Battling Neighborhoods\_template\_8.15-Copy1 (1).ipynb (/github/RobFaj/Capstone-DataScience/tree/master/Battling Neighborhoods\_template\_8.15-Copy1 (1).ipynb)



</a>

## Battling the Neighborhoods in L.A.: find a place for Korean BBQ & Cafe

The goal of my project is to find a good place in the USA for Korean restaurants and coffee cafes. Champion figure skater Yuna Kim is funding a Korean food start-up restaurant and wants to be in a city suitable for patio weather and LA is a great place. The start-up is nterested in serving Korean BBQ one side of the venue with a division wall where they want have a donut shop that serves gourmet hot/cold teas and coffee. This project is intended to help with location.

I will survey the territory with 500 meters of Koreatown utilizing my Foursquare API connection and python notebooks along. The results will be prepared in the form of tables and interactive Geomap that shows the location of the ideal location and other areas of Coffee Shop saturation, and the neighborhood's most common venue should ideally be a Korean restaurant with few coffee shops.

```
In [42]:
```

```
#install conda geopy and folium
#!conda install -c conda-forge geopy --yes # uncomment this line if you haven't completed the Foursquare API
#!conda install -c conda-forge folium=0.5.0 --yes # uncomment this line if you haven't completed the Foursquare
!pip install folium==0.5.0
#pip install geopy
```

```
Requirement already satisfied: folium==0.5.0 in /opt/conda/envs/Python36/lib/python3.6/site-packages (0 Requirement already satisfied: six in /opt/conda/envs/Python36/lib/python3.6/site-packages (from folium-Requirement already satisfied: requests in /opt/conda/envs/Python36/lib/python3.6/site-packages (from fol-Requirement already satisfied: branca in /opt/conda/envs/Python36/lib/python3.6/site-packages (from fol-Requirement already satisfied: jinja2 in /opt/conda/envs/Python36/lib/python3.6/site-packages (from fol-Requirement already satisfied: idna<2.9,>=2.5 in /opt/conda/envs/Python36/lib/python3.6/site-packages (requirement already satisfied: certifi>=2017.4.17 in /opt/conda/envs/Python36/lib/python3.6/site-package Requirement already satisfied: urllib3<1.25,>=1.21.1 in /opt/conda/envs/Python36/lib/python3.6/site-packages Requirement already satisfied: MarkupSafe>=0.23 in /opt/conda/envs/Python36/lib/python3.6/site-packages
```

```
In [43]: !pip install geopy
```

```
Requirement already satisfied: geopy in /opt/conda/envs/Python36/lib/python3.6/site-packages (2.0.0) Requirement already satisfied: geographiclib<2,>=1.49 in /opt/conda/envs/Python36/lib/python3.6/site-packages (2.0.0)
```

In [ ]:

import numpy as np # library to handle data in a vectorized manner

import pandas as pd # library for data analsysis
pd.set\_option('display.max\_columns', None)
pd.set\_option('display.max\_rows', None)

import json # library to handle JSON files

#!conda install -c conda-forge geopy --yes # uncomment this line if you haven't completed the Foursquare API from geopy.geocoders import Nominatim # convert an address into latitude and longitude values

import requests # library to handle requests

from pandas.io.json import json\_normalize # tranform JSON file into a pandas dataframe

# Matplotlib and associated plotting modules

import matplotlib.cm as cm

import matplotlib.colors as colors

# import k-means from clustering stage
from sklearn.cluster import KMeans

#!conda install -c conda-forge folium=0.5.0 --yes # uncomment this line if you haven't completed the Foursque import folium # map rendering library

print('Libraries imported.')

- In [2]: #!wget -q -0 'LA\_data.json' https://services5.arcgis.com/7nsPwEMP38bSkCjy/arcgis/rest/services/LA\_Times\_Neigh
  #print('Data downloaded!')
- In [3]: #LA\_data.head()

#### **Understanding and Processing LA Neighborhood Data First**

In [4]: import pandas as pd

df\_LA=pd.read\_csv("https://usc.data.socrata.com/api/views/9utn-waje/rows.csv?accessType=DOWNLOAD&bom=true&for
df\_LA.head()

Out[4]:

	set	slug	the_geom	kind	external_i	name	display_na	sqmi	type	name_1
0	L.A. County Neighborhoods (Current)	acton	MULTIPOLYGON (((-118.20261747920541 34.5389897	L.A. County Neighborhood (Current)	acton	Acton	Acton L.A. County Neighborhood (Current)	39.339109	unincorporated- area	NaN
1	L.A. County Neighborhoods (Current)	adams- normandie	MULTIPOLYGON (((-118.30900800000012 34.0374109	L.A. County Neighborhood (Current)	adams- normandie	Adams- Normandie	Adams- Normandie L.A. County Neighborhood (Curr	0.805350	segment-of-a- city	NaN
2	L.A. County Neighborhoods (Current)	agoura- hills	MULTIPOLYGON (((-118.76192500000009 34.1682029	L.A. County Neighborhood (Current)	agoura- hills	Agoura Hills	Agoura Hills L.A. County Neighborhood (Current)	8.146760	standalone-city	NaN
3	L.A. County Neighborhoods (Current)	agua- dulce	MULTIPOLYGON (((-118.2546773959221 34.55830403	L.A. County Neighborhood (Current)	agua- dulce	Agua Dulce	Agua Dulce L.A. County Neighborhood (Current)	31.462632	unincorporated- area	NaN
4	L.A. County Neighborhoods (Current)	alhambra	MULTIPOLYGON (((-118.1217470000014 34.1050399	L.A. County Neighborhood (Current)	alhambra	Alhambra	Alhambra L.A. County Neighborhood (Current)	7.623814	standalone-city	NaN

In [5]: df1\_LA = df\_LA[['set', 'name', 'latitude', 'longitude']]

In [6]: df1\_LA.head()

Out[6]:

	set	name	latitude	longitude
0	L.A. County Neighborhoods (Current)	Acton	-118.169810	34.497355
1	L.A. County Neighborhoods (Current)	Adams-Normandie	-118.300208	34.031461
2	L.A. County Neighborhoods (Current)	Agoura Hills	-118.759885	34.146736
3	L.A. County Neighborhoods (Current)	Agua Dulce	-118.317104	34.504927
4	L.A. County Neighborhoods (Current)	Alhambra	-118.136512	34.085539

```
In [7]:
            print('The LA dataframe has {} neighborhoods.'.format(
                    len(df1_LA['name'].unique()),
                    df1 LA.shape[0]
                )
            )
            The LA dataframe has 272 neighborhoods.
In [8]:
            address = 'Los Angeles, CA'
            geolocator = Nominatim(user_agent="ny_explorer")
            location = geolocator.geocode(address)
            latitude = location.latitude
            longitude = location.longitude
            print('The geograpical coordinate of Los Angeles are {}, {}.'.format(latitude, longitude))
            The geograpical coordinate of Los Angeles are 34.0536909, -118.2427666.
            LA_data = dfl_LA[dfl_LA['set'] == 'L.A. County Neighborhoods (Current)'].reset_index(drop=True)
In [9]:
            LA_data.head()
Out[9]:
                                                  name
                                                           latitude longitude
            0 L.A. County Neighborhoods (Current)
                                                  Acton -118.169810 34.497355
            1 L.A. County Neighborhoods (Current) Adams-Normandie -118.300208 34.031461
            2 L.A. County Neighborhoods (Current)
                                              Agoura Hills -118.759885 34.146736
                                              Agua Dulce -118.317104 34.504927
            3 L.A. County Neighborhoods (Current)
            4 L.A. County Neighborhoods (Current)
                                               Alhambra -118.136512 34.085539
In [10]:
            CLIENT ID = 'EZNZ12RCAYZGJSRALET004Y44IDJLU3A4SOM44SM3ZVAQ3WC' # your Foursquare ID
            CLIENT_SECRET = 'RM5YUKT10M10DOVAXQIMAAA2QOXQPU1ZOQEMF55SVNPNNOTD' # your Foursquare Secret
            VERSION = '20180604' # Foursquare API version
            print('Your credentails:')
            print('CLIENT_ID: ' + CLIENT_ID)
            print('CLIENT_SECRET:' + CLIENT_SECRET)
            Your credentails:
            CLIENT_ID: EZNZI2RCAYZGJSRALET004Y44IDJLU3A4SOM44SM3ZVAQ3WC
            CLIENT SECRET: RM5YUKT10M10DOVAXQIMAAA2QOXQPU1ZOQEMF55SVNPNNOTD
           LA_data.loc[[28], 'name']
In [11]:
Out[11]:
                 Koreatown
           Name: name, dtype: object
In [12]:
            neighborhood_latitude = LA_data.loc[28, 'longitude'] # neighborhood latitude value
            neighborhood_longitude = LA_data.loc[28, 'latitude'] # neighborhood longitude value
            neighborhood name = LA data.loc[28, 'name'] # neighborhood name
            print('Latitude and longitude values of {} are {}, {}.'.format(neighborhood_name,
                                                                              neighborhood latitude,
                                                                              neighborhood_longitude))
            Latitude and longitude values of Koreatown are 34.06451049912376, -118.3049585.
In [13]:
            # type your answer here
            LIMIT=10000 # number of venues
            #define radius
            radius = 30000
            # create URL
            url = 'https://api.foursquare.com/v2/venues/explore?&client id={}&client secret={}&v={}&ll={},{}&radius={}&li
                CLIENT ID,
                CLIENT_SECRET,
                VERSION,
                neighborhood latitude,
                neighborhood_longitude,
                radius,
                LIMIT)
            url # display URL
Out[13]:
            https://api.foursquare.com/v2/venues/explore?&client_id=EZNZI2RCAYZGJSRALET004Y44IDJLU3A4SOM44SM3ZVAQ3
```

```
In [14]: results = requests.get(url).json()
```

## I know Koreatown is a great spot for nightlife!

```
In [15]:
            # function that extracts the category of the venue
            def get_category_type(row):
                try:
                    categories_list = row['categories']
                    categories_list = row['venue.categories']
                if len(categories list) == 0:
                    return None
                    return categories_list[0]['name']
In [16]:
            venues = results['response']['groups'][0]['items']
            nearby venues = json normalize(venues) # flatten JSON
            # filter columns
            filtered_columns = ['venue.name', 'venue.categories', 'venue.location.lat', 'venue.location.lng']
            nearby_venues = nearby_venues.loc[:, filtered_columns]
            # filter the category for each row
            nearby_venues['venue.categories'] = nearby_venues.apply(get_category_type, axis=1)
            # clean columns
            nearby_venues.columns = [col.split(".")[-1] for col in nearby_venues.columns]
            nearby_venues.head()
Out[161:
                                             categories
                                                                     Ing
            0
                   Kang Ho Dong Baek Jeong Korean Restaurant 34.063828 -118.297364
                       Document Coffee Bar
                                            Coffee Shop 34.061254 -118.311050
            2 Larchmont Village Wine & Cheese
                                         Sandwich Place 34.075327 -118.323704
                                         Ice Cream Shop 34.075836 -118.323535
```

In [17]: print('{} venues were returned by Foursquare for Koreatown area.'.format(nearby\_venues.shape[0]))

Yoga Studio 34.067658 -118.343974

100 venues were returned by Foursquare for Koreatown area.

### 2. Exploring the Neighborhoods in LA

Salt & Straw Modo Yoga LA

```
In [18]:
                                     def getNearbyVenues(names, latitudes, longitudes, radius=500):
                                                  venues_list=[]
                                                  for name, lat, lng in zip(names, latitudes, longitudes):
                                                               print(name)
                                                               # create the API request URL
                                                                \verb|wrl = 'https://api.foursquare.com/v2/venues/explore?&client_id={}&client_secret={}&v={}&ll={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},{}&radi={},
                                                                             CLIENT_ID,
                                                                            CLIENT_SECRET,
                                                                             VERSION,
                                                                             lat,
                                                                            lng,
                                                                             radius,
                                                                            LIMIT)
                                                               # make the GET request
                                                               results = requests.get(url).json()["response"]['groups'][28]['items']
                                                               # return only relevant information for each nearby venue
                                                               venues_list.append([(
                                                                             name,
                                                                             lat,
                                                                            lng,
                                                                            v['venue']['name'],
v['venue']['location']['lat'],
v['venue']['location']['lng'],
                                                                             v['venue']['categories'][0]['name']) for v in results])
                                                  nearby_venues = pd.DataFrame([item for venue_list in venues_list for item in venue_list])
                                                  nearby_venues.columns = ['Neighborhood',
                                                                                                 'Neighborhood Latitude',
                                                                                                 'Neighborhood Longitude',
                                                                                                 'Venue',
                                                                                                 'Venue Latitude',
                                                                                                 'Venue Longitude',
                                                                                                 'Venue Category']
                                                  return(nearby_venues)
```

In [19]:

nearby\_venues.head()

Out[19]:

	name	categories	lat	Ing
0	Kang Ho Dong Baek Jeong	Korean Restaurant	34.063828	-118.297364
1	Document Coffee Bar	Coffee Shop	34.061254	-118.311050
2	Larchmont Village Wine & Cheese	Sandwich Place	34.075327	-118.323704
3	Salt & Straw	Ice Cream Shop	34.075836	-118.323535
4	Modo Yoga LA	Yoga Studio	34.067658	-118.343974

Out[20]:

	name	lat	Ing
categories			
American Restaurant	1	1	1
Art Gallery	2	2	2
Art Museum	2	2	2
Bakery	1	1	1
Basketball Stadium	1	1	1
Bookstore	1	1	1
Boutique	2	2	2
Breakfast Spot	2	2	2
Brewery	1	1	1
Café	3	3	3
Climbing Gym	1	1	1
Coffee Shop	9	9	9
College Residence Hall	1	1	1
Concert Hall	1	1	1
Farmers Market	2	2	2
Food Truck	1	1	1
French Restaurant	1	1	1
German Restaurant	1	1	1
Grocery Store	1	1	1
Gym	1	1	1
Gymnastics Gym	1	1	1
Home Service	1	1	1
Hotel	6	6	6
Ice Cream Shop	4	4	4
Italian Restaurant	4	4	4
Korean Restaurant	1	1	1
Latin American Restaurant	1	1	1
Market	1	1	1
Mediterranean Restaurant	2	2	2
Movie Theater	2	2	2
Music Venue	1	1	1
New American Restaurant	2	2	2
Observatory	1	1	1
Park	5	5	5
Performing Arts Venue	1	1	1
Pizza Place	3	3	3
Plaza	1	1	1
Restaurant	1	1	1
Rock Club	1	1	1
Sandwich Place	2	2	2
Scenic Lookout	3	3	3
Science Museum	1	1	1
Sculpture Garden	1	1	1
Shopping Mall	1	1	1
Sushi Restaurant	2	2	2
Taco Place	2	2	2
Taiwanese Restaurant	1	1	1
Theater	2	2	2

```
name lat Ing
```

```
        categories

        Trail
        6
        6
        6

        Wine Bar
        1
        1
        1

        Wine Shop
        3
        3
        3

        Yoga Studio
        1
        1
        1
        1
```

In [21]: print('There are {} uniques categories.'.format(len(nearby\_venues['name'].unique())))

There are 95 uniques categories.

