Optimal Locations for Book Stores

Business Problem Introduction

In this project we will try to find an optimal locations for book stores. Our company are looking for optimal locations to open book stores in different cities in the US based on the demographic information and geographic information.

First, we will try to find one optimal city as a starting location and basing on the school or population information to decide which zip code to open the store.

Data Prepare

- Book stores in all the target cities
- Schools in all the target cities
- Census data in all the target cities by zip

Data Cleaning & No.1 City finding

1. Find the sample city to test out
2. Find the nearest zip code

Distance Calculation

- Find the bookstores for each school in 2 mile radius
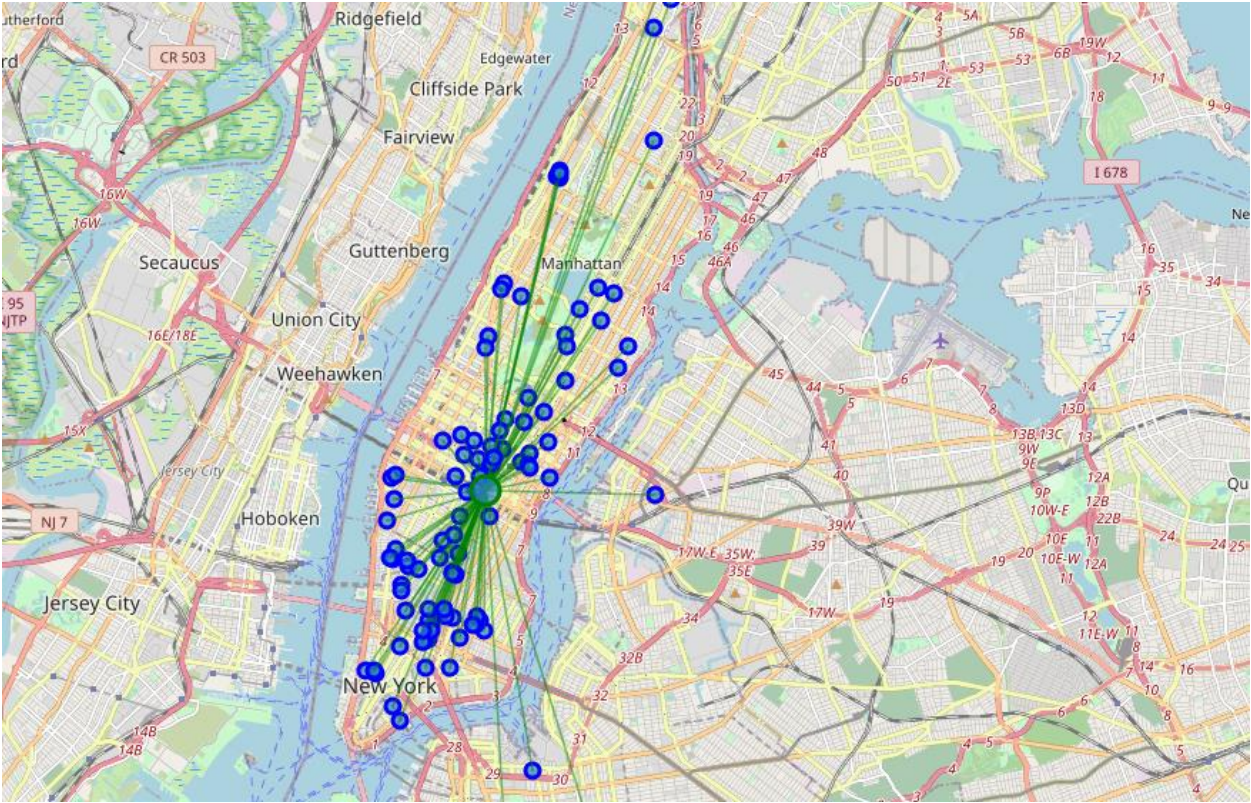- Find the zip code Census information for all the selected schools

Conclusion:

More data needed from the Foursquare

Target: City is Chicago

Potential school list are within 2 miles radius with the highest population and above median income, below median age.

Outputs overview

	Num		Name	Address	Lng	Lat	meter	kilometer	miles	school_name
0	1	4	Open Books	651 W Lake St	41.8857188858997	-87.6448720266537	1757.69706036205	1.75769706036205	1.09218198009423	It Takes A Village
1	2	12	Sandmeyer's Bookstore	714 S Dearborn St	41.8729960533556	-87.6292867926672	390.400842816317	0.390400842816317	0.242583762101618	It Takes A Village
2	3	13	Selected Works Used Books & Sheet Music	410 South Michigan Avenue	41.8765292651336	-87.6243478218776	925.084526910335	0.925084526910335	0.574820697570802	It Takes A Village
3	4	22	Pilsen Community Book Shop	1102 W 18th St	41.858009057714	-87.6536723536155	2277.70053942623	2.27770053942623	1.41529706188382	It Takes A Village
4	5	23	After-Words New & Used Books	23 E Illinois St	41.8909470290503	-87.627137973962	2155.97182324206	2.15597182324206	1.33965836777974	It Takes A Village