Prospects of a Lunch Restaurant in Seoul, Korea

Capstone Project - The Battle of Neighborhoods

1. Introduction/Business Problem

- My friend wants to open a lunch restaurant in Seoul. He asked me for help. I decided to help him by doing some analysis in the city of Seoul. I offer two options:

+ Open a restaurant near major office buildings

+ Open fast food restaurants near the transport stations

- Target Audiences:

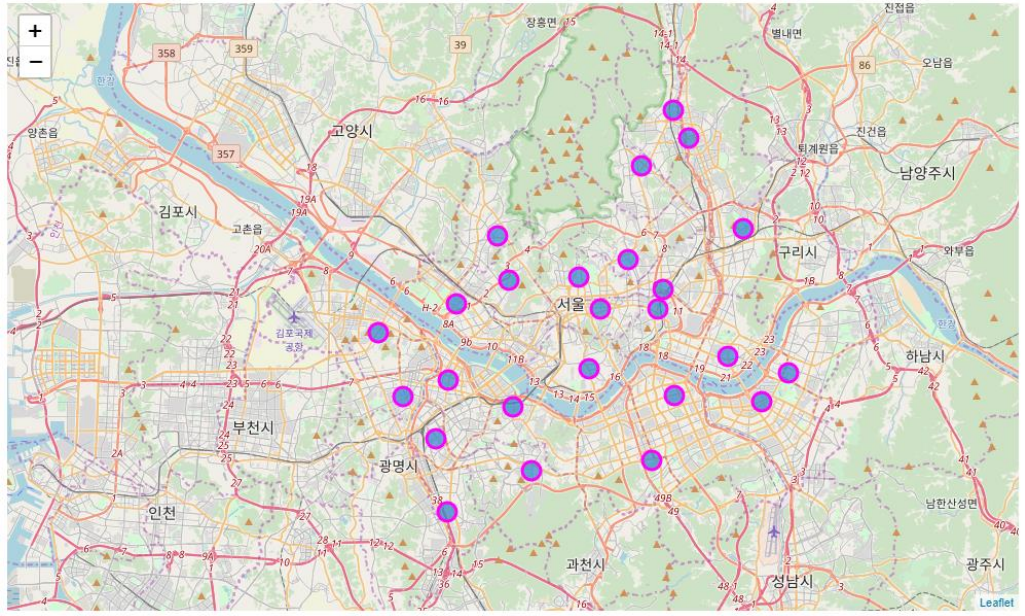
+ People who want to open a restaurant like my friend or maybe a cafe, they can see the pros and cons of the locations.

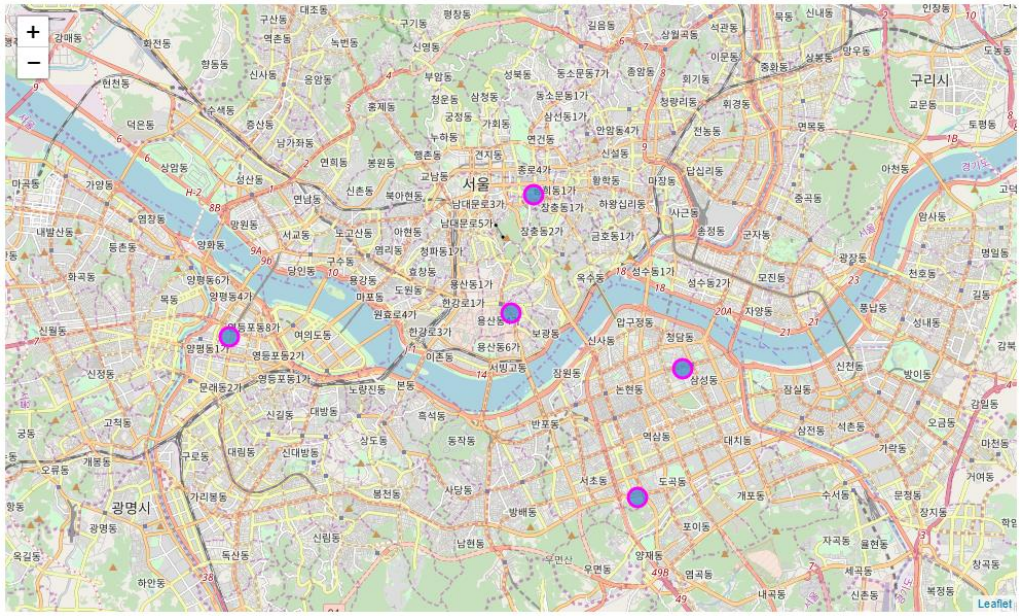
+ Tourists looking for restaurants in Seoul.

