Homework 1: Data Analysis Basics

Problem

Obtain the CSV (comma separated variable) file containing the counts of bicycles crossing the Fremont Bridge since 2012 (as described in https://data.seattle.gov/browse?category=Transportation&limitTo=datasets&utf8=%E2%9C%93). Create a project directory with subdirectories for data and analysis, and create a README file. Download the data from https://data.seattle.gov/resource/4xy5-26gy.csv put it in the data directory. Create an iPython Notebook to analyze these data. In the notebook: (1) Isolate the 2015 data, creating fields for date, hour, and count; (2) use python matplotlib to plot the counts by hour; (3) compute the hourly average counts; and (4) determine what is the busiest hour of the day.

Hints:

1. The “date” field is a string coded as “yyyy-mm-dd-Thh” where “yyyy” is the year, “mm” is the month, “dd” is the day, and “hh” is the hour. (You’ll need to write python code to decode the strings.)
2. The “fremont_bridge_nb” and “fremont_bridge_sb” values are identical since they both contain the sum of north-bound and south-bound crossings of the Fremont Bridge.