Starting A Dog Walking Business in San Francisco

Description of Problem and Background

San Francisco is one of the most vibrant cities and also one of the most popular destinations in the world. What makes it unique is the beautiful mix of nature and city where people who live there as well as visit have so much to explore. For this submission, I would like to focus on San Francisco city's city parks in order to determine where one would open a dog walking business in the city.
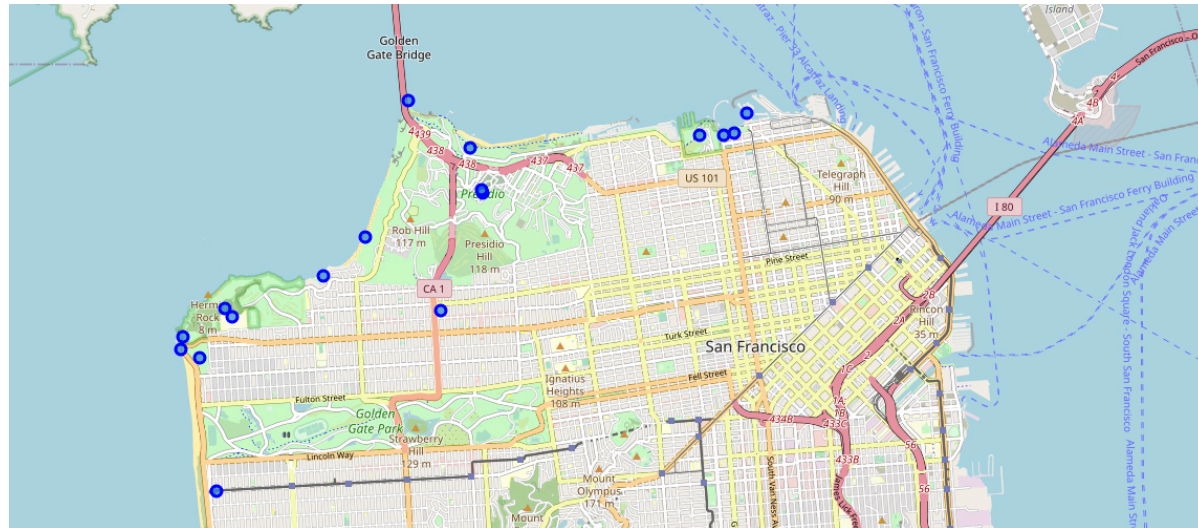
An in depth study of the parks in various neighborhoods of the city will be done based on the current data found online and if there are current dog walking businesses in those areas. I think it would be an interesting study to understand how far residents currently go to walk their dogs and based on the research, data like how far of an area the business would need to cover to get customers.

Data Description and Problem Solving

In order to determine a list of the parks in the city of San Francisco, we will explore a list of available parks. The steps of data preparation are as follows:

1. Scrape data from available links online with the city park list

2. Use the libraries such as geopy to obtain coordinates (latitude, longitude) of the parks

3. Use the foursquare API to find all available businesses in those areas and narrow it down to other pet businesses

4. Group the pet related businesses into categories 5. Explore the competition that directly relates to dogwalking

Visualize the Parks in San Francisco

	Parks	Latitude	Longitude
0	Golden Gate National Recreation Area	37.849927	-122.517752
1	Alcatraz	37.826721	-122.422759
2	China Beach	37.788123	-122.490762
3	Fort Funston	37.719104	-122.503299
4	Fort Mason	37.806283	-122.428992
5	Fort Miley	37.782805	-122.505639
6	Lands End	37.783887	-122.506829
7	Ocean Beach	37.760314	-122.508219
8	The Presidio	37.798746	-122.464589
9	Baker Beach	37.793109	-122.483842
10	Crissy Field	37.804596	-122.466607
11	Fort Point	37.810743	-122.476800
12	San Francisco National Cemetery	37.799269	-122.464828
13	Sutro District	37.783602	-122.471467
14	Cliff House	37.778555	-122.514080
15	Sutro Baths	37.780243	-122.513648
16	Sutro Heights Park	37.777451	-122.510999
17	San Francisco Maritime National Historical Park	37.806501	-122.423394