+ Someone wants to understand a piece of data science work.

2. Data acquisition and cleaning

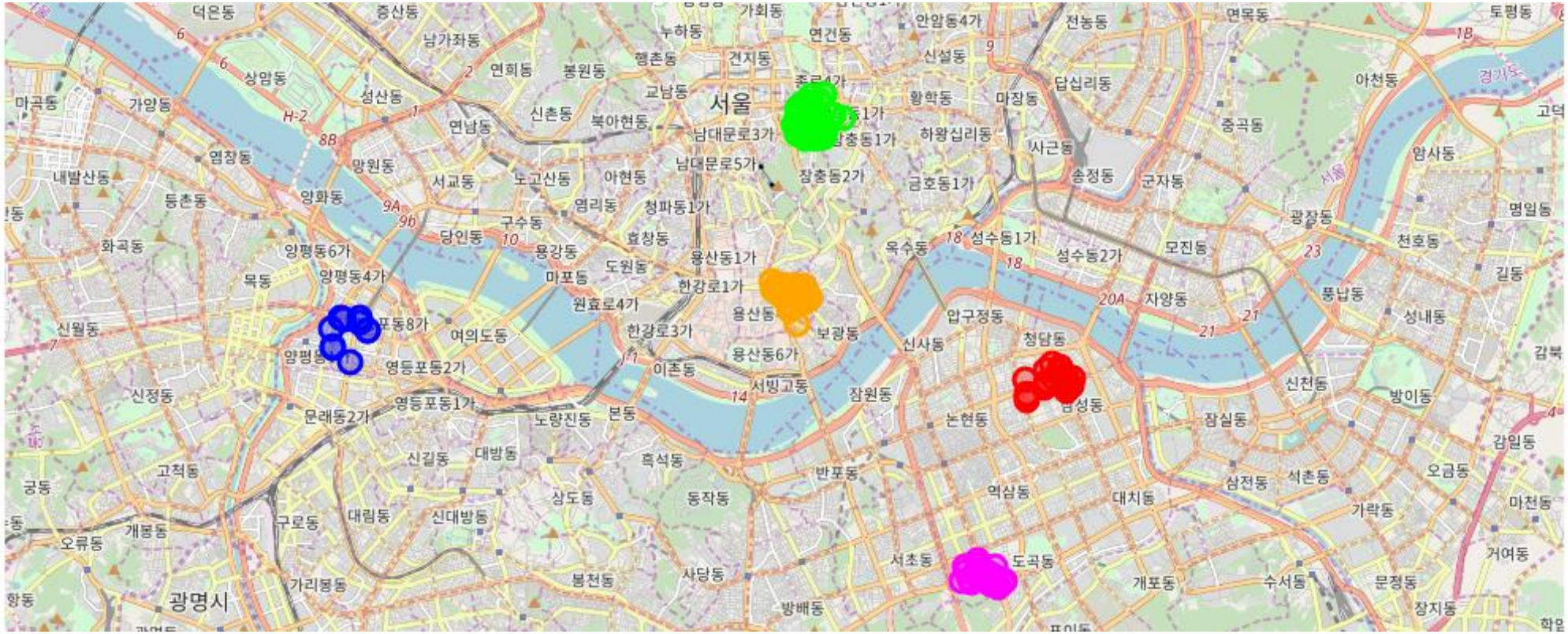
- I make use of https://en.wikipedia.org/wiki/List_of_districts_of_Seoul page to scrap the table to create a data-frame.
- After that, I get coordinates of districts by using Geopy Client and prepare data.
- I will first mark the locations of the districts with Foursquare and then give the next analysis. I also scrap on Internet to find 5 districts that have many building office.





