Location-based analysis exercises

This module puts the skills learned in previous modules into practice. Using a public dataset from Kaggle, a number of location-based analysis questions will be posed to answer using Constellation. The questions have been separated into easy, intermediate, advanced, and experimental (the hardest). They are designed to be completed in order.

Details on the dataset: Israeli car-sharing company locations
https://www.kaggle.com/gidutz/autotel-shared-car-locations
"In order to reduce the number of owned cars, the city of Tel Aviv launched a shared-car project, called AutoTel. Users of the service are able to reserve a car using a mobile app, and pay for it by the minute. The project that was launched in October 2017 attracted over 7500 users, with more than 50% of them using the service at least once a week. From the AutoTel website we extracted the location of the parked cars, every two minutes for several months."

The data has been cleaned and imported into Constellation already. Open 'CarlocsFeb2020.star'. You'll see car nodes connected to location nodes, with lat/longs includes so they can be plotted in the Map View.

Easy Questions:
- How many cars are there on the graph?
- How many unique locations are there on the graph?
- Which location has been visited by the most cars? Can you find a real world place near the location on the map?
- Which location has had the most visits in total? Is it the same location? Can you find a real world place near the location on the map?
- Which two cars have visited the most locations?

Intermediate Questions:
- Which date has had the most locations recorded?
- Of the two cars that visited the most locations: have they visited any of the same locations?
- Find a car that has visited near Cafe Zorik on Yehuda HaMakkabbi St, next to Milano Square

Advanced Questions:
- Find a car that has visited an area in the North (above 32.115 latitude) and the South (below 32.060 latitude)
- Find a car that has visited less than three locations overall, with one location in the North (above 32.115 latitude) and the South (below 32.060 latitude).

Challenge:
- Which date has had the most unique cars registering their location?

- Find a car that has visited the same location as another car within 2 hours of each other, but not at exactly the same time.