Explore Venues near Parks

	Neighborhood	Neighborhood Latitude	Neighborhood Longitude	Venue	Venue Latitude	Venue Longitude	Venue Category
0	Alcatraz	37.826721	-122.422759	Alcatraz Island	37.826828	-122.422822	Historic Site
1	Alcatraz	37.826721	-122.422759	Alcatraz Cell House	37.826802	-122.422963	Historic Site
2	Alcatraz	37.826721	-122.422759	Alcatraz Island Lighthouse	37.826294	-122.422226	Lighthouse
3	Alcatraz	37.826721	-122.422759	Alcatraz Industry Building	37.827517	-122.424612	Historic Site
4	Alcatraz	37.826721	-122.422759	Alcatraz D Block	37.826768	-122.422434	Historic Site
5	Alcatraz	37.826721	-122.422759	Alcatraz Shower Room	37.826781	-122.422920	Historic Site
6	Alcatraz	37.826721	-122.422759	Alcatraz Cellhouse Dining Hall	37.826840	-122.423066	Historic Site
7	Alcatraz	37.826721	-122.422759	Alcatraz Water Tower	37.827353	-122.423472	Historic Site
8	Alcatraz	37.826721	-122.422759	Alcatraz Recreation Yard	37.826766	-122.422960	Playground
9	Alcatraz	37.826721	-122.422759	Alcatraz Heliport	37.826699	-122.421146	Heliport
10	Alcatraz	37.826721	-122.422759	Alcatraz Bookstore	37.826730	-122.421066	Bookstore
11	Alcatraz	37.826721	-122.422759	Alcatraz Warden's House	37.826291	-122.421931	Historic Site
12	Alcatraz	37.826721	-122.422759	Alcatraz Morgue	37.827305	-122.423502	Historic Site
13	Alcatraz	37.826721	-122.422759	Al Capone's Cell #181	37.826712	-122.422390	Historic Site
14	Alcatraz	37.826721	-122.422759	Alcatraz Island Parade Grounds	37.825710	-122.421080	National Park
15	Alcatraz	37.826721	-122.422759	Alcatraz Officer's Row	37.826743	-122.422441	Garden
16	Alcatraz	37.826721	-122.422759	The Third Tier	37.826335	-122.422285	Scenic Lookout

Pet and Dog only Venue Categories

The size of the dataframe with pet only as Venue Category is: (2, 7)