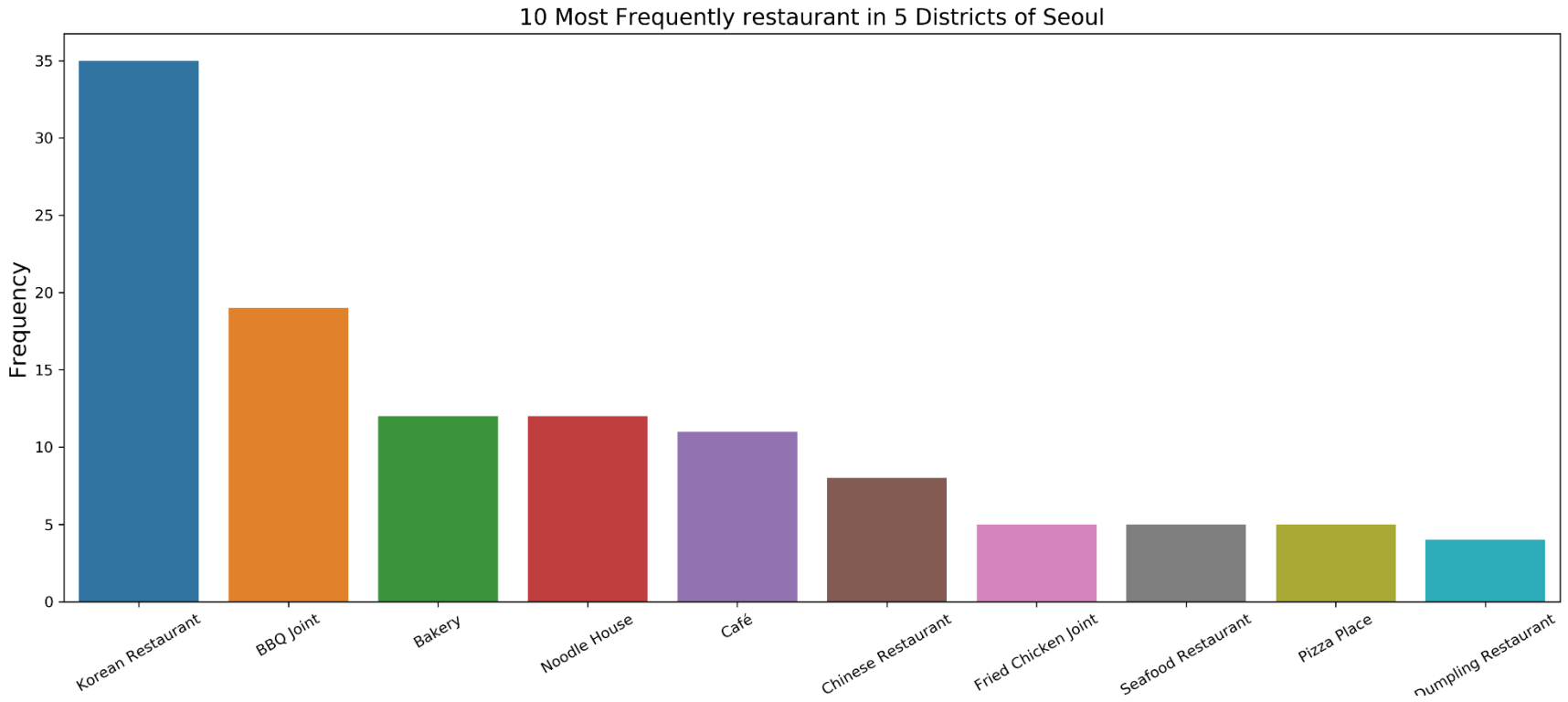
3. Visualization and Data Exploration:
3a. Open a restaurant near major office buildings

I make use of Foursquare API to obtain the most common venues in Food Category within 1 kilometer of each major district.