In [22]: nearby\_venues.shape

Out[22]: (100, 4)

Out[23]:

	Venue Name	Category	Lat	Lng
0	Kang Ho Dong Baek Jeong	Korean Restaurant	34.063828	-118.297364
1	Document Coffee Bar	Coffee Shop	34.061254	-118.311050
2	Larchmont Village Wine & Cheese	Sandwich Place	34.075327	-118.323704
3	Salt & Straw	Ice Cream Shop	34.075836	-118.323535
4	Modo Yoga LA	Yoga Studio	34.067658	-118.343974

In [24]: LA\_onehot = pd.get\_dummies(nearby\_venues['Category'], prefix="", prefix\_sep="")

In [25]: # add neighborhood\_name column back to dataframe
 LA\_onehot['Neighborhood\_name'] = LA\_data['name']
 LA\_onehot.head()

Out[25]:

	American Restaurant	Art Gallery	Art Museum	Bakery	Basketball Stadium	Bookstore	Boutique	Breakfast Spot	Brewery	Café	Climbing Gym	Coffee Shop	College Residence Hall	Concer Hal
0	0	0	0	0	0	0	0	0	0	0	0	0	0	(
1	0	0	0	0	0	0	0	0	0	0	0	1	0	(
2	0	0	0	0	0	0	0	0	0	0	0	0	0	(
3	0	0	0	0	0	0	0	0	0	0	0	0	0	(
4	0	0	0	0	0	0	0	0	0	0	0	0	0	(

In [26]: # I'm getting somewhere stopped here

# move neighborhood column to the first column
fixed\_columns = [LA\_onehot.columns[-1]] + list(LA\_onehot.columns[:-1])
LA\_onehot = LA\_onehot[fixed\_columns]

LA\_onehot.head()

Out[26]:

	Neighborhood_name	American Restaurant	Art Gallery	Art Museum		Basketball Stadium	Bookstore	Boutique	Breakfast Spot	Brewery	Café	Climbing Gym	Coffee Shop
0	Acton	0	0	0	0	0	0	0	0	0	0	0	(
1	Adams-Normandie	0	0	0	0	0	0	0	0	0	0	0	
2	Agoura Hills	0	0	0	0	0	0	0	0	0	0	0	(
3	Agua Dulce	0	0	0	0	0	0	0	0	0	0	0	(
4	Alhambra	0	0	0	0	0	0	0	0	0	0	0	(

In [27]: #grouped = venues\_onehot.groupby('Street').mean().reset\_index()
#grouped

LA\_venues\_grouped= LA\_onehot.groupby('Neighborhood\_name').mean().reset\_index() LA\_venues\_grouped.head()

Out[27]:

	Neighborhood_name	American Restaurant	Art Gallery	Art Museum	Bakery	Basketball Stadium	Bookstore	Boutique	Breakfast Spot	Brewery	Café	Climbing Gym	Coffee Shor
0	Acton	0	0	0	0	0	0	0	0	0	0	0	(
1	Adams-Normandie	0	0	0	0	0	0	0	0	0	0	0	
2	Agoura Hills	0	0	0	0	0	0	0	0	0	0	0	(
3	Agua Dulce	0	0	0	0	0	0	0	0	0	0	0	(
4	Alhambra	0	0	0	0	0	0	0	0	0	0	0	(

In [28]: LA\_venues\_grouped.shape

Out[28]: (100, 53)

```
In [29]:
           num_top_venues = 5
           for hood in LA_venues_grouped['Neighborhood_name']:
               print("---"+hood+"----")
               temp = LA_venues_grouped[LA_venues_grouped['Neighborhood_name'] == hood].T.reset_index()
               temp.columns = ['venue','freq']
               temp = temp.iloc[1:]
               temp['freq'] = temp['freq'].astype(float)
               temp = temp.round({'freq': 2})
               \verb|print(temp.sort_values('freq', ascending=False).reset_index(drop=True).head(num_top_venues))| \\
               print('\n')
           ----Acton----
                                 venue freq
              Korean Restaurant 1.0
           0
                       Market 0.0
              Mediterranean Restaurant 0.0

Movie Theater 0.0
           2 Mediterranean Restaurant
           3
                           Music Venue 0.0
           ----Adams-Normandie----
                        venue freq
           0
           0 Coffee Shop 1.0
1 American Restaurant 0.0
              Sandwich Place 0.0
Movie Theater 0.0
Music Venue 0.0
           2
           3
           ----Agoura Hills----
                                venue freq
                        Sandwich Place 1.0
Art Gallery 0.0
           0
           1
           2 Mediterranean Restaurant 0.0
               Movie Theater 0.0
Music Venue 0.0
           3
           ----Agua Dulce----
                         venue freq
              Ice Cream Shop 1.0
           0
           1 American Restaurant
                                    0.0
              Market 0.0
                   Movie Theater 0.0
Music Venue 0.0
           3
           ----Alhambra----
                                 venue freq
           0
                          Yoga Studio 1.0
           \begin{array}{ccc} 1 & & \text{Art Gallery} & \text{0.0} \\ 2 & \text{Mediterranean Restaurant} & \text{0.0} \end{array}
             Movie Theater 0.0
                           Music Venue 0.0
           ----Alondra Park----
                           venue freq
             French Restaurant 1.0
           Music Venue 0.0
           ----Altadena----
                Pizza Place 1.0
           0
                 American Restaurant 0.0
           2 Art Gallery 0.0
3 Mediterranean Restaurant 0.0
                        Movie Theater 0.0
           ----Angeles Crest----
                              venue freq
           0
                            Restaurant
               American Restaurant 0.0
Art Gallery 0.0
           1
```

3 Mediterranean Restaurant

Movie Theater 0.0

```
----Arcadia----
                        venue freq
0
      Taiwanese Restaurant 1.0
       American Restaurant 0.0
1
       Rock Club 0.0

Riterranean Restaurant 0.0

Movie Theater 0.0
3 Mediterranean Restaurant
----Arleta----
                   venue freq
0 Breakfast Spot 1.0
1 American Restaurant 0.0
2 Sandwich Place 0.0
       Movie Theater 0.0
Music Venue 0.0
3
----Arlington Heights----
      venue freq
0
                        Park 1.0 aurant 0.0
   American Restaurant 0.0
Art Gallery 0.0
1
3 Mediterranean Restaurant 0.0
4 Movie Theater 0.0
----Artesia----
                 venue freq
venue rreq
0 Breakfast Spot 1.0
1 American Restaurant 0.0
2 Sandwich Place 0.0
3 Movie Theater 0.0
        Music Venue 0.0
----Athens----
     Movie Theater 1.0
                        venue freq
0
0 Movie Theater 1.0
1 American Restaurant 0.0
2 Art Gallery 0.0
3 Mediterranean Restaurant 0.0
                 Music Venue 0.0
----Atwater Village----
         Wine Shop 1.0
0
1 American Restaurant 0.0
2 Rock Club 0.0
3 Mediterranean Restaurant 0.0
             Movie Theater 0.0
----Avalon----
                  venue freq
0 Gym 1.0
1 American Restaurant 0.0
2 Market 0.0
3 Movie Theater 0.0
4 Music Venue 0.0
----Avocado Heights----
                venue freq
0 Basketball Stadium 1.0
1 American Restaurant 0.0
2 Sandwich Place 0.0
3
       Movie Theater 0.0
Music Venue 0.0
----Azusa----
                  venue freq
0 Farmers Market 1.0
   American Restaurant 0.0
Market 0.0
1 American Restaurant
        Movie Theater 0.0
```

Music Venue 0.0

```
----Baldwin Hills/Crenshaw----
            venue freq
       Theater 1.0
American Restaurant 0.0
 0
 1
                     Rock Club 0.0
 3 Mediterranean Restaurant 0.0
        Movie Theater
                                                                        0.0
 ----Baldwin Park----
\begin{array}{ccc} & & \text{venue} & \text{freq} \\ 0 & & \text{Art Museum} & \text{1.0} \end{array}
                                   venue freq
 1 American Restaurant 0.0
2 Sandwich Place 0.0
                   Movie Theater 0.0
                     Music Venue 0.0
 ----Bel-Air----
                                        venue freq
                                      Hotel 1.0
1 American Restaurant 0.0
2 Market 0.0
3 Movie Theater 0.0
                      Music Venue 0.0
 ----Bell----
                                             venue freq
 1 American Restaurant 0.0
 2 Rock Club 0.0
3 Mediterranean Restaurant 0.0
             Movie Theater 0.0
 ----Bell Gardens----
                                                   venue freq
 0
                  American Restaurant
                                                                       1.0
 1
                    Art Gallery
                                                                        0.0
 2 Mediterranean Restaurant 0.0
        Movie Theater
                                                                          0.0
                                   Music Venue 0.0
 ----Bellflower----
             Wine Shop 1.0
Restaurant 0.0
 0
       American Restaurant
 1
                     Rock Club 0.0
 3 Mediterranean Restaurant
                                                                        0.0
         Movie Theater 0.0
venue freq

Sculpture Garden 1.0

American Restaurant 0.0

Post of the state of the
  ----Beverly Crest----
 3 Mediterranean Restaurant 0.0
         Movie Theater 0.0
 ----Beverly Grove----
           venue freq
Trail 1.0
0 Trail
1 American Restaurant
                                                                        0.0
                    Rock Club 0.0
 2
 3 Mediterranean Restaurant 0.0
                              Movie Theater 0.0
 ----Beverly Hills----
                                               venue freq
 0 College Residence Hall 1.0
 1 American Restaurant
                                                                   0.0
            Sandwich Place
 2
                       Movie Theater
                                                                  0.0
 3
                              Music Venue 0.0
```

```
Taco Place 1.0
                       venue freq
0
Taco Place
American Restaurant
                                0.0
                                0.0
2
                  Rock Club
3 Mediterranean Restaurant 0.0
             Movie Theater 0.0
----Boyle Heights---- venue freq
      Shopping Mall 1.0
1 American Restaurant 0.0
2 Rock Club 0.0
3 Mediterranean Restaurant 0.0
       Movie Theater 0.0
----Bradbury----
0
                 venue freq
       Farmers Market 1.0
1 American Restaurant 0.0
   Market 0.0
Movie Theater 0.0
Music Venue 0.0
2
3
----Brentwood----
 \begin{array}{c|cccc} & & & & & & & \text{freq} \\ 0 & & & \text{Art Museum} & 1.0 \\ 1 & & \text{American Restaurant} & & 0.0 \\ \end{array} 
2 Sandwich Place 0.0
       Movie Theater 0.0
Music Venue 0.0
3
----Broadway-Manchester----
venue freq
0 Coffee Shop 1.0
1 American Restaurant 0.0
2 Sandwich Place 0.0
        Movie Theater 0.0
3
        Music Venue 0.0
----Burbank----
       Theater 1.0
0
Theater
American Restaurant
                                0.0
        Rock Club 0.0
3 Mediterranean Restaurant 0.0
               Movie Theater 0.0
----Calabasas----
                   venue freq
0
              Concert Hall 1.0
1
              Market 0.0
              Movie Theater 0.0 Music Venue 0.0
              Movie Theater
3
4 New American Restaurant 0.0
----Canoga Park----
  venue freq
0 Brewery 1.0
1 American Restaurant 0.0
2 Sandwich Place 0.0
3 Movie Theater 0.0
4 Music Venue 0.0
----Carson----
                       venue freq
       Movie Theater 1.0
American Restaurant 0.0
0
1
       Art Gallery 0.0
3 Mediterranean Restaurant
                                0.0
                Music Venue 0.0
```