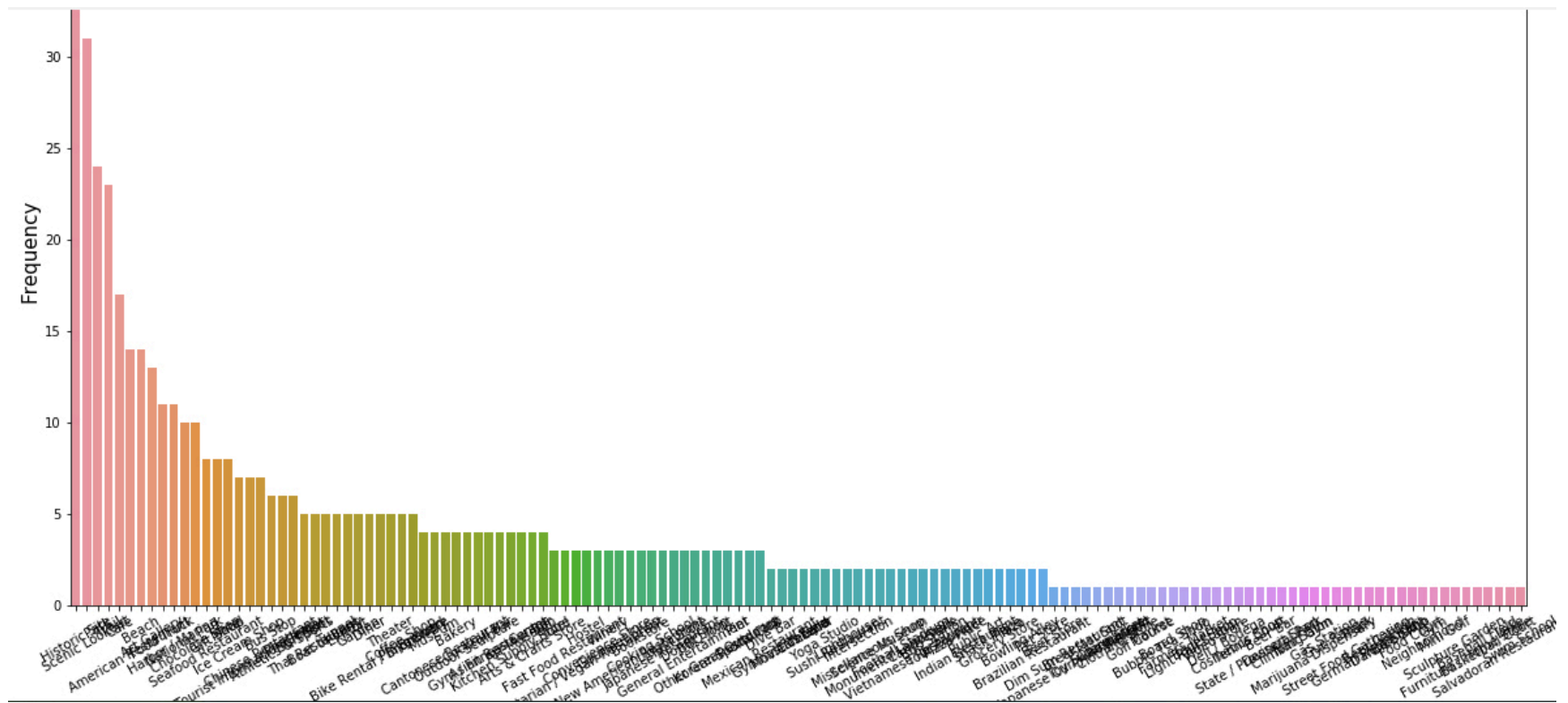|	Neighborhood	Neighborhood Latitude	Neighborhood Longitude	Venue	Venue Latitude	Venue Longitude	Venue Category
1	Sutro District	37.783602	-122.471467	B and B Pet Supplies	37.780785	-122.471197	Pet Store
2	Aquatic Park	37.806234	-122.425185	Yap	37.805866	-122.423083	Pet Store