3a. Open a restaurant near major office buildings

I list top 10 restaurant in 5 district to find what kind of food is most favourite.



3a. Open a restaurant near major office buildings

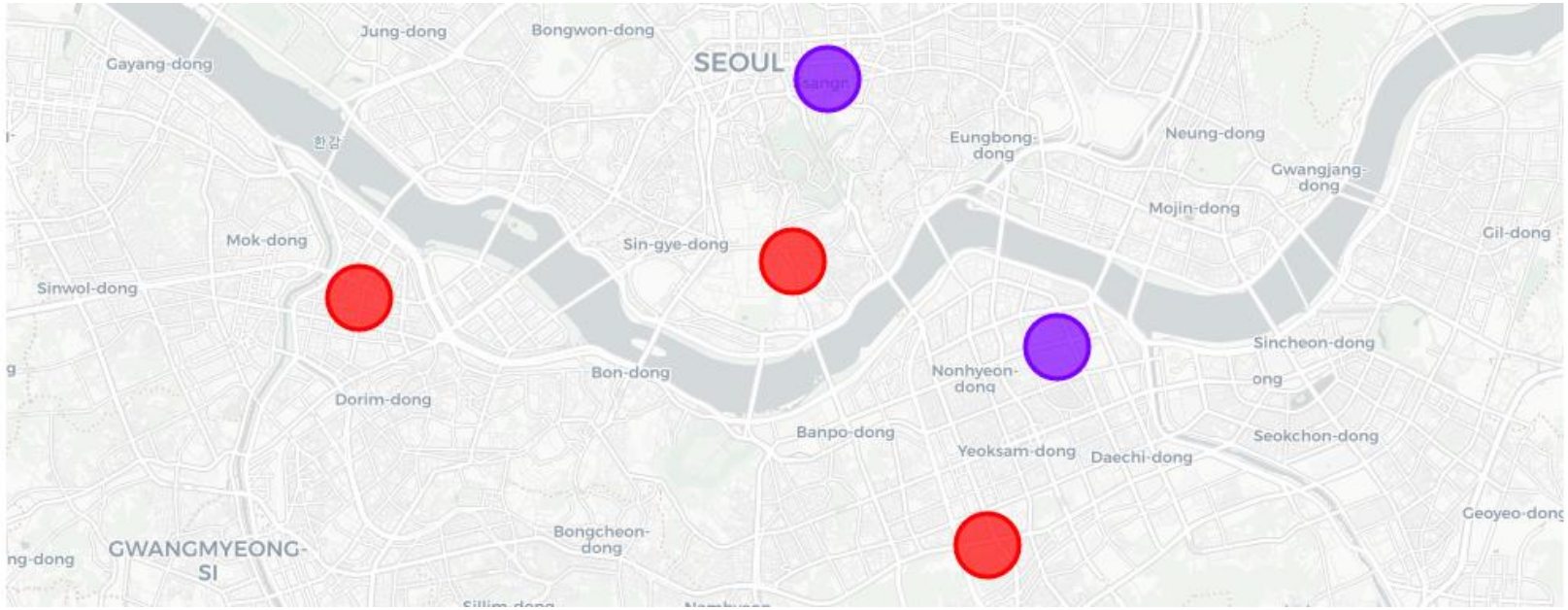
I also find the number of restaurant in each district.

