Coursera Capstone Project - The Battle of the Neighborhoods

-- A Survey of the Mexican Restaurants in New York City --

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Introduction/Business Problem

I've chosen to explore the locations and reviews of Mexican restaurants in New York City.

New York City (NYC), the largest and most densely populated city in the United States, has a population of over 8.3 million (as of 2019). NYC is one of the most important cultural, financial, and media centers of the world. It consists of five boroughs - Manhattan, Brooklyn, Queens, the Bronx, and Staten Island. It has been the most important point of legal immigration into the United States. Hundreds of languages are spoken in NYC. The city holds a huge array of international cuisines and contains over 27,000 restaurants.

In particular, I love Mexican food and I often travel to NYC and am interested in where to find the areas with the most and best Mexican food. I also would like to investigate where a good place would be to open a Mexican restaurant.

Data

For this project, I will use the dataset https://cocl.us/new_york_dataset which contains New York City's location data (latitude, longitude) for each of the five NYC boroughs and all of the neighborhoods contained within each borough.

I will also use Foursquare's API to explore the venues in each borough and neighborhood, choose the Mexican restaurants, and then to extract details of each including ratings, number of likes, and tips. This will be done in two passes:

First I will use the dataset from https://cocl.us/new_york_dataset to extract the location data (latitude and longitude) for each neighborhood in all five of NYC's boroughs. I'll look at how many neighborhoods are in each borough to get an idea of the size variations.

Then I'll utitlize Foursqure API calls to gather the names and IDs of all venues within 700 meters of the neighborhood center, along with the borough and neighborhood it resides in, saving just the Mexican restaurants. I can then determine how many Mexican restaurants are in each of the five boroughs, and how many are in each of the neighborhoods within each borough.

Then, for each Mexican restaurant I've stored, I can go through and make a Foursquare API to pull the rating, "likes" and tips for each restaurant. Once I have this, I can average the ratings for each borough, and each of the borough's neighborhoods. This will show places having the best Mexican food!

Then I'll put the top Mexican restaurants on a folium map. When the user clicks on the restaurant's marker, a popup will show the borough, neighborhood, and ranking of the restaurant.

I would like to pick a place I think would be a good place to start a Mexican restaraunt based on the data pulled above. I'll choose a borough and neighborhood where there are a lot of Mexican restaurants with good ratings.