What needs to be done?

Project Description:

1. Tell a story through data visualizations
2. Focus on providing users an interactive means to explore data themselves
3. Prepare 10-minute presentation that lays out the following:
   1. Theme
   2. Coding Approach
   3. Data Munging Techniques
   4. Final Visualizations

Specific Requirements:

1. Visualizations must include:
   1. Python Flask-powered RESTful API
   2. HTML/CSS/Bootstrap
   3. JavaScript
   4. Database
2. Four Possible Project Categories:
   1. custom “creative” D3.js project (ie: nonstandard graph or chart)
   2. Combination of web scraping and Leaflet or Plotly
   3. Dashboard page with multiple charts that update from the same data
   4. “Thick” server that performs multiple manipulations on data in a database prior to visualization (must be approved)
3. Include at least one JS library that we did not cover.
4. Include dataset with at least 100 records
5. Include user-driven interaction (eg: menus, drop-downs, textboxes)
6. Include a minimum of 3 different views/variations.

How will we do it?

1. Choose a topic: Student Mobility
2. Research topic:
   1. Research past studies & articles to understand the topic
   2. Identify interesting segment to present on
3. Identify and understand key variables, metrics, & relationships
4. Determine project category
5. Select visualizations
6. Find quality data sources
   1. Primary Sources
   2. APIs
   3. Kaggle
7. Design/Build database (MySQL/SQLite)
   1. Tables
   2. Fields
   3. Data relationships
8. Develop ETL process for extracting, transforming and cleaning data which will be fed into data visualizations.
   1. [Database Input] Clean Data – Python
   2. [Database Extraction] SQL Quereies (SQLAlchemy)
   3. [Data Transformation] – Python
   4. [Data Visualization] JavaScript
9. Project Webpages – HTML
   1. [HOME] Project Home Page
   2. [VIEW] Data analytics (Our interpretation)
   3. [DASH] Interactive Dashboard for Data Exploration
   4. [TEAM] Team Bios
10. Webpage Customization and Interactivity
    1. CSS
    2. Bootstrap
    3. JavaScript
11. Powerpoint & Preentation Roles