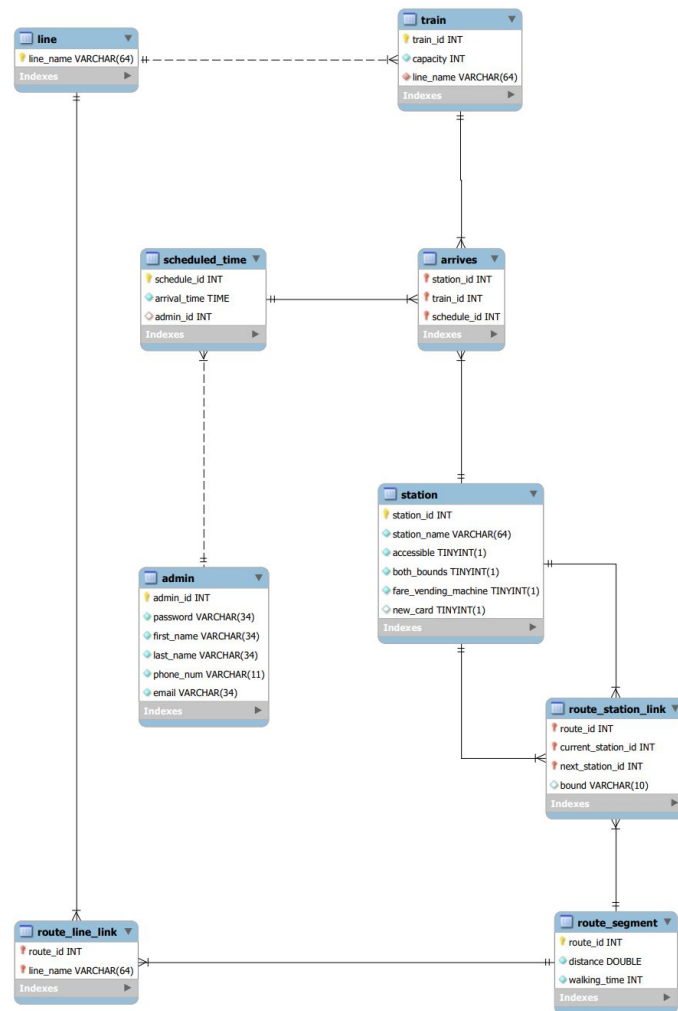


# Introduction

- Deals with MBTA Subway Database
- Allows users to query different details about MBTA trains, lines, routes.
- Admins are able to Create, Update and Delete Tuples



# Data Sources

**Information about the stations (accessible, recharge, name of stations and their associated lines):**

<https://www.mbtta.com/stops/subway#subway-tab>

**Distance between two stations:**

[https://mbta-massdot.opendata.arcgis.com/datasets/b6d0722ef5014ca9bfa7c5b9e03e704d\\_0/explore](https://mbta-massdot.opendata.arcgis.com/datasets/b6d0722ef5014ca9bfa7c5b9e03e704d_0/explore)

For distances not in the above data set

- used Google Maps's measure distance feature to get the distance in feet and then I converted it to miles using Google Sheet's convert function (<https://support.google.com/docs/answer/6055540?hl=en>)

**Walking distance between two stations:**

I found these times from google maps

**Capacity of a train:**

<https://static1.squarespace.com/static/51f173a6e4b04fc573b07c0c/t/55883a4ae4b0a99e306243f4/1434991178151/2015-06-18a+Introduction+to+Red+Line+Capacity.pdf>

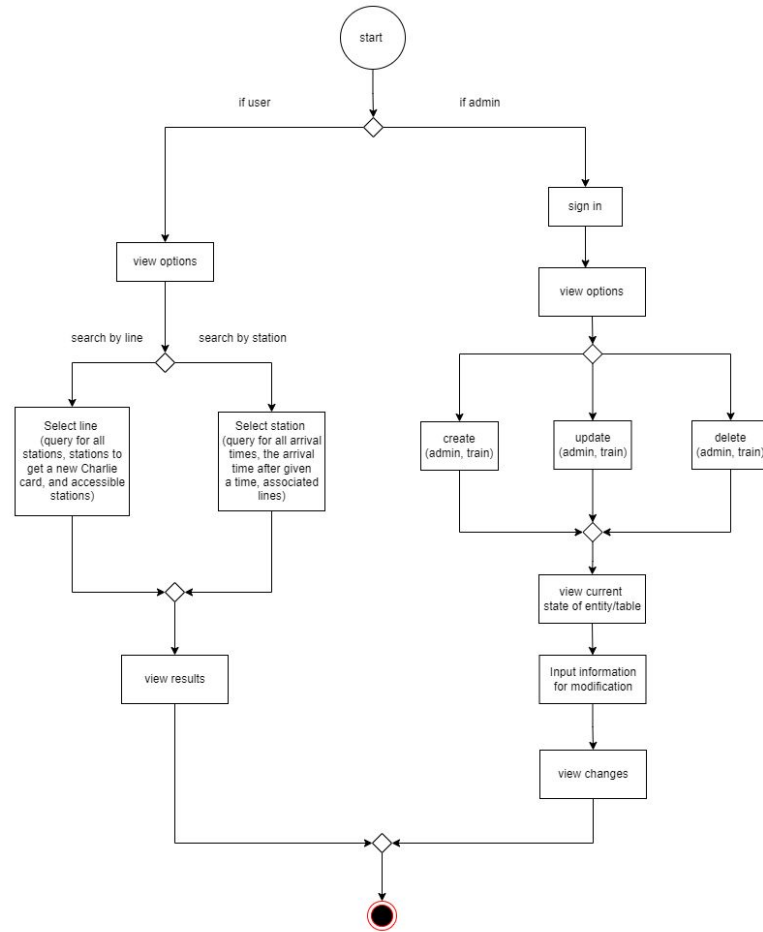
Car storage capacity is about 170 riders per car (standing and seated passengers)

[https://en.wikipedia.org/wiki/MBTA\\_subway](https://en.wikipedia.org/wiki/MBTA_subway)

Rapid rail has 6 cars; light rail has 3 cars

# Technologies Used

- MySQL workbench for creating database schema and objects
- Python pymysql library to connect to the MySQL database
- User interacts with the database through command line arguments



# Description and Functionality

- First the welcome message is displayed
- User is prompted to select their type (user/admin)
- Then based on who they are:
  - Users can query different questions regarding Lines and Trains
  - User can check where they can obtain a new Charlie card, which stations are accessible
  - Admins can update, delete and create new admins as well as Trains
- Demonstration

# Future Improvements

- Create more CRUD operations
- Add more functionalities to user application  
(use the other procedure that we wrote but didn't include)
- Enhance some entities (ex: stations)
- Expand to include landmarks/museums
- Apply database to other transportation systems
- Create a web application for the client/front end