

EECE 5642 Data Visualization.

Home Work 4 Report

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• Ex 1 2 1

As described in the HW4 pdf, I have added cool to the Edge class. I have used Red, green, Blue and orange as edge colours and have converted them from (r,g,b) to hexadecimal to run in processing syntax. I have used the addEdge() in main sketch and added String color in the Edge tab. The output of the Sketch is provided below in figure 1.2.1

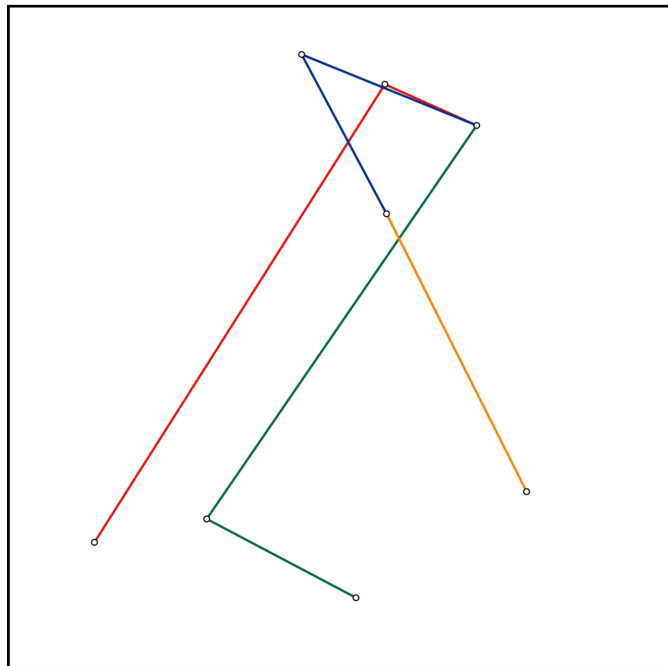


Fig: 1.2.1 Output from sketch Ex_1_2_1

• Ex 1 2 2

In this section, we have acquired data from data.html and converted the data in tables into csv files using python. The code is provided in stations.py and connections.py files which are also provided in the TheTDataCollection directory of the repo. I have taken the code from Use_your_own_Data and changed the map from map.png and used meta-map.gif. Then I have converted the .gif file to .png to support processing syntax as mbta-map.png and set the size of the image to 650*650 and changed names.tsv file to stations.csv to get the data of all the stations in the MBTA map ran the code. Then I defined each node by pressing the mouse button on the screen. After this entire process, I have located the x, and y coordinates of all the nodes as well as defined all the nodes with their respective stations in the locations.csv file as given on the map. The output of the map is given in figure 1.2.2

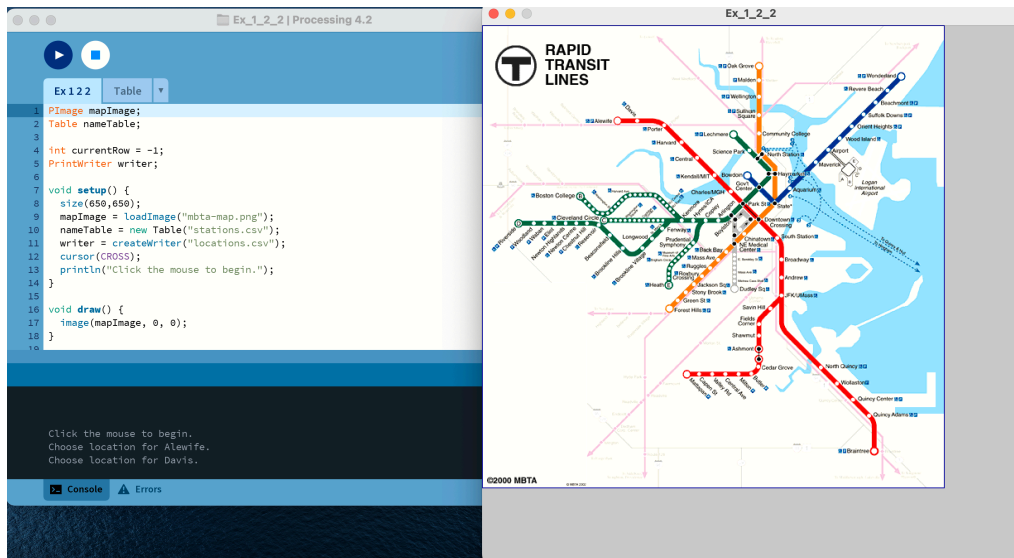


Fig: 1.2.2 Running the code after editing the code as shown.