----Beverlywood----

venue  Trail  American Restaurant  Rock Club  Mediterranean Restaurant  Movie Theater	freq 1.0 0.0 0.0 0.0
Castaic	
venue freq 0 Italian Restaurant 1.0	
1 American Restaurant 0.0 2 Market 0.0	
3 Movie Theater 0.0	
4 Music Venue 0.0	
Castaic Canyons	
venue freq 0 Bookstore 1.0	
1 American Restaurant 0.0	
2 Sandwich Place 0.0	
Movie Theater 0.0 Music Venue 0.0	
4 Music Venue 0.0	
Central-Alameda	£
venue 0 Market	1.0
1 Art Gallery	0.0
2 Mediterranean Restaurant	0.0
<ul><li>Movie Theater</li><li>Music Venue</li></ul>	0.0
4 music venue	0.0
Century City	_
venue 0 Wine Shop	freq 1.0
1 American Restaurant	0.0
2 Rock Club	0.0
3 Mediterranean Restaurant	0.0
4 Movie Theater	0.0
Garwita a	
Cerritos venue	freq
0 Plaza	1.0
1 American Restaurant	0.0
2 Art Gallery 3 Mediterranean Restaurant	0.0
4 Movie Theater	0.0
Charter Oak venue	freq
0 Latin American Restaurant	1.0
1 Art Gallery 2 Mediterranean Restaurant	0.0
3 Movie Theater	0.0
4 Music Venue	0.0
Chatsworth	
venue	freq
O Performing Arts Venue	1.0
1 American Restaurant 2 Art Gallery	0.0
2 Art Gallery 3 Mediterranean Restaurant	0.0
4 Movie Theater	0.0
Chatsworth Reservoir venue	freq
0 Science Museum	1.0
1 American Restaurant	0.0
2 Rock Club 3 Mediterranean Restaurant	0.0
4 Movie Theater	0.0
Chesterfield Square venue freq	

0 Coffee Shop 1.0	
1 American Restaurant 0.0 2 Sandwich Place 0.0	
3 Movie Theater 0.0	
4 Music Venue 0.0	
Cheviot Hills	
venue	freq
0 Observatory	1.0
1 American Restaurant 2 Art Gallery	0.0
3 Mediterranean Restaurant	0.0
4 Movie Theater	0.0
Chinatown	
venue	freq
0 Park	1.0
1 American Restaurant 2 Art Gallery	0.0
3 Mediterranean Restaurant	0.0
4 Movie Theater	0.0
Citrus	
venue freq	
0 Coffee Shop 1.0	
1 American Restaurant 0.0 2 Sandwich Place 0.0	
3 Movie Theater 0.0	
4 Music Venue 0.0	
Claremont	
venue	freq
0 Sushi Restaurant	1.0
1 American Restaurant 2 Rock Club	0.0
3 Mediterranean Restaurant	0.0
4 Movie Theater	0.0
Commerce	
venue	freq
venue  New American Restaurant	1.0
venue	-
venue  New American Restaurant  American Restaurant  Art Gallery  Mediterranean Restaurant	1.0 0.0 0.0 0.0
venue  New American Restaurant  American Restaurant  Art Gallery	1.0 0.0 0.0
venue  New American Restaurant  American Restaurant  Art Gallery  Mediterranean Restaurant	1.0 0.0 0.0 0.0
venue  New American Restaurant  American Restaurant  Art Gallery  Mediterranean Restaurant  Movie Theater	1.0 0.0 0.0 0.0 0.0
venue  New American Restaurant  American Restaurant  Art Gallery  Mediterranean Restaurant  Movie Theater Compton  venue	1.0 0.0 0.0 0.0 0.0
venue  New American Restaurant  American Restaurant  Art Gallery  Mediterranean Restaurant  Movie Theater	1.0 0.0 0.0 0.0 0.0
venue  New American Restaurant  American Restaurant  Art Gallery  Mediterranean Restaurant  Movie Theater Compton venue  Music Venue  American Restaurant  Art Gallery	1.0 0.0 0.0 0.0 0.0 0.0
venue  New American Restaurant  American Restaurant  Art Gallery  Mediterranean Restaurant  Movie Theater Compton  venue  Music Venue  American Restaurant  Art Gallery  Mediterranean Restaurant	1.0 0.0 0.0 0.0 0.0 0.0
venue  New American Restaurant  American Restaurant  Art Gallery  Mediterranean Restaurant  Movie Theater Compton venue  Music Venue  American Restaurant  Art Gallery	1.0 0.0 0.0 0.0 0.0 0.0
venue  New American Restaurant  Art Gallery  Mediterranean Restaurant  Movie Theater Compton  venue  Music Venue  American Restaurant  American Restaurant  Movie Theater	1.0 0.0 0.0 0.0 0.0 0.0
venue  New American Restaurant  American Restaurant  Art Gallery  Mediterranean Restaurant  Movie Theater Compton  venue  Music Venue  American Restaurant  Art Gallery  Mediterranean Restaurant  Movie Theater	1.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
venue  New American Restaurant  Art Gallery  Mediterranean Restaurant  Movie Theater Compton  venue  Music Venue  American Restaurant  American Restaurant  Movie Theater	1.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
venue  New American Restaurant  American Restaurant  Art Gallery  Mediterranean Restaurant  Movie Theater Compton  venue  Music Venue  American Restaurant  Art Gallery  Mediterranean Restaurant  Movie Theater Covina  venue  Art Gallery  American Restaurant  Art Gallery  American Restaurant	1.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
venue  New American Restaurant American Restaurant Art Gallery Mediterranean Restaurant Movie Theater Compton venue American Restaurant American Restaurant Art Gallery Mediterranean Restaurant Movie Theater Covina venue Art Gallery American Restaurant Movie Theater	1.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
venue  New American Restaurant  American Restaurant  Art Gallery  Mediterranean Restaurant  Movie Theater Compton  venue  Music Venue  American Restaurant  Art Gallery  Mediterranean Restaurant  Movie Theater Covina  venue  Art Gallery  American Restaurant  Art Gallery  American Restaurant	1.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
venue  New American Restaurant American Restaurant Art Gallery Mediterranean Restaurant Movie Theater Compton Venue American Restaurant American Restaurant American Restaurant Movie Theater Covina Venue Art Gallery American Restaurant Movie Theater Covina Venue Movie Theater  American Restaurant Movie Theater	1.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
venue  New American Restaurant American Restaurant Art Gallery Mediterranean Restaurant Movie Theater Compton venue Music Venue American Restaurant Art Gallery Mediterranean Restaurant Movie Theater Covina venue Art Gallery Art Gallery Mediterranean Restaurant Movie Theater  Movie Theater Mediterranean Restaurant Theater Mediterranean Restaurant Movie Theater Music Venue	1.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
venue  New American Restaurant American Restaurant Art Gallery Mediterranean Restaurant Movie Theater Compton Venue American Restaurant American Restaurant American Restaurant Movie Theater Covina Venue Art Gallery American Restaurant Movie Theater Covina Venue Movie Theater  American Restaurant Movie Theater	1.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
venue  0 New American Restaurant 1 American Restaurant 2 Art Gallery 3 Mediterranean Restaurant 4 Movie Theater Compton	1.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
venue  0 New American Restaurant 1 American Restaurant 2 Art Gallery 3 Mediterranean Restaurant 4 Movie Theater Compton	1.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
venue  0 New American Restaurant 1 American Restaurant 2 Art Gallery 3 Mediterranean Restaurant 4 Movie Theater Compton	1.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
venue  0 New American Restaurant 1 American Restaurant 2 Art Gallery 3 Mediterranean Restaurant 4 Movie Theater Compton	1.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
venue  0 New American Restaurant 1 American Restaurant 2 Art Gallery 3 Mediterranean Restaurant 4 Movie Theater Compton	1.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
venue  0 New American Restaurant 1 American Restaurant 2 Art Gallery 3 Mediterranean Restaurant 4 Movie Theater Compton  venue 0 Music Venue 1 American Restaurant 2 Art Gallery 3 Mediterranean Restaurant 4 Movie Theater Covina  venue 0 Art Gallery 1 American Restaurant 2 Mediterranean Restaurant 2 Mediterranean Restaurant 3 Movie Theater 4 Music Venue Cudahy  venue freq 0 Ice Cream Shop 1.0 1 American Restaurant 0.0 2 Market 0.0 3 Movie Theater 0.0 4 Music Venue 0.0	1.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
venue  0 New American Restaurant 1 American Restaurant 2 Art Gallery 3 Mediterranean Restaurant 4 Movie Theater Compton	1.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
venue  0 New American Restaurant 1 American Restaurant 2 Art Gallery 3 Mediterranean Restaurant 4 Movie Theater Compton	1.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

