RoMoSo APCS2 Pd 08
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Final Project Proposal

Transit Recommendations

This project will aim at finding the “fastest” (approximated) route between two subway stations in the MTA. This will be using a depth-first algorithm, and adding up the duration to find the best path. We will be using a database of subway stations (starting with a few subway lines, and then growing) and having a sort of linked list, in which every node is a subway station, and the branches represent the subway stations that are one stop away from this station.

The user will input the departure station and the arrival station, which will be located through a search in the database.

To start off, we will only be using local train routes, and assume that the travel time between every station is two minutes (for example). In our database, we may note the borough of the train stations, and if two adjacent stations are in different boroughs, then we may consider the travel time three minutes (for example). A lot of features can be added to this, such as considering a transfer time if a transfer must be made from one train line to the other. Transfers become a bit more complicated.

Not only are we using the concept of a LinkedList and nodes that we learned from this semester, but we are also using the idea of depth-first algorithms and recursive backtracking. Thus, we are incorporating one of the data types we learned this semester with one of the major type of algorithms we also learned.

Classes:

- Station (a sort of node)
- SubwayLine (a sort of node container)
- SubwayMap (consisting of SubwayLines)