

COMP261 Assignment 1 Report - 300492693

What the code does:

- The JourneyPlanner program loads the trips and stops data files into the related objects. For example, the stops will hold the latitude and longitude variables turned into a location object.
- A Connections class connects all the other classes. The graph is displayed properly once the connection objects have been created. This is done by setting it as inbound and outbound connections. All the connections are stored in a set so that it loops to draw the graph.
- Graph functionality includes buttons so that the user is able to navigate the map to move up, down, left, right and also able to zoom in and out. Clicking anywhere on the screen selects the nearest stop to it, based on the stop location, will print the stop's information (Id, trips, name). When a new stop has been selected, the previous stops' selections will be removed.
- The user is able to use the search box to search for stops based on a prefix, stops that include the prefix will be highlighted on the map as well as print out all the stops' information below. This is done by storing the stops' names in a trie structure, where the stop stores the node of the last character of the name.
- The redraw method is found in the JourneyPlanner class; however it calls the drawConnection and drawStop methods from the connection and stop classes.

Data Structures:

- The main class, JourneyPlanner extends the GUI class that has already been provided. The class includes:
 - A set to store all the connections which have the same to and from stops, two sets for highlighting connections and selected stops which allows no duplicate connections and stops for these objects.
 - Maps are used to store all stops and trips with Ids and the stop/trip as the value.
 - A trie structure which stores all names of the stops stored as a char node for the last character in the name, finding all stops that match a certain prefix/name.
- In the Trip class, a list is used for stops within the trip as trips are able to have duplicate stops.
- In the Stop class, there are two sets used for ingoing and outgoing connections. This ensures that there will be no duplicate connections from the same connection object.
- In the Trie Node class, a map is used to store the node children to move down the trie. Where the character and the trieNode are used as the values.