1 2 3	American Restau	rant	0.0
3	Mediterranean Restau	rant	0.0
	Movie The		0.0
4	Music V	enue	0.0
	Cypress Park		
	venue	freq	
0	Food Truck	1.0	
1	American Restaurant	0.0	
2	Market	0.0	
3	Movie Theater	0.0	
4	Music Venue	0.0	
	Del Aire		
	venue	freq	
0	Home Service	1.0	
1	American Restaurant	0.0	
2	Market	0.0	
3	Movie Theater	0.0	
4	Music Venue	0.0	
	Del Rey		
		enue	_
0	Sandwich P		1.0
1	Art Gal	-	0.0
	Mediterranean Restau		0.0
3	Movie The		0.0
4	Music V	enue	0.0
	Desert View Highlan	ds	-
	venue		
0	German Restaurant	1.0	
1	American Restaurant	0.0	
2	Market	0.0	
3	Movie Theater	0.0	
4	Music Venue	0.0	
	Diamond Bar		
	v	enue	-
0	v Sushi Restau	rant	1.0
0	v Sushi Restau American Restau	rant rant	1.0
0 1 2	v Sushi Restau American Restau Rock	rant rant Club	1.0 0.0 0.0
0 1 2 3	Sushi Restau American Restau Rock Mediterranean Restau	rant rant Club rant	1.0 0.0 0.0 0.0
0 1 2	v Sushi Restau American Restau Rock	rant rant Club rant	1.0 0.0 0.0
0 1 2 3 4	V Sushi Restau American Restau Rock Mediterranean Restau Movie The	rant rant Club rant	1.0 0.0 0.0 0.0
0 1 2 3 4	V Sushi Restau American Restau Rock Mediterranean Restau Movie The	rant rant Club rant ater	1.0 0.0 0.0 0.0
0 1 2 3 4	Sushi Restau American Restau Rock Mediterranean Restau Movie The	rant rant Club rant ater	1.0 0.0 0.0 0.0
0 1 2 3 4	Sushi Restau American Restau Rock Mediterranean Restau Movie TheDowney venue Coffee Shop	rant club rant ater  freq 1.0	1.0 0.0 0.0 0.0
0 1 2 3 4	Sushi Restau American Restau Rock Mediterranean Restau Movie TheDowney venue Coffee Shop American Restaurant	rant rant Club rant ater  freq 1.0 0.0	1.0 0.0 0.0 0.0
0 1 2 3 4  0 1 2	Sushi Restau American Restau Rock Mediterranean Restau Movie TheDowney venue Coffee Shop	rant rant Club rant ater  freq 1.0 0.0 0.0	1.0 0.0 0.0 0.0
0 1 2 3 4	Sushi Restau American Restau Rock Mediterranean Restau Movie The Downey venue Coffee Shop American Restaurant Sandwich Place Movie Theater	rant rant Club rant ater  freq 1.0 0.0	1.0 0.0 0.0 0.0
0 1 2 3 4  0 1 2 3	Sushi Restau American Restau Rock Mediterranean Restau Movie The Downey venue Coffee Shop American Restaurant Sandwich Place Movie Theater	rant rant Club rant ater  freq 1.0 0.0 0.0 0.0	1.0 0.0 0.0 0.0
0 1 2 3 4  0 1 2 3 4	Sushi Restau American Restau Rock Mediterranean Restau Movie The Downey venue Coffee Shop American Restaurant Sandwich Place Movie Theater Music Venue	rant rant Club rant ater  freq 1.0 0.0 0.0 0.0	1.0 0.0 0.0 0.0
0 1 2 3 4  0 1 2 3 4	Sushi Restau American Restau Rock Mediterranean Restau Movie The Downey venue Coffee Shop American Restaurant Sandwich Place Movie Theater	rant rant Club rant ater  freq 1.0 0.0 0.0 0.0	1.0 0.0 0.0 0.0
0 1 2 3 4  0 1 2 3 4	Sushi Restau American Restau Rock Mediterranean Restau Movie The Downey Venue Coffee Shop American Restaurant Sandwich Place Movie Theater Music Venue	rant rant Club rant ater  freq 1.0 0.0 0.0 0.0	1.0 0.0 0.0 0.0
0 1 2 3 4  0 1 2 3 4	Sushi Restau American Restau Rock Mediterranean Restau Movie The Downey  venue Coffee Shop American Restaurant Sandwich Place Movie Theater Music Venue	rant rant Club rant ater  freq 1.0 0.0 0.0 0.0 freq	1.0 0.0 0.0 0.0
0 1 2 3 4  0 1 2 3 4	Sushi Restau American Restau Rock Mediterranean Restau Movie The Downey venue Coffee Shop American Restaurant Sandwich Place Movie Theater Music Venue Downtown venue Bakery	rant rant Club rant ater  freq 1.0 0.0 0.0 0.0 freq 1.0	1.0 0.0 0.0 0.0
0 1 2 3 4  0 1 2 3 4	Sushi Restau American Restau Rock Mediterranean Restau Movie The Downey venue Coffee Shop American Restaurant Sandwich Place Movie Theater Music Venue Downtown venue Bakery American Restaurant	rant rant Club rant ater  freq 1.0 0.0 0.0 0.0 freq 1.0 0.0	1.0 0.0 0.0 0.0
0 1 2 3 4  0 1 2 3 4	Sushi Restau American Restau Rock Mediterranean Restau Movie The Downey  venue Coffee Shop American Restaurant Sandwich Place Movie Theater Music Venue Downtown venue Bakery American Restaurant Sandwich Place	rant rant Club rant ater  freq 1.0 0.0 0.0 0.0 freq 1.0 0.0	1.0 0.0 0.0 0.0
0 1 2 3 4  0 1 2 3 4  0 1 2 3 4	Sushi Restau American Restau Rock Mediterranean Restau Movie The Downey  Venue Coffee Shop American Restaurant Sandwich Place Movie Theater Music Venue Downtown  venue Bakery American Restaurant Sandwich Place Movie Theater Music Venue	rant rant Club rant ater  freq 1.0 0.0 0.0 0.0 freq 1.0 0.0 0.0	1.0 0.0 0.0 0.0
0 1 2 3 4  0 1 2 3 4  0 1 2 3 4	Sushi Restau American Restau Rock Mediterranean Restau Movie The Downey  Venue Coffee Shop American Restaurant Sandwich Place Movie Theater Music Venue Downtown  venue Bakery American Restaurant Sandwich Place Movie Theater Music Venue	rant rant Club rant ater  freq 1.0 0.0 0.0 0.0 0.0 freq 1.0 0.0 0.0 0.0	1.0 0.0 0.0 0.0
0 1 2 3 4  0 1 2 3 4  0 1 2 3 4	Sushi Restau American Restau Rock Mediterranean Restau Movie The Downey  venue Coffee Shop American Restaurant Sandwich Place Movie Theater Music Venue Downtown  venue Bakery American Restaurant Sandwich Place Movie Theater Music Venue Duarte venue	rant rant Club rant ater  freq 1.0 0.0 0.0 0.0 0.0 freq 1.0 0.0 0.0 freq freq freq freq freq freq freq	1.0 0.0 0.0 0.0
0 1 2 3 4  0 1 2 3 4  0 1 2 3 4	Sushi Restau American Restau Rock Mediterranean Restau Movie The Downey  venue Coffee Shop American Restaurant Sandwich Place Movie Theater Music Venue Downtown  venue Bakery American Restaurant Sandwich Place Movie Theater Music Venue Duarte  venue Climbing Gym	rant rant Club rant ater  freq 1.0 0.0 0.0 0.0 0.0 0.0 freq 1.0 0.0 freq 1.0 freq 1.0	1.0 0.0 0.0 0.0
0 1 2 3 4  0 1 2 3 4  0 1 2 3 4	Sushi Restau American Restau Rock Mediterranean Restau Movie The Downey  venue Coffee Shop American Restaurant Sandwich Place Movie Theater Music Venue Downtown  venue Bakery American Restaurant Sandwich Place Movie Theater Music Venue Duarte  venue Climbing Gym American Restaurant	rant rant Club rant ater  freq 1.0 0.0 0.0 0.0 0.0 freq 1.0 0.0 0.0 freq 1.0 0.0 0.0	1.0 0.0 0.0 0.0
0 1 2 3 4  0 1 2 3 4  0 1 2 3 4	Sushi Restau American Restau Rock Mediterranean Restau Movie The Downey  venue Coffee Shop American Restaurant Sandwich Place Movie Theater Music Venue Downtown  venue Bakery American Restaurant Sandwich Place Movie Theater Music Venue Duarte  venue Climbing Gym American Restaurant Sandwich Place	rant rant Club rant ater  freq 1.0 0.0 0.0 0.0 0.0 freq 1.0 0.0 0.0 freq 1.0 0.0 0.0	1.0 0.0 0.0 0.0
0 1 2 3 4  0 1 2 3 4  0 1 2 3 4	Sushi Restau American Restau Rock Mediterranean Restau Movie The Downey  venue Coffee Shop American Restaurant Sandwich Place Movie Theater Music Venue Downtown  venue Bakery American Restaurant Sandwich Place Movie Theater Music Venue Duarte  venue Climbing Gym American Restaurant	rant rant Club rant ater  freq 1.0 0.0 0.0 0.0 0.0 freq 1.0 0.0 0.0 freq 1.0 0.0 0.0	1.0 0.0 0.0 0.0
0 1 2 3 4 0 1 2 3 4 0 1 2 3 4	Sushi Restau American Restau Rock Mediterranean Restau Movie The Downey  venue Coffee Shop American Restaurant Sandwich Place Movie Theater Music Venue Downtown  venue Bakery American Restaurant Sandwich Place Movie Theater Music Venue Duarte  venue Climbing Gym American Restaurant Sandwich Place Movie Theater Music Venue	rant rant Club rant ater  freq 1.0 0.0 0.0 0.0 0.0 freq 1.0 0.0 0.0 freq 1.0 0.0 0.0	1.0 0.0 0.0 0.0
0 1 2 3 4  0 1 2 3 4  0 1 2 3 4	Sushi Restau American Restau Rock Mediterranean Restau Movie The Downey  venue Coffee Shop American Restaurant Sandwich Place Movie Theater Music Venue Downtown  venue Bakery American Restaurant Sandwich Place Movie Theater Music Venue Duarte Venue Climbing Gym American Restaurant Sandwich Place Movie Theater Music Venue	rant rant Club rant ater  freq 1.0 0.0 0.0 0.0 0.0 freq 1.0 0.0 0.0 freq 1.0 0.0 0.0	1.0 0.0 0.0 0.0
0 1 2 3 4  0 1 2 3 4  0 1 2 3 4	Sushi Restau American Restau Rock Mediterranean Restau Movie The Downey  venue Coffee Shop American Restaurant Sandwich Place Movie Theater Music Venue Downtown  venue Bakery American Restaurant Sandwich Place Movie Theater Music Venue Duarte venue Climbing Gym American Restaurant Sandwich Place Movie Theater Music Venue Duarte  venue Climbing Gym American Restaurant Sandwich Place Movie Theater Music Venue	rant rant Club rant ater  freq 1.0 0.0 0.0 0.0 0.0 freq 1.0 0.0 0.0 freq 1.0 0.0 0.0	1.0 0.0 0.0 0.0
0 1 2 3 4  0 1 2 3 4  0 1 2 3 4	Sushi Restau American Restau Rock Mediterranean Restau Movie The Downey  venue Coffee Shop American Restaurant Sandwich Place Movie Theater Music Venue Downtown  venue Bakery American Restaurant Sandwich Place Movie Theater Music Venue Duarte venue Climbing Gym American Restaurant Sandwich Place Movie Theater Music Venue Duarte  venue Climbing Gym American Restaurant Sandwich Place Movie Theater Music Venue	rant rant Club rant ater  freq 1.0 0.0 0.0 0.0 0.0 freq 1.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	1.0 0.0 0.0 0.0 0.0

Venue   Freq   Trail   1.0	2 Art Gallery 3 Mediterranean Restaurant 4 Movie Theater	0.0 0.0 0.0
Venue   Freq   Trail   1.0	Fast Compton	
American Restaurant	_	freq
Rock Club		
Mediterranean Restaurant   0.0    East Hollywood		
East Hollywood  venue freq  Mediterranean Restaurant 1.0  Art Gallery 0.0  Art Gallery 0.0  Movie Theater 0.0 East La Mirada  venue freq  Café 1.0  American Restaurant 0.0  Café 1.0  American Restaurant 0.0  Sandwich Place 0.0  Music Venue 0.0 East Los Angeles  venue freq  Music Venue 0.0 East Pasadena  Rock Club 0.0  American Restaurant 0.0  Rock Club 0.0  Mediterranean Restaurant 0.0  Rock Club 0.0  Mediterranean Restaurant 0.0  Scenic Lookout 1.0  American Restaurant 0.0  Café 1.0  American Restaurant 0.0  Sandwich Place 0.0  Movie Theater 0.0  Music Venue 0.0 East San Gabriel  venue freq  Café 1.0  American Restaurant 0.0  Rock Club 0.0  Movie Theater 0.0  Music Venue 0.0 East San Gabriel  venue freq  Café 1.0  American Restaurant 0.0		
Venue   freq	4 Movie Theater	0.0
0 Mediterranean Restaurant 1.0 1 American Restaurant 0.0 2 Art Gallery 0.0 3 Movie Theater 0.0 4 Music Venue 0.0East La Mirada venue freq 0 Café 1.0 1 American Restaurant 0.0 2 Sandwich Place 0.0 3 Movie Theater 0.0 4 Music Venue 0.0East Los Angeles venue freq 0 Mediterranean Restaurant 1.0 1 American Restaurant 0.0 2 Art Gallery 0.0 3 Movie Theater 0.0 4 Music Venue 0.0East Pasadena venue freq 0 Scenic Lookout 1.0 1 American Restaurant 0.0 2 Rock Club 0.0 3 Mediterranean Restaurant 0.0 4 Movie Theater 0.0East San Gabriel venue freq 0 Café 1.0 1 American Restaurant 0.0 2 Rock Club 0.0 3 Mediterranean Restaurant 0.0 4 Movie Theater 0.0 4 Music Venue 0.0East San Gabriel venue freq 0 Café 1.0 1 American Restaurant 0.0 2 Sandwich Place 0.0 3 Movie Theater 0.0 4 Music Venue 0.0Echo Park venue freq 0 Scenic Lookout 1.0 1 American Restaurant 0.0 2 Rock Club 0.0 3 Movie Theater 0.0 4 Music Venue 0.0Echo Park venue freq 0 Scenic Lookout 1.0 1 American Restaurant 0.0 2 Rock Club 0.0 3 Mediterranean Restaurant 0.0 4 Movie Theater 0.0	-	fwor
American Restaurant   0.0		_
Movie Theater	1 American Restaurant	
Music Venue	=	
East La Mirada venue freq 0		
Venue freq		
O Café 1.0  1 American Restaurant 0.0 2 Sandwich Place 0.0 3 Movie Theater 0.0 4 Music Venue 0.0 East Los Angeles venue freq 0 Mediterranean Restaurant 1.0 1 American Restaurant 0.0 2 Art Gallery 0.0 3 Movie Theater 0.0 4 Music Venue 0.0 East Pasadena venue freq 0 Scenic Lookout 1.0 1 American Restaurant 0.0 2 Rock Club 0.0 3 Mediterranean Restaurant 0.0 4 Movie Theater 0.0 East San Gabriel venue freq 0 Café 1.0 1 American Restaurant 0.0 2 Sandwich Place 0.0 3 Movie Theater 0.0 4 Music Venue 0.0 Echo Park Venue freq 0 Scenic Lookout 1.0 1 American Restaurant 0.0 2 Sandwich Place 0.0 3 Movie Theater 0.0 4 Music Venue 0.0 Echo Park venue freq 0 Scenic Lookout 1.0 1 American Restaurant 0.0 2 Rock Club 0.0 3 Mediterranean Restaurant 0.0 4 Movie Theater 0.0 El Monte venue freq 0 Scenic Lookout 1.0 1 American Restaurant 0.0 2 Art Gallery 0.0 3 Mediterranean Restaurant 0.0 4 Movie Theater 0.0 El Monte venue freq 0 Park 1.0 1 American Restaurant 0.0 2 Art Gallery 0.0 3 Mediterranean Restaurant 0.0 4 Movie Theater 0.0		
1 American Restaurant 0.0 2 Sandwich Place 0.0 3 Movie Theater 0.0 4 Music Venue 0.0 East Los Angeles venue freq 0 Mediterranean Restaurant 1.0 1 American Restaurant 0.0 2 Art Gallery 0.0 3 Movie Theater 0.0 4 Music Venue 0.0 East Pasadena venue freq 0 Scenic Lookout 1.0 1 American Restaurant 0.0 2 Rock Club 0.0 3 Mediterranean Restaurant 0.0 4 Movie Theater 0.0 East San Gabriel venue freq 0 Café 1.0 1 American Restaurant 0.0 2 Sandwich Place 0.0 3 Movie Theater 0.0 4 Music Venue 0.0 Echo Park venue freq 0 Scenic Lookout 1.0 1 American Restaurant 0.0 2 Sandwich Place 0.0 3 Movie Theater 0.0 4 Music Venue 0.0 Echo Park venue freq 0 Scenic Lookout 1.0 1 American Restaurant 0.0 2 Rock Club 0.0 3 Mediterranean Restaurant 0.0 4 Movie Theater 0.0 El Monte venue freq 0 Scenic Lookout 1.0 1 American Restaurant 0.0 4 Movie Theater 0.0 El Monte venue freq 0 Park 1.0 1 American Restaurant 0.0 2 Art Gallery 0.0 3 Mediterranean Restaurant 0.0 4 Movie Theater 0.0 El Segundo venue freq 0 Boutique 1.0 1 American Restaurant 0.0	-	
Movie Theater		
East Los Angeles venue freq 0 Mediterranean Restaurant 1.0 1 American Restaurant 0.0 2 Art Gallery 0.0 3 Movie Theater 0.0 4 Music Venue 0.0 East Pasadena venue freq 0 Scenic Lookout 1.0 1 American Restaurant 0.0 2 Rock Club 0.0 3 Mediterranean Restaurant 0.0 4 Movie Theater 0.0 East San Gabriel venue freq 0 Café 1.0 1 American Restaurant 0.0 2 Sandwich Place 0.0 3 Movie Theater 0.0 4 Music Venue 0.0 Echo Park venue freq 0 Scenic Lookout 1.0 1 American Restaurant 0.0 2 Sandwich Place 0.0 3 Movie Theater 0.0 4 Music Venue 0.0 El Monte Venue freq 0 Scenic Lookout 1.0 1 American Restaurant 0.0 2 Rock Club 0.0 3 Mediterranean Restaurant 0.0 4 Movie Theater 0.0 El Monte venue freq 0 Park 1.0 1 American Restaurant 0.0 2 Art Gallery 0.0 3 Mediterranean Restaurant 0.0 4 Movie Theater 0.0 El Segundo venue freq 0 Boutique 1.0 1 American Restaurant 0.0		
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venue freq 0 Boutique 1.0 1 American Restaurant 0.0	4 Movie Theater	0.0
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1 American Restaurant 0.0	_	
	-	

