Battle of the Neighborhoods: Final Project

Introduction

This project is a part of the capstone project under the IBM Data Science Professional Certificate. It involves a hypothetical scenario where we determine where to start a hospital branch using the data on the Toronto Area. From the previous parts of the capstone project it was found that according to the map, the commercial neighborhoods of Toronto have a multitude of eateries and recreational spots. The number of pharmacies and general healthcare providers is very less. Hence, this project focuses on finding ideal areas or neighborhoods for setting up of new hospitals

Business Problem

Toronto being a very fast moving city with a lot of commercial spots, it becomes important to have adequate healthcare facilities. Suppose our stakeholders are a leading hospital chain who want to start a hospital branch in Toronto. Their main aim will be to find locations where there are no hospitals or very few hospitals so that they can cover a larger area of people to provide healthcare facilities to.

Data

To solve this problem, the following data will be required:

- List of neighgborhoods in Toronto, Canada
- Latitude and longitude of the neighborhoods
- Data on the venues present in the neighborhoods

We would be using the data to make a dataframe consiting of the venues along with their neighborhoods and the respective latitudes and longitudes. This dataframe will help us zero down on the location of hospitals which will help us proceed with our project.

Data Collection

- Scraping of Toronto Neighborhoods from the wikipedia page for the list of neighborhoods: https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_M
  (Note: Since it is a capstone project at a beginner level, only a small fraction of data related to neighborhoods of Toronto is being used)

- Getting the latitude and longitude of these neighborhoods from the Geocoder Package
- Using Foursquare API to get venue data related to these neighborhoods.
  (Prerequisites for the same include setting up a Foursquare account and generating a client ID and client secret)