3a. Open a restaurant near major office buildings

Clustering the Major Districts of Seoul

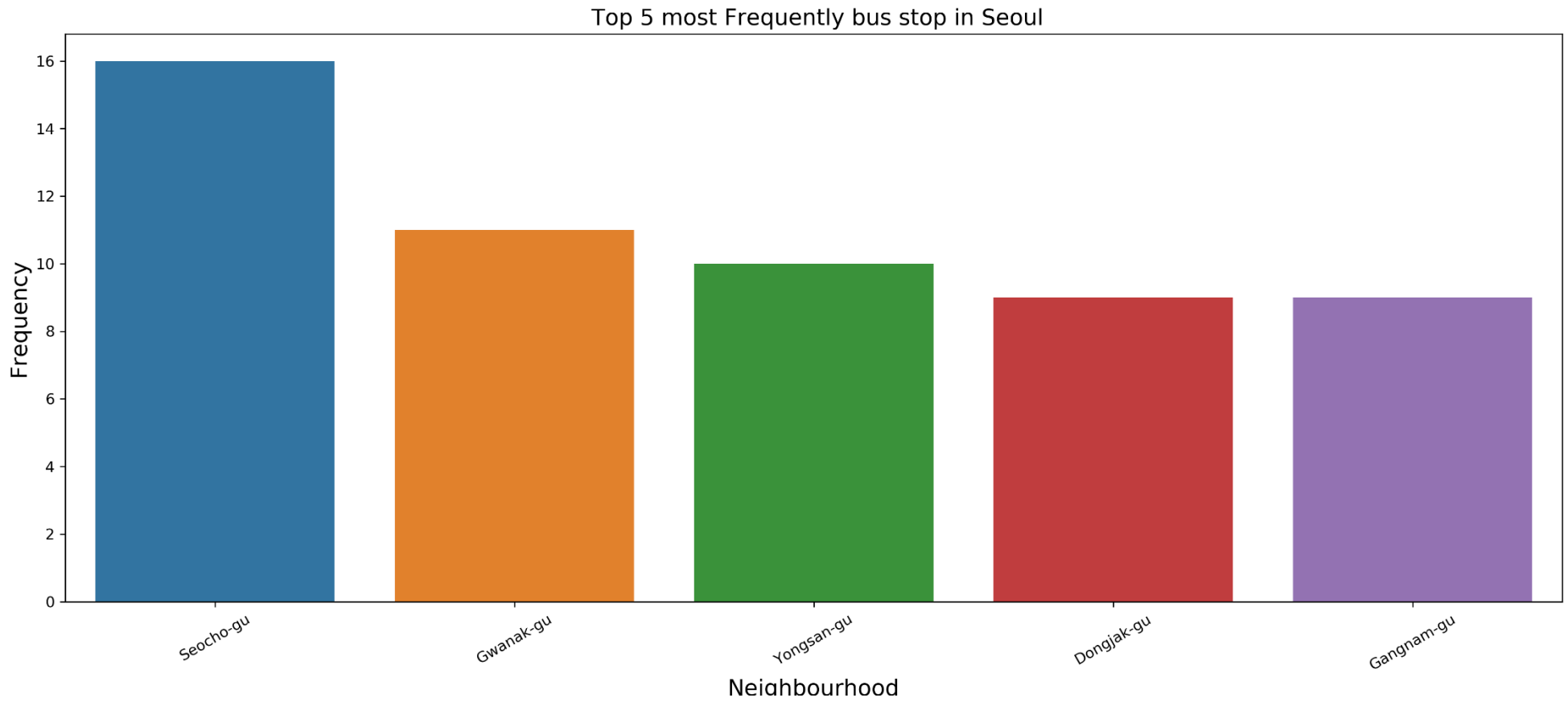
- Seocho-gu, Yeongdeungpo-gu and Yongsan-gu are dominated by BBQ Joint, Korean Restaurant (Red cluster)

- Gangnam-gu, Jung-gu dominated by Korean Restaurant, Bakery and Noodle House (purple cluster).