3 Movie Theater 4 Music Venue	0.0	
El Sereno venue 0 Hotel 1 American Restaurant 2 Market 3 Movie Theater	freq 1.0 0.0 0.0	
4 Music Venue	0.0	
0 Ice Cream Shop 1 American Restaurant 2 Market 3 Movie Theater	freq 1.0 0.0 0.0 0.0	
	nue	_
0 P 1 American Restaur 2 Art Gall 3 Mediterranean Restaur 4 Movie Thea	ery ant	1.0 0.0 0.0 0.0
Elysian Valley venue  Ice Cream Shop American Restaurant Market Movie Theater Music Venue	freq 1.0 0.0 0.0 0.0	
Encino venue	freq	
0 Hotel 1 American Restaurant 2 Market 3 Movie Theater	1.0 0.0 0.0 0.0	
4 Music Venue	0.0	
Exposition Park venue  Coffee Shop American Restaurant Sandwich Place Movie Theater Music Venue	freq 1.0 0.0 0.0 0.0	
Fairfax	nue	freq
0 Rock C 1 American Restaur 2 Art Gall 3 Mediterranean Restaur 4 Movie Thea	lub ant ery ant	1.0 0.0 0.0 0.0
Florence venue	freq	
0 Gymnastics Gym 1 American Restaurant 2 Market 3 Movie Theater 4 Music Venue	1.0 0.0 0.0 0.0	
Florence-Firestone	 freq	
0 Hotel 1 American Restaurant 2 Market	1.0 0.0 0.0 0.0	

### ----Gardena---venue freq Taco Place 1.0 1 American Restaurant 0.0 Rock Club 3 Mediterranean Restaurant 0.0 Movie Theater 0.0 ----Glassell Park---venue freq 0 Coffee Shop 1.0 1 American Restaurant 0.0 Sandwich Place 0.0 Movie Theater 0.0 Music Venue 0.0 2 3 ----Glendale---venue req 0 Pizza Place 1.0 1 American Restaurant 0.0 2 Art Gallery 0.0 venue freq 3 Mediterranean Restaurant Movie Theater 0.0 ----Glendora---venue freq 0 Scenic Lookout 1.0 1 American Restaurant 0.0 Rock Club 0.0 3 Mediterranean Restaurant 0.0 4 Movie Theater 0.0 ----Gramercy Park---venue freq 0 Trail 1.0 American Restaurant American Restaurant 0.0 Rock Club 0.0 1 3 Mediterranean Restaurant 0.0 Movie Theater 0.0 ----Granada Hills---venue freq Hotel 1.0 1 American Restaurant 0.0 2 Market 0.0 3 Movie Theater 0.0 Music Venue 0.0 ----Green Meadows---venue 1100 Wine Bar 1.0 venue freq 0 American Restaurant 0.0 1 2 Rock Club 0.0 3 Mediterranean Restaurant 0.0 Movie Theater 0.0 ----Green Valley---venue freq venue freq 0 Grocery Store 1.0 1 American Restaurant 0.0 Market 0.0 Movie Theater 0.0 Music Venue 0.0 3 ----Griffith Park---venue freq Hotel 1.0 0.0 1 American Restaurant

Market 0.0

Movie Theater Music Venue

3

0.0

```
----Hacienda Heights----
                   venue frea
               Pizza Place 1.0
1 American Restaurant 0.0
2 Art Gallery 0.0
      Art Gallery 0.0
3 Mediterranean Restaurant
     Movie Theater 0.0
----Hancock Park----
               venue freq
0 Coffee Shop 1.0
1 American Restaurant 0.0
  Sandwich Place 0.0
      Movie Theater 0.0
Music Venue 0.0
3
4
----Hansen Dam----
    venue freq
0
                Café 1.0
1 American Restaurant
                        0.0
  Sandwich Place 0.0
2
3
       Movie Theater 0.0
         Music Venue 0.0
----Harbor City----
               venue freq
             Boutique 1.0
1 American Restaurant 0.0
2 Sandwich Place 0.0
    Sandwich Place
       Movie Theater 0.0
        Music Venue 0.0
----Koreatown----
               venue freq
0 Italian Restaurant 1.0
1 American Restaurant 0.0
2 Market 0.0
3 Movie Theater 0.0
         Music Venue 0.0
----La Mirada----
        venue freq
Trail 1.0
0
1 American Restaurant 0.0
2 Rock Club 0.0
3 Mediterranean Restaurant 0.0
           Movie Theater 0.0
---Northridge----
               venue freq
0 Coffee Shop 1.0
1 American Restaurant 0.0
2 Sandwich Place 0.0
      Movie Theater 0.0
Music Venue 0.0
3
----Vermont Square----
        venue freq
0 Italian Restaurant 1.0
1 American Restaurant 0.0
          Market 0.0
       Movie Theater 0.0
Music Venue 0.0
3
----Vermont Vista----
                    venue freq
0 New American Restaurant 1.0
  American Restaurant
1
                            0.0
        Art Gallery 0.0
2
3 Mediterranean Restaurant 0.0
      Movie Theater 0.0
```

```
Movie Theater 0.0
Music Venue 0.0
In [ ]:
In [30]:
           def return_most_common_venues(row, num_top_venues):
               row_categories = row.iloc[1:]
               row_categories_sorted = row_categories.sort_values(ascending=False)
               return row_categories_sorted.index.values[0:num_top_venues]
In [31]:
           num_top_venues = 5
           indicators = ['st', 'nd', 'rd']
           # create columns according to number of top venues
           columns = ['Neighborhood_name']
           for ind in np.arange(num_top_venues):
                   columns.append('{}{} Most Common Venue'.format(ind+1, indicators[ind]))
               except:
                   columns.append('{}th Most Common Venue'.format(ind+1))
           # create a new dataframe
           neighborhoods_venues_sorted = pd.DataFrame(columns=columns)
           neighborhoods_venues_sorted['Neighborhood_name'] = LA_venues_grouped['Neighborhood_name']
           for ind in np.arange(LA_venues_grouped.shape[0]):
               neighborhoods_venues_sorted.iloc[ind, 1:] = return_most_common_venues(LA_venues_grouped.iloc[ind, :], num
           neighborhoods_venues_sorted.head(20)
```

Out[31]:

----Vermont-Slauson----

0 1

2

3

Italian Restaurant 1.0
American Restaurant 0.0

venue freq

Market 0.0

Acton			Venue	Venue	Venue
ACION	Korean Restaurant	Wine Shop	Ice Cream Shop	Hotel	Home Service
Adams-Normandie	Coffee Shop	Yoga Studio	Concert Hall	Ice Cream Shop	Hotel
Agoura Hills	Sandwich Place	Yoga Studio	College Residence Hall	Hotel	Home Service
Agua Dulce	Ice Cream Shop	Yoga Studio	Wine Shop	Hotel	Home Service
Alhambra	Yoga Studio	Wine Shop	Ice Cream Shop	Hotel	Home Service
Alondra Park	French Restaurant	Yoga Studio	Wine Shop	Ice Cream Shop	Hotel
Altadena	Pizza Place	Yoga Studio	Italian Restaurant	Hotel	Home Service
Angeles Crest	Restaurant	Yoga Studio	Italian Restaurant	Hotel	Home Service
Arcadia	Taiwanese Restaurant	Yoga Studio	College Residence Hall	Hotel	Home Service
Arleta	Breakfast Spot	Yoga Studio	Concert Hall	Ice Cream Shop	Hotel
Arlington Heights	Park	Yoga Studio	Italian Restaurant	Hotel	Home Service
Artesia	Breakfast Spot	Yoga Studio	Concert Hall	Ice Cream Shop	Hotel
Athens	Movie Theater	Yoga Studio	Italian Restaurant	Hotel	Home Service
Atwater Village	Wine Shop	Yoga Studio	Ice Cream Shop	Hotel	Home Service
Avalon	Gym	Yoga Studio	Wine Shop	Ice Cream Shop	Hotel
Avocado Heights	Basketball Stadium	Yoga Studio	Concert Hall	Ice Cream Shop	Hotel
Azusa	Farmers Market	Yoga Studio	Wine Shop	Ice Cream Shop	Hotel
Baldwin Hills/Crenshaw	Theater	Yoga Studio	College Residence Hall	Hotel	Home Service
Baldwin Park	Art Museum	Yoga Studio	Concert Hall	Ice Cream Shop	Hotel
Bel-Air	Hotel	Yoga Studio	Wine Shop	Ice Cream Shop	Home Service
	Agoura Hills Agua Dulce Alhambra Alondra Park Altadena Angeles Crest Arcadia Arleta Arlington Heights Artesia Athens Atwater Village Avalon Avocado Heights Azusa Baldwin Hills/Crenshaw Baldwin Park	Agoura Hills Sandwich Place Agua Dulce Ice Cream Shop Alhambra Yoga Studio Alondra Park French Restaurant Altadena Pizza Place Angeles Crest Restaurant Arcadia Taiwanese Restaurant Arleta Breakfast Spot Arlington Heights Park Artesia Breakfast Spot Athens Movie Theater Atwater Village Wine Shop Avalon Gym Avocado Heights Baldwin Hills/Crenshaw Baldwin Park Art Museum	Agoura Hills Sandwich Place Yoga Studio Agua Dulce Ice Cream Shop Yoga Studio Alhambra Yoga Studio Wine Shop Alondra Park French Restaurant Yoga Studio Altadena Pizza Place Yoga Studio Angeles Crest Restaurant Yoga Studio Arcadia Taiwanese Restaurant Yoga Studio Arleta Breakfast Spot Yoga Studio Arlington Heights Park Yoga Studio Artesia Breakfast Spot Yoga Studio Athens Movie Theater Yoga Studio Atwater Village Wine Shop Yoga Studio Avocado Heights Basketball Stadium Yoga Studio Azusa Farmers Market Yoga Studio Hills/Crenshaw Theater Yoga Studio	Agoura Hills Sandwich Place Yoga Studio College Residence Hall Agua Dulce Ice Cream Shop Yoga Studio Wine Shop Alhambra Yoga Studio Wine Shop Ice Cream Shop Alondra Park French Restaurant Yoga Studio Wine Shop Altadena Pizza Place Yoga Studio Italian Restaurant Angeles Crest Restaurant Yoga Studio Italian Restaurant Arcadia Taiwanese Restaurant Yoga Studio College Residence Hall Arleta Breakfast Spot Yoga Studio Concert Hall Arlington Heights Park Yoga Studio Italian Restaurant Artesia Breakfast Spot Yoga Studio Italian Restaurant Athens Movie Theater Yoga Studio Concert Hall Athens Movie Theater Yoga Studio Italian Restaurant Atwater Village Wine Shop Yoga Studio Ice Cream Shop Avalon Gym Yoga Studio Ice Cream Shop Avalon Gym Yoga Studio Concert Hall Azusa Farmers Market Yoga Studio Wine Shop Baldwin Hills/Crenshaw Theater Yoga Studio College Residence Hall Baldwin Park Art Museum Yoga Studio Concert Hall	Agoura Hills Sandwich Place Yoga Studio College Residence Hall Hotel Agua Dulce Ice Cream Shop Yoga Studio Wine Shop Hotel Alhambra Yoga Studio Wine Shop Ice Cream Shop Hotel Alondra Park French Restaurant Yoga Studio Wine Shop Ice Cream Shop Altadena Pizza Place Yoga Studio Italian Restaurant Hotel Angeles Crest Restaurant Yoga Studio Italian Restaurant Hotel Arcadia Taiwanese Restaurant Yoga Studio College Residence Hall Hotel Arleta Breakfast Spot Yoga Studio Concert Hall Ice Cream Shop Arlington Heights Park Yoga Studio Italian Restaurant Hotel Artesia Breakfast Spot Yoga Studio Concert Hall Ice Cream Shop Athens Movie Theater Yoga Studio Italian Restaurant Hotel Atwater Village Wine Shop Yoga Studio Ice Cream Shop Hotel Avalon Gym Yoga Studio Ice Cream Shop Hotel Avalon Gym Yoga Studio Wine Shop Ice Cream Shop Avocado Heights Basketball Stadium Yoga Studio Concert Hall Ice Cream Shop Baldwin Theater Yoga Studio Wine Shop Ice Cream Shop Baldwin Theater Yoga Studio Wine Shop Ice Cream Shop Baldwin Theater Yoga Studio Concert Hall Ice Cream Shop Baldwin Theater Yoga Studio College Residence Hall Hotel Baldwin Park Art Museum Yoga Studio Concert Hall Ice Cream Shop