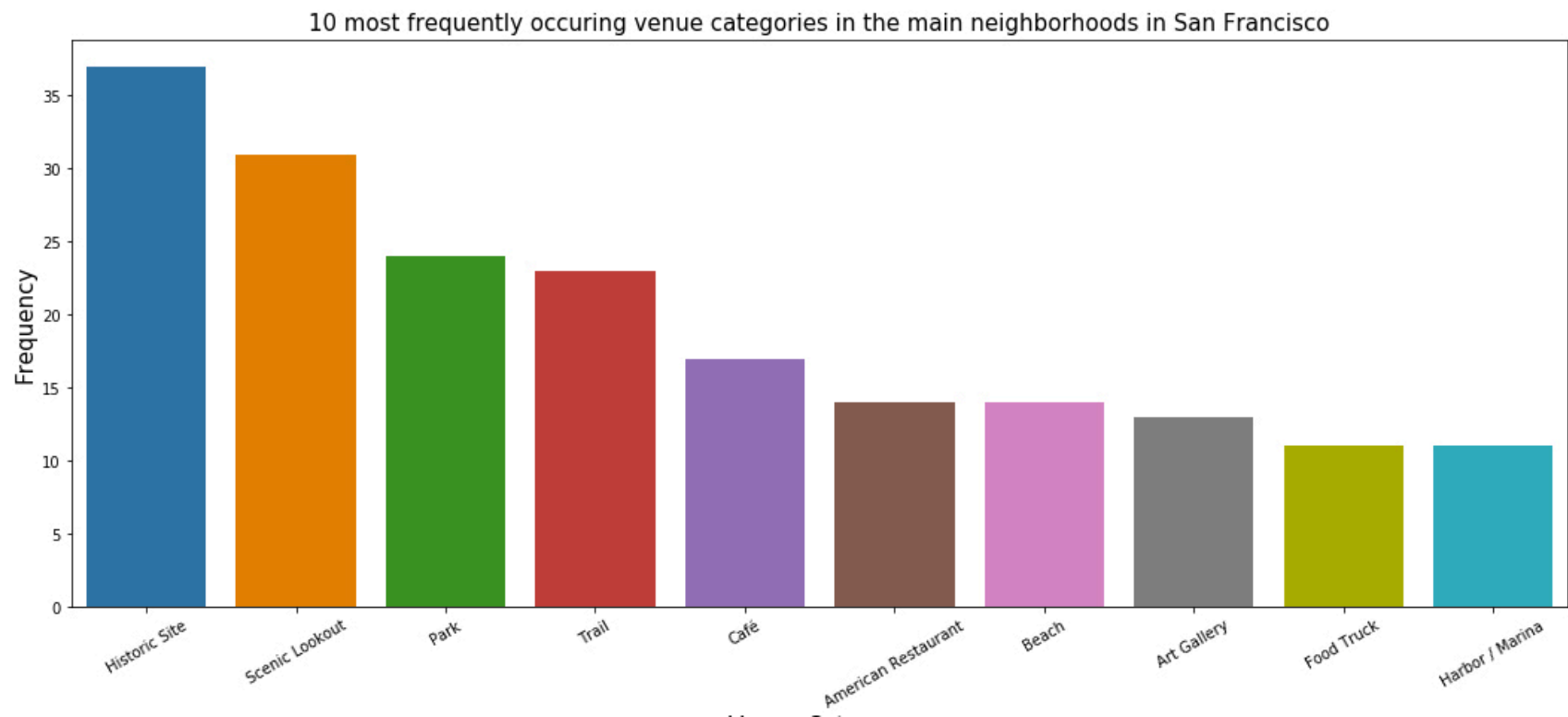The size of the dataframe with Dog only as Venue Category is: (0, 7)

Neighborhood	Neighborhood Latitude	Neighborhood Longitude	Venue	Venue Latitude	Venue Longitude	Venue Category

Exploring Frequency of Venue Categories

Exploring 10 most Frequently Occurring Categories

10 most frequently occuring venue categories in the main neighborhoods in San Francisco

Data Analysis and Results

So far, the data obtained for the parks in the city of San Francisco along with the geospatial information and the corresponding venues around each park has gathered very interesting information. As seen in the notebook, there were two dog related businesses in total around all parks. One was the B and B pet store in Sutro District and the other was Yap, a pet store in Aquatic Park. It is very relevant to the research because there is a lot of scope to open a dog walking business in these areas with more focus on the areas near the existing pet stores. I did some further analysis on the common venue categories and frequency of the categories using groupby and frequency to obtain more details.

Discussion and Conclusion

Based on the results obtained, here are several areas that can be targeted to begin a business in dog walking around these parks. The areas to first focus on will be Sutro District and Aquatic Park. Considering the other venues in this area, there are various avenues to take on the type of dog walking business and offerings in these areas. By using these research tools, libraries and Foursquare API, data was analyzed and some interesting facts were observed. I would definitely focus my efforts on a business in these areas surrounding the park. Please review my notebook for the analysis done.