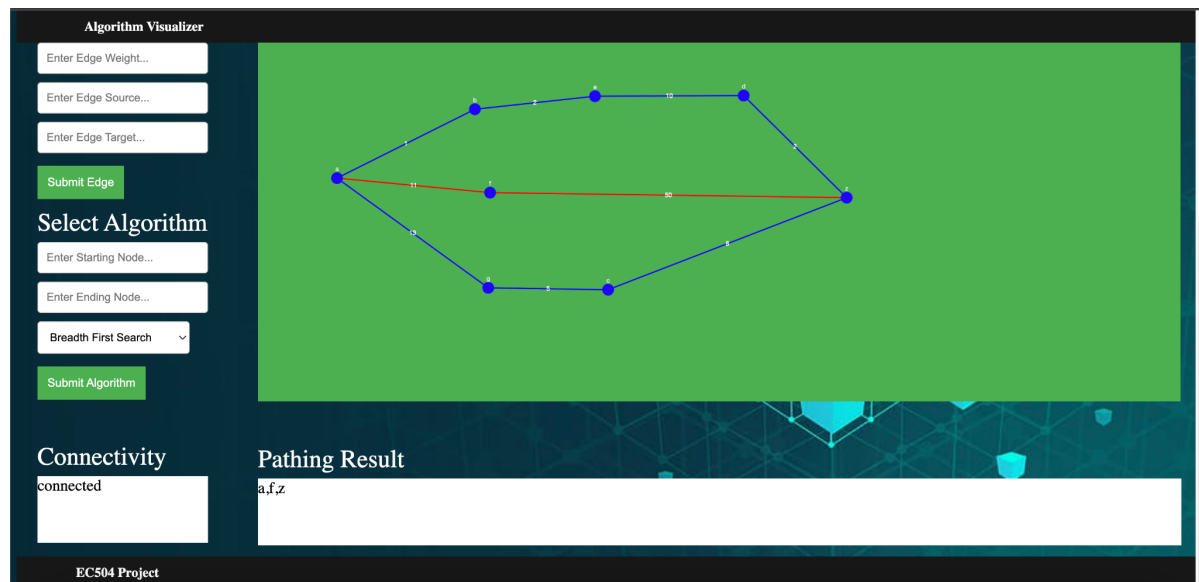


iv. Sample results

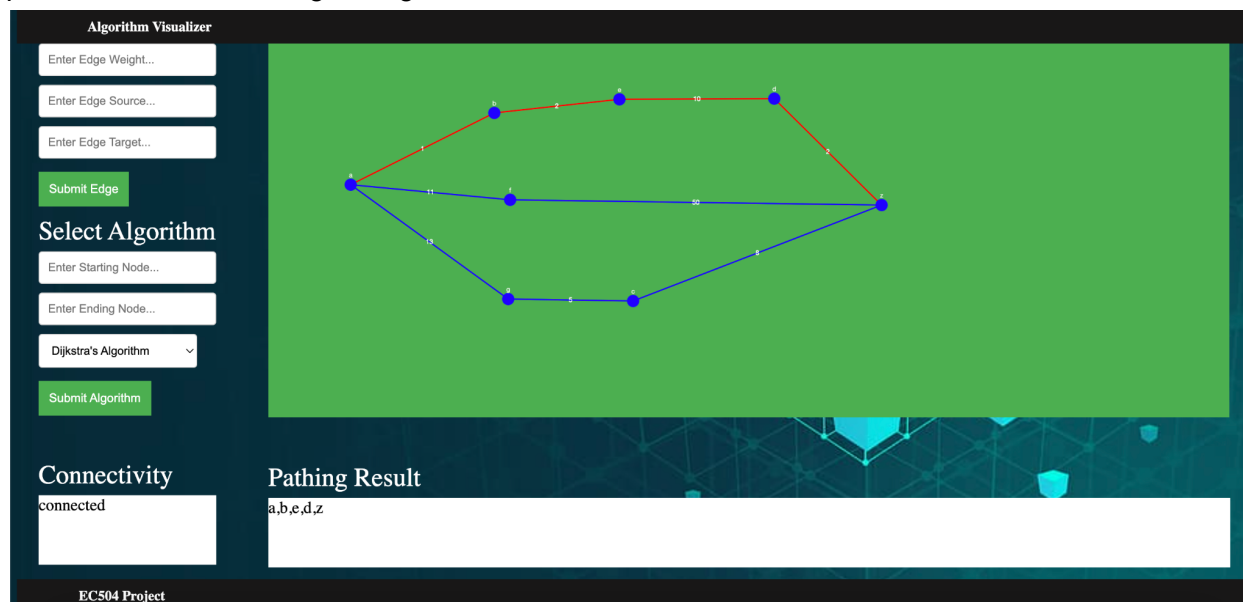
Results for DFS: running DFS: the algorithm will go down the first path depth-wise and reach from node a to z as seen.



Results for BFS: For BFS, the algorithm will take the path that contains the least amount of nodes to reach target z.



Results for Dijkstra's: In Dijkstra's algorithm, the weights matter so the algorithm will take the path with least total weights regardless of number of nodes.



It may be hard to see from the screenshot but the path shown here has the most nodes but the least total cost of 15 versus the cost of 61 and 26 for the paths below with less number of nodes.

v. References

Using the Cytoscape.js library for building the graph visualization. <https://js.cytoscape.org/>