In [32]:

#select neighborhoods where 1stMost Common Venue Korean rest. and 2nd most common venue is Coffee Shop #I need to establish a venue of Korean BBQ and Boba tea in the area.

df\_Korean1st= neighborhoods\_venues\_sorted.loc[neighborhoods\_venues\_sorted['1st Most Common Venue'] == 'Korean
df\_Korean1st

Out[32]:

	Neighborhood_name	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue
0	Acton	Korean Restaurant	Wine Shop	Ice Cream Shop	Hotel	Home Service

In [33]:

df\_Coffee1st= neighborhoods\_venues\_sorted.loc[neighborhoods\_venues\_sorted['1st Most Common Venue'] == 'Coffee
df\_Coffee1st

Out[33]:

	Neighborhood_name	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue
1	Adams-Normandie	Coffee Shop	Yoga Studio	Concert Hall	Ice Cream Shop	Hotel
30	Broadway- Manchester	Coffee Shop	Yoga Studio	Concert Hall	Ice Cream Shop	Hotel
44	Chesterfield Square	Coffee Shop	Yoga Studio	Concert Hall	Ice Cream Shop	Hotel
47	Citrus	Coffee Shop	Yoga Studio	Concert Hall	Ice Cream Shop	Hotel
59	Downey	Coffee Shop	Yoga Studio	Concert Hall	Ice Cream Shop	Hotel
77	Exposition Park	Coffee Shop	Yoga Studio	Concert Hall	Ice Cream Shop	Hotel
82	Glassell Park	Coffee Shop	Yoga Studio	Concert Hall	Ice Cream Shop	Hotel
91	Hancock Park	Coffee Shop	Yoga Studio	Concert Hall	Ice Cream Shop	Hotel
96	Northridge	Coffee Shop	Yoga Studio	Concert Hall	Ice Cream Shop	Hotel

In [34]:

df\_Coff\_Kor= [df\_Korean1st,df\_Coffee1st]
result = pd.concat(df\_Coff\_Kor)

result

Out[34]:

	Neighborhood_name	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue
0	Acton	Korean Restaurant	Wine Shop	Ice Cream Shop	Hotel	Home Service
1	Adams-Normandie	Coffee Shop	Yoga Studio	Concert Hall	Ice Cream Shop	Hotel
30	Broadway- Manchester	Coffee Shop	Yoga Studio	Concert Hall	Ice Cream Shop	Hotel
44	Chesterfield Square	Coffee Shop	Yoga Studio	Concert Hall	Ice Cream Shop	Hotel
47	Citrus	Coffee Shop	Yoga Studio	Concert Hall	Ice Cream Shop	Hotel
59	Downey	Coffee Shop	Yoga Studio	Concert Hall	Ice Cream Shop	Hotel
77	Exposition Park	Coffee Shop	Yoga Studio	Concert Hall	Ice Cream Shop	Hotel
82	Glassell Park	Coffee Shop	Yoga Studio	Concert Hall	Ice Cream Shop	Hotel
91	Hancock Park	Coffee Shop	Yoga Studio	Concert Hall	Ice Cream Shop	Hotel
96	Northridge	Coffee Shop	Yoga Studio	Concert Hall	Ice Cream Shop	Hotel

In [35]:

result\_location = result.join(LA\_data.set\_index('name'), on='Neighborhood\_name')
result\_location

Out[35]:

	Neighborhood_name	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	set	latitude	longitude
0	Acton	Korean Restaurant	Wine Shop	Ice Cream Shop	Hotel	Home Service	L.A. County Neighborhoods (Current)	-118.169810	34.497355
1	Adams-Normandie	Coffee Shop	Yoga Studio	Concert Hall	Ice Cream Shop	Hotel	L.A. County Neighborhoods (Current)	-118.300208	34.031461
30	Broadway- Manchester	Coffee Shop	Yoga Studio	Concert Hall	Ice Cream Shop	Hotel	L.A. County Neighborhoods (Current)	-118.275352	33.941224
44	Chesterfield Square	Coffee Shop	Yoga Studio	Concert Hall	Ice Cream Shop	Hotel	L.A. County Neighborhoods (Current)	-118.313208	33.983763
47	Citrus	Coffee Shop	Yoga Studio	Concert Hall	Ice Cream Shop	Hotel	L.A. County Neighborhoods (Current)	-117.892164	34.116180
59	Downey	Coffee Shop	Yoga Studio	Concert Hall	Ice Cream Shop	Hotel	L.A. County Neighborhoods (Current)	-118.130423	33.937677
77	Exposition Park	Coffee Shop	Yoga Studio	Concert Hall	Ice Cream Shop	Hotel	L.A. County Neighborhoods (Current)	-118.298876	34.018262
82	Glassell Park	Coffee Shop	Yoga Studio	Concert Hall	Ice Cream Shop	Hotel	L.A. County Neighborhoods (Current)	-118.236427	34.114405
91	Hancock Park	Coffee Shop	Yoga Studio	Concert Hall	Ice Cream Shop	Hotel	L.A. County Neighborhoods (Current)	-118.335009	34.072759
96	Northridge	Coffee Shop	Yoga Studio	Concert Hall	Ice Cream Shop	Hotel	L.A. County Neighborhoods (Current)	-118.527969	34.238805

In [36]:

#df results
result\_location['lng'] = result\_location['latitude']
result\_location.head()

Out[36]:

	Neighborhood_name	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	set	latitude	longitude	Ing
0	Acton	Korean Restaurant	Wine Shop	Ice Cream Shop	Hotel	Home Service	L.A. County Neighborhoods (Current)	-118.169810	34.497355	-118.169810
1	Adams-Normandie	Coffee Shop	Yoga Studio	Concert Hall	Ice Cream Shop	Hotel	L.A. County Neighborhoods (Current)	-118.300208	34.031461	-118.300208
30	Broadway- Manchester	Coffee Shop	Yoga Studio	Concert Hall	Ice Cream Shop	Hotel	L.A. County Neighborhoods (Current)	-118.275352	33.941224	-118.275352
44	Chesterfield Square	Coffee Shop	Yoga Studio	Concert Hall	Ice Cream Shop	Hotel	L.A. County Neighborhoods (Current)	-118.313208	33.983763	-118.313208
47	Citrus	Coffee Shop	Yoga Studio	Concert Hall	Ice Cream Shop	Hotel	L.A. County Neighborhoods (Current)	-117.892164	34.116180	-117.892164

In [37]:

result\_location['lat'] = result\_location['longitude']
result\_location

Out[37]:

In [38]:
Out[38]:

	Neighborhood_name	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	set	latitude	longitude	Ing	la
0	Acton	Korean Restaurant	Wine Shop	Ice Cream Shop	Hotel	Home Service	L.A. County Neighborhoods (Current)	-118.169810	34.497355	-118.169810	34.49735
1	Adams-Normandie	Coffee Shop	Yoga Studio	Concert Hall	Ice Cream Shop	Hotel	L.A. County Neighborhoods (Current)	-118.300208	34.031461	-118.300208	34.03146 <sup>-</sup>
30	Broadway- Manchester	Coffee Shop	Yoga Studio	Concert Hall	Ice Cream Shop	Hotel	L.A. County Neighborhoods (Current)	-118.275352	33.941224	-118.275352	33.94122
44	Chesterfield Square	Coffee Shop	Yoga Studio	Concert Hall	Ice Cream Shop	Hotel	L.A. County Neighborhoods (Current)	-118.313208	33.983763	-118.313208	33.98376
47	Citrus	Coffee Shop	Yoga Studio	Concert Hall	Ice Cream Shop	Hotel	L.A. County Neighborhoods (Current)	-117.892164	34.116180	-117.892164	34.11618
59	Downey	Coffee Shop	Yoga Studio	Concert Hall	Ice Cream Shop	Hotel	L.A. County Neighborhoods (Current)	-118.130423	33.937677	-118.130423	33.93767
77	Exposition Park	Coffee Shop	Yoga Studio	Concert Hall	Ice Cream Shop	Hotel	L.A. County Neighborhoods (Current)	-118.298876	34.018262	-118.298876	34.01826
82	Glassell Park	Coffee Shop	Yoga Studio	Concert Hall	Ice Cream Shop	Hotel	L.A. County Neighborhoods (Current)	-118.236427	34.114405	-118.236427	34.11440
91	Hancock Park	Coffee Shop	Yoga Studio	Concert Hall	Ice Cream Shop	Hotel	L.A. County Neighborhoods (Current)	-118.335009	34.072759	-118.335009	34.07275!
96	Northridge	Coffee Shop	Yoga Studio	Concert Hall	Ice Cream Shop	Hotel	L.A. County Neighborhoods (Current)	-118.527969	34.238805	-118.527969	34.23880

# Based on the above table, Acton is the only predominantly location for Korean Restaurants.

Conveniently, coffee shops are not on their top 5 lists of venues.

Make a Map of the Neighborhoods and Venues within top two picks

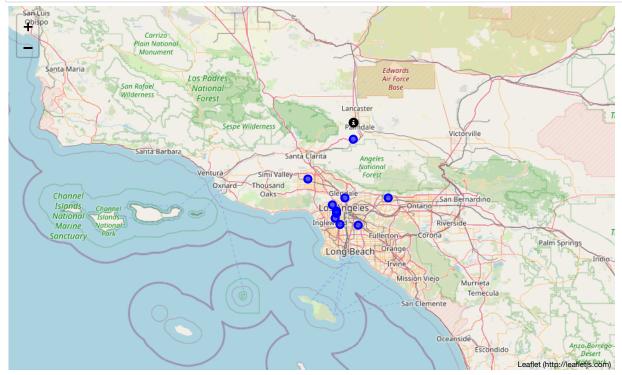
#### Make maps here

(10, 11)

# instantiate a feature group for the incidents in the dataframe incidents = folium.map.FeatureGroup() # loop through the 100 crimes and add each to the incidents feature group for lat, lng, in zip(df\_incidents.Y, df\_incidents.X): incidents.add\_child(folium.features.CircleMarker([lat, lng], radius=5, # define how big you want the circle markers to be color='yellow', fill=True, fill\_color='blue', fill\_opacity=0.6)) # add incidents to map sanfran\_map.add\_child(incidents)

```
In [40]:
           venues_map = folium.Map(location=[latitude, longitude], zoom_start=8) # generate map centred around the Conra
           # add a red circle marker to represent the Acton
           #folium.features.CircleMarker(
                [lat, lng],
                radius=10,
               # color='red',
               #popup='Citrus',
                fill = True,
                fill_color = 'red',
               fill_opacity = 0.6
             ).add_to(venues_map)
           folium.Marker(
               location=[34.497355, -118.169810],
               popup='Acton, Los Angeles',
               icon=folium.Icon(color='red', icon='info-sign')
           ).add_to(venues_map)
           # add the Italian restaurants as blue circle markers
           for lat, lng, Neighborhood_name in zip(result_location.lat, result_location.lng, result_location.Neighborhood
                folium.features.CircleMarker(
                   [lat, lng],
                   radius=5,
                   color='blue',
                   #popup=label,
                   fill = True,
                   fill_color='blue',
                   fill opacity=0.6
                ).add_to(venues_map)
           # display map
           venues_map
```

Out[40]:



The blue respresent the neighborhoods where Coffee Shops are the 1st most common venues otherwise listed as having a high concentration of coffee shops. Acton, Los Angeles (labels by the red drop dot) is secluded from these high coffee shop concesntrations and therefore represents a potential for growth in expanding the LA coffee drinking market to the Korean Resturant area. While catering to the Korean Restaurant foods and open in the late evening hours, caffeine drinks and possibly alcohol infusions will make a nice post concert hall evening.