• Ex_1_2_3

I have added the Table class, locations.csv file and connections.csv from TheTDataCollection from the Ex_1_2_2 by making changes to loadData() and addNodes() routines. After I ran the sketch I got the MBTA network the form of nodes as edges which can be observed in the figure 1.2.3

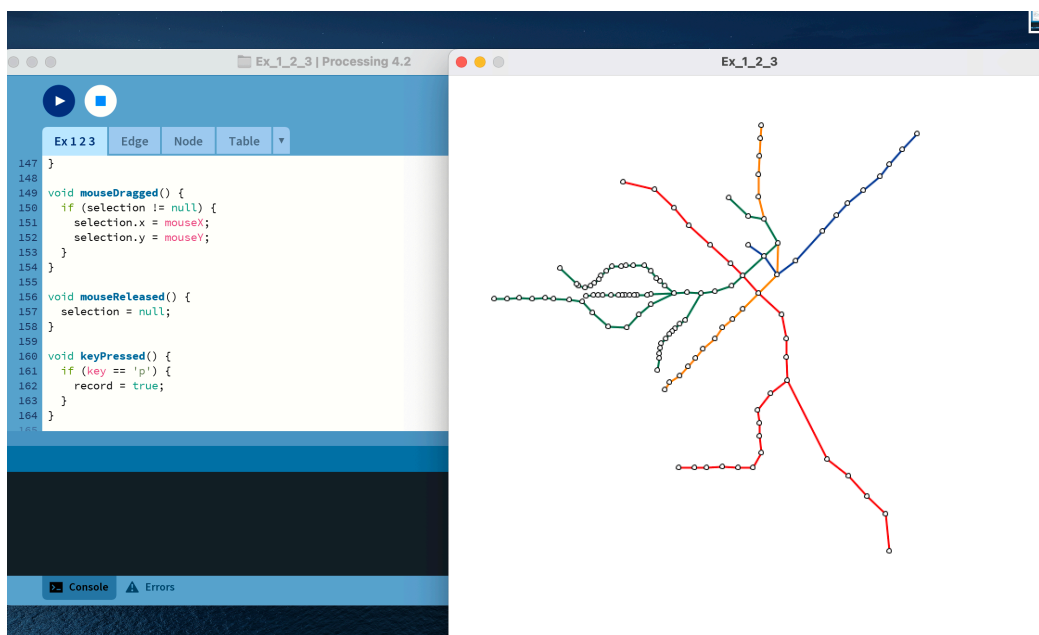


Figure: 1.2.3 The output sketch after running Ex_1_2_3

- Ex 1 2 4

In this section, I have added the ShortestPath tab (which is Dijkstra's Shortest Path algorithm) to my Ex_1_2_3 copy where I have created two arrays of boolean which are activeNodes and activeEdges and initialised them to find a shortest path between who stations and provide its corresponding travel time which is provided in the figure 1.2.4.

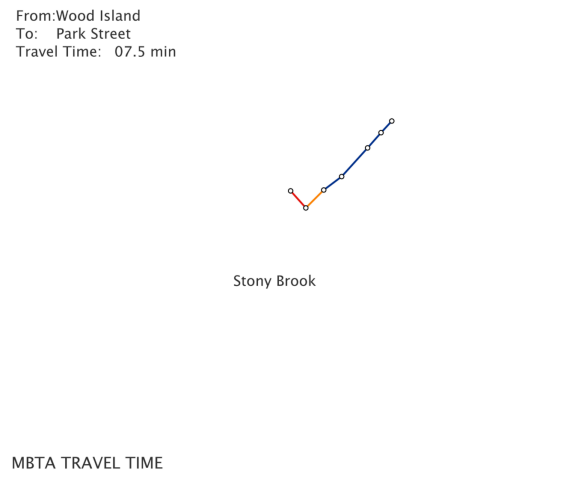


Figure: 1.2.4 Output after running the sketch Ex_1_2_4

- Ex 1 2 5

In this section, all the non active nodes are converted into grey colour by using Integrator.pde I set a new target and computed the shortest path again. The figure obtained has gray colour in the all the nodes and edges other than the part where the shortest path between two nodes is shown with its travel time.

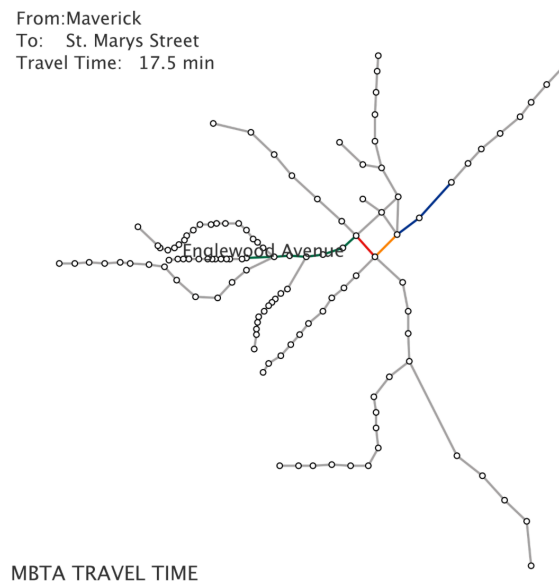


Figure: 1.2.5 Output after running Ex_1_2_5.