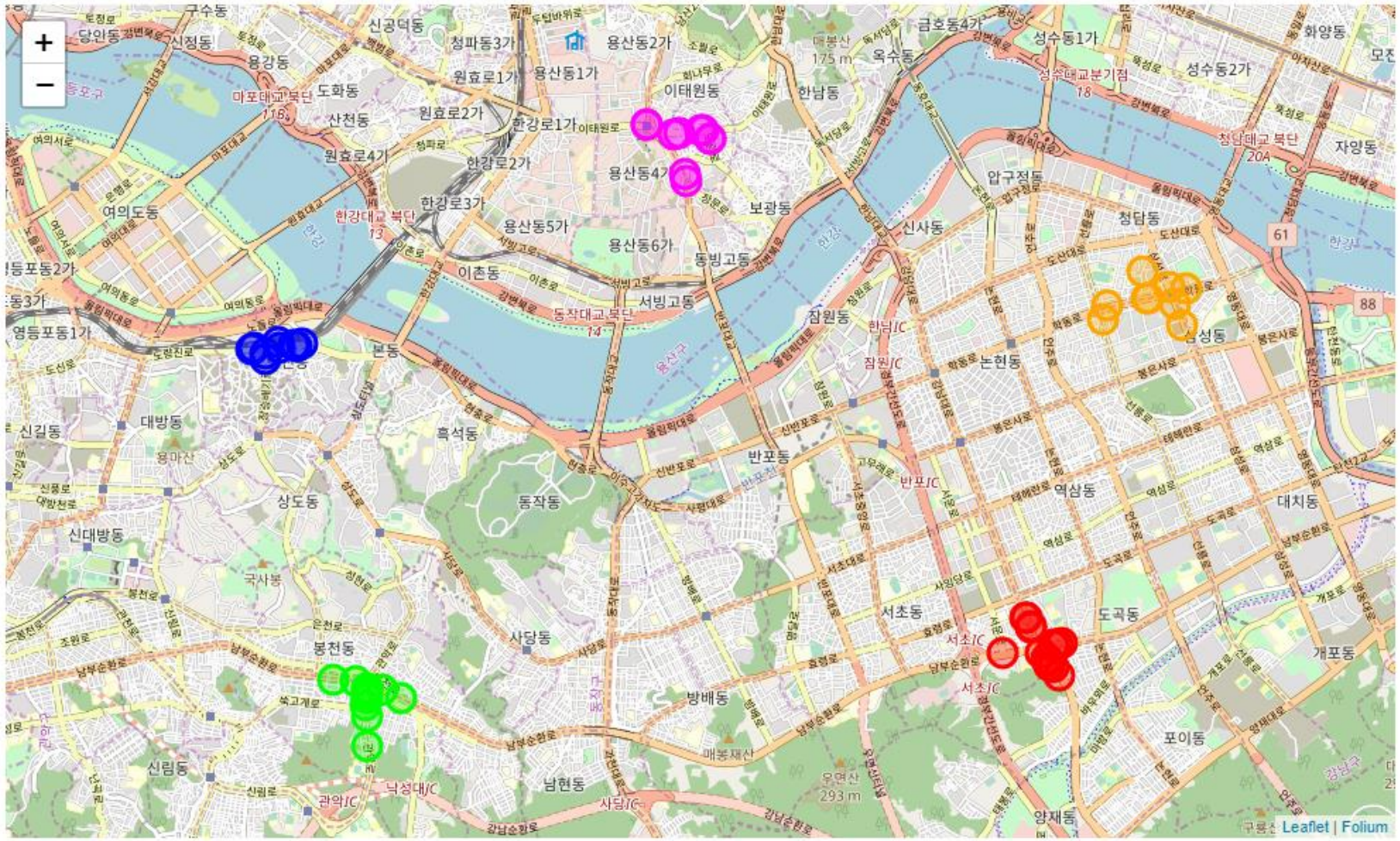
3b. Open fast food restaurants near the transport stations

I find the area have the most Bus stop.



3b. Open fast food restaurants near the transport stations

I mark all bus stop in top area have highest number of bus stop



4. Results

The resutls of the exploratory data analysis and clustering are summarized below

a. Open a restaurant near major office buildings

- Korean restaurants top the charts of most common venues in the 5 districts.

- Seocho-gu, Yeongdeungpo-gu and Yongsan-gu are dominated by BBQ Joint, Korean Restaurant.

- Gangnam-gu, Jung-gu dominated by Korean Restaurant, Bakery and Noodle House.

- Yongsan-guhas maximum number of restaurants as the most common venue whereas has Yeongdeungpo-gu area has the least.

b. Open fast food restaurants near the transport stations

- Seocho-gu has the highest number of bus stop whereas Gangnam-gu has the least.

In my opinion, I will advice my friend to open a restaurant in Seocho-gu districts since It doesn't have too much restaurant, he can avoid the competition. However it has the highest number of bus stop and maybe many people will come here.