In [ ]:

#use this as example for lat, lng, borough, neighborhood in zip(neighborhoods['Latitude'], neighborhoods['Longitude'], neighborhoods['Borough'], neighborhoods['Neighborhood']): label = '{}, {}'.format(neighborhood, borough) label = folium.Popup(label, parse\_html=True) folium.CircleMarker( [lat, lng], radius=5, popup=label, color='blue', fill=True, fill\_color='#3186cc', fill\_opacity=0.7, parse\_html=False).add\_to(map\_newyork)

In [ ]:	
In [ ]:	
In [ ]:	

### **Make Bar Charts Here of Top Restaurants**

In [84]: # use the inline backend to generate the plots within the browser
%matplotlib inline
import matplotlib as mpl
import matplotlib.pyplot as plt

mpl.style.use('ggplot') # optional: for ggplot-like style
# check for latest version of Matplotlib
print ('Matplotlib version: ', mpl.\_\_version\_\_) # >= 2.0.0

Matplotlib version: 3.3.0

In [99]: test=nearby\_venues
test.head()

Out[99]:

	Venue Name	Category	Lat	Lng	Neighborhood_name
0	Ahgassi Gopchang	Korean Restaurant	34.063397	-118.303863	Acton
1	Hae Jang Chon Korean BBQ Restaurant	Korean Restaurant	34.063888	-118.306075	Adams-Normandie
2	Kyochon Chicken	Korean Restaurant	34.063830	-118.306490	Agoura Hills
3	Byul Yang Gopchang	BBQ Joint	34.063668	-118.305999	Agua Dulce
4	BCD Tofu House	Korean Restaurant	34.061961	-118.302713	Alhambra

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Out	ΙL	UΔ	П	:

New Juny   18		Venue Name	Category	Lat	Lng	Neighborhood_name
	0	Ahgassi Gopchang	Korean Restaurant	34.063397	-118.303863	Acton
BBQ by Yang Qopchang   BBQ Joint   34.085666   118.30599   Agua Dulo   148.00590   Agua Dulo   148.00590   Agua Dulo   148.00591   118.30213   Alhambri   148.00591   118.30213   Alhambri   148.00591   118.30216   Alhambri   148.00591   118.30216   Alhambri   148.00591   118.30216   Alhambri   148.00591   118.30216   Alhambri   148.00591   Alhambri   Alhambri   148.00591   Alhambri   148.00591   Alhambri   148.00591   Alhambri   Alham	1	Hae Jang Chon Korean BBQ Restaurant	Korean Restaurant	34.063888	-118.306075	Adams-Normandie
	2	Kyochon Chicken	Korean Restaurant	34.063830	-118.306490	Agoura Hills
Sushi One	3	Byul Yang Gopchang	BBQ Joint	34.063668	-118.305999	Agua Dulce
	4	BCD Tofu House	Korean Restaurant	34.061961	-118.302713	Alhambra
*** *** *** *** *** *** *** *** ***	5	Sushi One	Sushi Restaurant	34.063571	-118.308160	Alondra Park
Bumsan Organic Milk Bar 10c Cream Shop 11c Score Name 11c Ubattuba Açai Brazillar Restaurant 11c Ubattuba Monty's Good Burger Burger Joint 11c Ubattuba 11c Uba	6	Seoul Pho	Vietnamese Restaurant	34.065871	-118.308796	Artesia
Bumsan Organic Mik Bar   Lec Cream Shop   34,084297   -118,3096052   Arcadi   10   Caffe Concerto   Caffe   34,083057   -118,3096355   Artat   11   Ubatuba Açai   Brazilian Restaurant   34,083057   -118,309535   Artint   12   Yang san bak   Korean Restaurant   34,083055   -118,309575   Arlington Height   12   Yang san bak   Korean Restaurant   34,084057   -118,309576   Arbitater Villag   13   Monty's Good Burger   Burger John   34,084797   -118,309581   Arbitater Villag   14   Han Bat Sul Lung Tang   Korean Restaurant   34,086474   -118,309581   Avocado Height   16   30   30   30   30   30   30   30   3	7	Cafe Nandarang	Café	34.063816	-118.305862	Altadena
11	8	The Normandie Club	Hotel Bar	34.063555	-118.300856	Angeles Crest
1	9	Bumsan Organic Milk Bar	Ice Cream Shop	34.064297	-118.309052	Arcadia
Yang san bak   Korean Restaurant   34.06395   118.300540   Athen   Athen   13   Monty's Good Burger   Burger Joint   34.06497   118.309341   Atwater Villag	10	Caffe Concerto	Café	34.063057	-118.306395	Arleta
13 Monty's Good Burger Burger Joint 34.084787 - 118.309034 Atwater Villag 14 Han Bat Sul Lung Tang Korean Restaurant 34.085474 - 118.309471 Avalo 155 Brothers BBQ 製用設計 Korean Restaurant 34.083416 - 118.302565 Avocado Height 16 Jun Won Korean Restaurant 34.083417 - 118.309586 Avocado Height 17 YUPDDUK LA Korean Restaurant 34.083417 - 118.309586 Vermon-15aubt 17 YUPDDUK LA Korean Restaurant 34.083417 - 118.309586 Vermon-15aubt 19 H Mart Grocery Store 34.082917 - 118.309587 Baldwin Par 20 The Wiltern Concert Hall 34.082940 - 118.309573 Baldwin Par 21 The LINE Hotel The LINE Hotel Hotel 34.082940 - 118.309586 Belifower 19 The LINE Hotel Hotel 34.082940 - 118.309586 Belifower 19 The LINE Hotel Hotel 34.082940 - 118.309598 Belifower 19 The LINE Hotel Hotel 34.082947 - 118.309999 Belifower 19 The LINE Hotel Hotel 34.082947 - 118.309999 Belifower 19 The LINE Hotel Hotel 34.082947 - 118.309999 Belifower 19 The LINE Hotel Hotel Substantiant 34.082967 - 118.309999 Belifower 19 The LINE Hotel Hotel Substantiant 34.082967 - 118.309999 Belifower 19 The LINE Hotel Hotel Substantiant 34.082967 - 118.309999 Belifower 19 The Substantiant 34.082969 Belifower 19 The Substantiant 34.08296 Belifower 19 The Substantiant 34.08296 Belifower 19 The S	11	Ubatuba Açai	Brazilian Restaurant	34.063906	-118.309375	Arlington Heights
15   Brothers BBQ 營州營世   Korean Restaurant   34.085474   118.309471   Available   118.309471   Baldwin Hills (Crenshan   118.309471   Available   118.309471   Available   118.309471   Baldwin Hills (Crenshan   118.309471   Available   Availa	12	Yang san bak	Korean Restaurant	34.063955	-118.300540	Athens
15	13	Monty's Good Burger	Burger Joint	34.064797	-118.309034	Atwater Village
16	14	Han Bat Sul Lung Tang	Korean Restaurant	34.065474	-118.309471	Avalon
17	15	Brothers BBQ 형제갈비	Korean Restaurant	34.063416	-118.302565	Avocado Heights
Burger Joint   Al-083417   -118.300411   Baldwin Hills/Crens Park   148.00412   -118.309473   Baldwin Park   148.00412   -118.309474	16	Jun Won	Korean Restaurant	34.066871	-118.308867	Azusa
Part	17	YUPDDUK LA	Korean Restaurant	34.063813	-118.300586	Vermont-Slauson
24	18	Cassell's Hamburgers	Burger Joint	34.063417	-118.300411	Baldwin Hills/Crenshaw
21	19	H Mart	Grocery Store	34.062955	-118.309737	Baldwin Park
Bell Garden	20	The Wiltern	Concert Hall	34.061200	-118.308454	Bel-Air
24 Sul & Beans Dessert Shop 34.061798 -118.300865 Green Valle 24 Sul & Beans Dessert Shop 34.062958 -118.310013 Beans Dessert Shop 34.062958 -118.310013 Beans Dessert Shop 34.062958 -118.300190 Beverly Cres 34.061734 -118.301980 Beverly Cres 34.061734 -118.301980 Beverly Cres 34.061734 -118.301980 Beverly Cres 34.061734 -118.301980 Beverly Grov 34.06180 -118.300318 Beverly Grov 34.06180 -118.30188 Beverly Hill 34.06180 Break Room 86 Speakeasy 34.06180 -118.30188 Beverly Hill 35 Myung Dong Kyoja (원통교자) (Myung Dong Kyoja) Korean Restaurant 34.061495 -118.304077 Boyle Height 34.06180 -118.30477 Boyle Height 35 Myung Dong Kyoja (원통교자) (Myung Dong Kyoja) Korean Restaurant 34.061495 -118.304077 Boyle Height 35 Myung Dong Kyoja (원통교자) (Myung Dong Kyoja) Korean Restaurant 34.061873 -118.308937 Bradbur 34.06180 -118.308938 Calabasa 36 Pool at Line Hotel Pool 34.06174 -118.301374 Canoga Par 37 Paris Baguette Bakery 34.06290 -118.309452 Carso 34.06180 -118.309454 Castaic Caryon 34.06180 -118.309456 Castaic Caryon 34.06180 -118.309456 Castaic Caryon 34.06180 -118.309456 Castaic Caryon 34.061	21	The LINE Hotel	Hotel	34.062040	-118.300909	Bellflower
24 Sul & Beans Dessert Shop 34.062958 -118.310013 Beans Dessert Shop 34.062958 -118.30013 Beaverly Cres Bonjuk Korean Restaurant 34.061734 -118.301980 Beverly Cres 34.061756 -118.301980 Beverly Grov 34.061801 -118.301880 Beverly Hill 350 Beverly Hill 350 Beverly Myung Dong Kyoja (병통교자) (Myung Dong Kyoja) Korean Restaurant 34.061803 -118.301808 Beverly Hill 351 Myung Dong Kyoja (병통교자) (Myung Dong Kyoja) Korean Restaurant 34.061803 -118.308931 Beverly Wood 34.061801 -118.301808 Beverly Hill 351 Beverly Myung Dong Kyoja (병통교자) (Myung Dong Kyoja) Korean Restaurant 34.061803 -118.308931 Broadway-Mancheste 34.061801 -118.301801 Broadway-Mancheste 34.061801	22	somi somi	Ice Cream Shop	34.062967	-118.309696	Bell Gardens
25	23	Poketo	Clothing Store	34.061798	-118.300865	Green Valley
Beverly Grove	24	Sul & Beans	Dessert Shop	34.062958	-118.310013	Bell
27 Ddong Ggo Korean Restaurant 34.064442 -118.308654 Burban 28 Bon Shabu Shabu Restaurant 34.063519 -118.302010 Koreatow 29 Break Room 86 Speakeasy 34.061803 -118.302010 Koreatow 34.061803 -118.302010 Korean 82.0020 -118.302010 Beverly Wood 34.061803 -118.302010 Beverly Wood 34.061803 -118.302010 Beverly Wood 34.061803 -118.302017 Boyle Height 32 Feng Mao Asian Restaurant 34.061803 -118.302017 Boyle Height 32 Feng Mao Asian Restaurant 34.061803 -118.302017 Bradbur 34.061804 -118.302017 Boyle Height 32 Feng Mao Asian Restaurant 34.061804 -118.302017 Broadway-Manchester 35 Mapo Kkak Du Gi (마포객투기) Korean Restaurant 34.063822 -118.302010 Broadway-Manchester 35 Mapo Kkak Du Gi (마포객투기) Korean Restaurant 34.063822 -118.302010 Broadway-Manchester 36 Mapo Kkak Du Gi (마포객투기) Korean Restaurant 34.063822 -118.302010 Broadway-Manchester 36 Mapo Kkak Du Gi (마포객투기) Korean Restaurant 34.063822 -118.302010 Calabasa 36 Madang Plaza Shopping Mall 34.062902 -118.302010 Carso 34.062900 -118.302010 Carso 34.062900 -118.302010 Carso 34.062900 -118.302010 Carso 34.062900 Myungrang Hot Dog (영광학도) Food Service 34.061409 -118.305766 Castaic Canyon 40 Myungrang Hot Dog (영광학도) Food Service 34.067135 -118.302017 Century Cit 41 Anko by Serve O Café Korean Restaurant 34.062901 -118.302017 Century Cit 41 Yerim Korean BBQ Korean Restaurant 34.068971 -118.302017 Century Cit 44 Yerim Korean BBQ Korean Restaurant 34.06300 -118.305750 Charter Oat 45 Orangetheory Fitness Gym / Fitness Center 34.061505 -118.305750 Charter Oat 45 Orangetheory Fitness Gym / Fitness Center 54.061505 -118.305750 Charter Oat 45 Orangetheory Fitness Gym / Fitness Center 54.061505 -118.305750 Charter Oat 45 Orangetheory Fitness Gym / Fitness Center 54.061505 -118.305750 Charter Oat 45 Orangetheory Fitness Gym / Fitness Center 54.061505 -118.305750 Charter Oat 45 Orangetheory Fitness Center 54.061505 -118.305750 Charter O	25	Bonjuk	Korean Restaurant	34.061734	-118.301980	Beverly Crest
Bon Shabu Bon Shabu Shabu-Shabu Restaurant 34.063519 -118.302010 Koreatow 34.061803 -118.302010 Koreatow 34.061803 -118.301088 Beverly Hill 30 Kashira Japanese Restaurant 34.061963 -118.308933 Beverlywood 31 Myung Dong Kyoja (명동교자) (Myung Peng Mao Asian Restaurant 34.061747 -118.308937 Bradbur 34 (18.308934 Pang Mada Pang Mapo Kkak Du Gi (마포객두기) Korean Restaurant 34.06290 -118.309817 Broadway-Mancheste 35 (Mapo Kkak Du Gi (마포객두기) Korean Restaurant 34.06382 -118.30893 Calabasa 36 Pool at Line Hotel Pool 34.061744 -118.301374 Canoga Pang Pang Baguette Bakery 34.062902 -118.309452 Carsoo 38 (Madang Plaza Shopping Mall 34.062956 -118.309763 Cartha 39 Alchemist Coffee Project at The Pearl Coffee Shop 34.061409 -118.309576 Castaic Canyon 40 Myungrang Hot Dog (명령 핫도그) Food Service 34.065654 -118.308998 Castaic 42 Jangchungdong Pork Feet Korean Restaurant 34.066400 -118.309576 Central-Alamed 43 The Kimbap Korean Restaurant 34.068971 -118.309517 Central-Alamed 44 Yerim Korean BBQ Korean Restaurant 34.068971 -118.305157 Central-Alamed 45 Orangetheory Fitness Gym / Fitness Center 34.061505 -118.305157 Central-Alamed 45 Orangetheory Fitness Gym / Fitness Center 34.061605 -118.305157 Central-Alamed 45 Orangetheory Fitness Gym / Fitness Center 34.061605 -118.305157 Central-Alamed 45 Orangetheory Fitness Gym / Fitness Center 34.061605 -118.305157 Central-Alamed 45 Orangetheory Fitness Gym / Fitness Center 34.061605 -118.305157 Central-Alamed 45 Orangetheory Fitness Center 34.061605 -118.305157 Central-Alamed 45 Orangetheory Fitness Center 34.061605 -118.305157 Charter 45 Orangetheory Fitness Center 34.061605 -118.305157 Charter 45	26	Alfred Coffee Koreatown	Café	34.061756	-118.300938	Beverly Grove
Break Room 86 Speakeasy 34.061803 -118.301088 Beverly Hill 30 Kashira Japanese Restaurant 34.061963 -118.308933 Beverly Wood 14 Myung Dong Kyoja (명동교자) (Myung Dong Kyoja) Korean Restaurant 34.061963 -118.308937 Boyle Height 32 Feng Mao Asian Restaurant 34.061495 -118.308937 Bradbur 34 Mood 14 Myung Dong Kyoja (명동교자) (Myung Dong Kyoja) Korean Restaurant 34.061495 -118.308937 Bradbur 34 Mood 14 Myung Dong Kyoja (명동교자) (Myung Dong Kyoja) Korean Restaurant 34.061495 -118.308937 Bradbur 34 Mood 14 Mapo Kkak Du Gi (미포객투기) Korean Restaurant 34.063822 -118.309817 Broadway-Mancheste 35 Mapo Kkak Du Gi (미포객투기) Korean Restaurant 34.063822 -118.309817 Broadway-Mancheste 36 Mapo Kkak Du Gi (미포객투기) Korean Restaurant 34.063822 -118.309817 Canoga Par 37 Paris Baguette Bakery 34.062902 -118.309452 Carso 38 Madang Plaza Shopping Mall 34.062956 -118.309452 Carso 39 Alchemist Coffee Project at The Pearl Coffee Shop 34.061409 -118.305746 Castaic Canyon 40 Myungrang Hot Dog (명량 핫도그) Food Service 34.065654 -118.30898 Castaic Cardon 41 Anko by Serve O Café 34.067135 -118.308998 Castaic 42 Jangchungdong Pork Feet Korean Restaurant 34.066460 -118.309576 Central-Alamed 43 The Kimbap Korean Restaurant 34.068971 -118.305157 Century Cit 44 Yerim Korean BBQ Korean Restaurant 34.068971 -118.305735 Charter Oat 45 Myungrang Hot Dog (명량 Myungrang BBQ Korean Restaurant 34.068971 -118.305735 Charter Oat 45 Myungrang M	27	Ddong Ggo	Korean Restaurant	34.064442	-118.308654	Burbank
30 Kashira Japanese Restaurant 34.061963 -118.308933 Beverlywood Myung Dong Kyoja (병동교자) (Myung Dong Kyoja) Korean Restaurant 34.061495 -118.304077 Boyle Height 32 Feng Mao Asian Restaurant 34.061495 -118.308937 Bradbur 34.066873 -118.308937 Bradbur 34.066980 -118.309817 Broadway-Mancheste 35 Mapo Kkak Du Gi (마포객두기) Korean Restaurant 34.062980 -118.309809 Calabasa 36 Pool at Line Hotel Pool 34.061744 -118.301374 Canoga Par 37 Paris Baguette Bakery 34.062902 -118.309452 Carso 38 Madang Plaza Shopping Mall 34.062902 -118.309763 Cartha 39 Alchemist Coffee Project at The Pearl Coffee Shop 34.061409 -118.305746 Castaic Canyon 40 Myungrang Hot Dog (영향 핫도그) Food Service 34.067135 -118.30898 Castai 42 Jangchungdong Pork Feet Korean Restaurant 34.066460 -118.30976 Central-Alamed 43 The Kimbap Korean Restaurant 34.068971 -118.30917 Century Cit 44 Yerim Korean BBQ Korean Restaurant 34.068971 -118.305735 Charter 04.06456 Orangetheory Fitness Gym / Fitness Center 34.061505 -118.305735 Charter 04.06456	28	Bon Shabu	Shabu-Shabu Restaurant	34.063519	-118.302010	Koreatown
31 Myung Dong Kyoja (명동교자) (Myung Dong Kyoja) 32 Feng Mao Asian Restaurant 34.061495 -118.304077 Boyle Height 33 Roll Roll Roll 34 Daiso Japan Convenience Store 34.062980 -118.309817 Broadway-Mancheste 35 Mapo Kkak Du Gi (마포깍두기) Korean Restaurant 34.063822 -118.309817 Broadway-Mancheste 36 Pool at Line Hotel Pool 34.061744 -118.301374 Canoga Par 37 Paris Baguette Bakery 34.062902 -118.309452 Carso 38 Madang Plaza Shopping Mall 34.062905 -118.309763 Cartha 39 Alchemist Coffee Project at The Pearl Coffee Shop 34.061409 -118.305746 Castaic Canyon 40 Myungrang Hot Dog (명랑 핫도그) Food Service 34.065654 -118.308998 Castai 41 Anko by Serve O Café 34.067135 -118.308998 Castai 42 Jangchungdong Pork Feet Korean Restaurant 34.063971 -118.309763 Central-Alamed 43 The Kimbap Korean Bestaurant 34.068971 -118.305735 Cerrito 44 Yerim Korean BBQ Korean Restaurant 34.068971 -118.305735 Charter Oat 45 Orangetheory Fitness Gym / Fitness Center 34.061505 -118.305735 Charter Oat	29	Break Room 86	Speakeasy	34.061803	-118.301088	Beverly Hills
32 Feng Mao Asian Restaurant 34.06873 -118.308937 Bradbur 33 Roll Roll Roll Roll Sushi Restaurant 34.061747 -118.305866 Brentwood 34 Daiso Japan Convenience Store 34.062980 -118.309817 Broadway-Manchester 35 Mapo Kkak Du Gi (마포깍두기) Korean Restaurant 34.063822 -118.300809 Calabasa 36 Pool at Line Hotel Pool 34.061744 -118.301374 Canoga Par 37 Paris Baguette Bakery 34.062902 -118.309452 Carsol 38 Madang Plaza Shopping Mall 34.062956 -118.309763 Cartha 39 Alchemist Coffee Project at The Pearl Coffee Shop 34.061409 -118.305746 Castaic Canyon 40 Myungrang Hot Dog (명량 핫도그) Food Service 34.065654 -118.308696 Chatswort 41 Anko by Serve O Café 34.067135 -118.308998 Castaic 42 Jangchungdong Pork Feet Korean Restaurant 34.066460 -118.309576 Central-Alamed 43 The Kimbap Korean Restaurant 34.068971 -118.305157 Cerrito 45 Orangetheory Fitness Gym / Fitness Center 34.061505 -118.305735 Charter Oa	30	Kashira	Japanese Restaurant	34.061963	-118.308933	Beverlywood
33 Roll Roll Roll Roll Sushi Restaurant 34.061747 -118.305866 Brentwood 34 Daiso Japan Convenience Store 34.062980 -118.309817 Broadway-Manchester 35 Mapo Kkak Du Gi (마포깍두기) Korean Restaurant 34.063822 -118.300809 Calabasa 36 Pool at Line Hotel Pool 34.061744 -118.301374 Canoga Par 37 Paris Baguette Bakery 34.062902 -118.309452 Carso 38 Madang Plaza Shopping Mall 34.062956 -118.309763 Cartha 39 Alchemist Coffee Project at The Pearl Coffee Shop 34.061409 -118.305746 Castaic Canyon 40 Myungrang Hot Dog (영란 핫도그) Food Service 34.065654 -118.308696 Chatswort 41 Anko by Serve O Café 34.067135 -118.308998 Castaic 42 Jangchungdong Pork Feet Korean Restaurant 34.066460 -118.309576 Central-Alamed 43 The Kimbap Korean Restaurant 34.067132 -118.309017 Century Cit 44 Yerim Korean BBQ Korean Restaurant 34.061505 -118.305735 Charter Oa 54.067135 Char	31	Myung Dong Kyoja (명동교자) (Myung Dong Kyoja)	Korean Restaurant	34.061495	-118.304077	Boyle Heights
34 Daiso Japan Convenience Store 34.062980 -118.309817 Broadway-Manchester 35 Mapo Kkak Du Gi (마포깍두기) Korean Restaurant 34.063822 -118.300809 Calabasa 36 Pool at Line Hotel Pool 34.061744 -118.301374 Canoga Par 37 Paris Baguette Bakery 34.062902 -118.309452 Carso 38 Madang Plaza Shopping Mall 34.062956 -118.309763 Cartha 39 Alchemist Coffee Project at The Pearl Coffee Shop 34.061409 -118.305746 Castaic Canyon 40 Myungrang Hot Dog (영향 핫도그) Food Service 34.065654 -118.308696 Chatswort 41 Anko by Serve O Café 34.067135 -118.308998 Castaic 42 Jangchungdong Pork Feet Korean Restaurant 34.066460 -118.309576 Central-Alamed 43 The Kimbap Korean Restaurant 34.0667132 -118.309017 Century Cit 44 Yerim Korean BBQ Korean Restaurant 34.061505 -118.305735 Charter Oa 54.061505 -118.305735 Charter	32	Feng Mao	Asian Restaurant	34.066873	-118.308937	Bradbury
35 Mapo Kkak Du Gi (마포깍두기) Korean Restaurant 34.063822 -118.300809 Calabasa 36 Pool at Line Hotel Pool 34.061744 -118.301374 Canoga Par 37 Paris Baguette Bakery 34.062902 -118.309452 Carso 38 Madang Plaza Shopping Mall 34.062956 -118.309763 Cartha 39 Alchemist Coffee Project at The Pearl Coffee Shop 34.061409 -118.305746 Castaic Canyon 40 Myungrang Hot Dog (영랑 핫도그) Food Service 34.065654 -118.308696 Chatswort 41 Anko by Serve O Café 34.067135 -118.308998 Castaic 42 Jangchungdong Pork Feet Korean Restaurant 34.066460 -118.309576 Central-Alamed 43 The Kimbap Korean Restaurant 34.066460 -118.309017 Century Cit 44 Yerim Korean BBQ Korean Restaurant 34.061305 -118.305735 Charter Oa 64566 Orangetheory Fitness Gym / Fitness Center 34.061505 -118.305735 Charter Oa 65666 Orangetheory Fitness Gym / Fitness Center 34.061505 -118.305735 Charter Oa 66666 Orangetheory Fitness Center 34.061505 -118.305735 Ch	33	Roll Roll	Sushi Restaurant	34.061747	-118.305866	Brentwood
36 Pool at Line Hotel Pool 34.061744 -118.301374 Canoga Part 37 Paris Baguette Bakery 34.062902 -118.309452 Carsol 38 Madang Plaza Shopping Mall 34.062956 -118.309763 Cartha 39 Alchemist Coffee Project at The Pearl Coffee Shop 34.061409 -118.305746 Castaic Canyon 40 Myungrang Hot Dog (영란 핫도그) Food Service 34.065654 -118.308696 Chatswort 41 Anko by Serve O Café 34.067135 -118.308998 Castaic 42 Jangchungdong Pork Feet Korean Restaurant 34.067135 -118.309576 Central-Alamed 43 The Kimbap Korean Restaurant 34.067132 -118.309017 Century Cit 44 Yerim Korean BBQ Korean Restaurant 34.068971 -118.305735 Charter Oa 54.06565 Charter Oa 54.065654 Charter Oa 54.065	34	Daiso Japan	Convenience Store	34.062980	-118.309817	Broadway-Manchester
37 Paris Baguette Bakery 34.062902 -118.309452 Carson 38 Madang Plaza Shopping Mall 34.062956 -118.309763 Cartha 39 Alchemist Coffee Project at The Pearl Coffee Shop 34.061409 -118.305746 Castaic Canyon 40 Myungrang Hot Dog (영랑 핫도그) Food Service 34.065654 -118.308696 Chatswort 41 Anko by Serve O Café 34.067135 -118.308998 Castaic 42 Jangchungdong Pork Feet Korean Restaurant 34.066460 -118.309576 Central-Alamed 43 The Kimbap Korean Restaurant 34.067132 -118.309017 Century Cit 44 Yerim Korean BBQ Korean Restaurant 34.068971 -118.305157 Cerrito 45 Orangetheory Fitness Gym / Fitness Center 34.061505 -118.305735 Charter Oa	35	Mapo Kkak Du Gi (마포깍두기)	Korean Restaurant	34.063822	-118.300809	Calabasas
38 Madang Plaza Shopping Mall 34.062956 -118.309763 Cartha 39 Alchemist Coffee Project at The Pearl Coffee Shop 34.061409 -118.305746 Castaic Canyon 40 Myungrang Hot Dog (영란 핫도그) Food Service 34.065654 -118.308696 Chatswort 41 Anko by Serve O Café 34.067135 -118.308998 Castai 42 Jangchungdong Pork Feet Korean Restaurant 34.066460 -118.309576 Central-Alamed 43 The Kimbap Korean Restaurant 34.067132 -118.309017 Century Cit 44 Yerim Korean BBQ Korean Restaurant 34.068971 -118.305157 Cerrito 45 Orangetheory Fitness Gym / Fitness Center 34.061505 -118.305735 Charter Oa	36	Pool at Line Hotel	Pool	34.061744	-118.301374	Canoga Park
39 Alchemist Coffee Project at The Pearl Coffee Shop 34.061409 -118.305746 Castaic Canyon 40 Myungrang Hot Dog (영랑핫도그) Food Service 34.065654 -118.308696 Chatswort 41 Anko by Serve O Café 34.067135 -118.308998 Castai 42 Jangchungdong Pork Feet Korean Restaurant 34.066460 -118.309576 Central-Alamed 43 The Kimbap Korean Restaurant 34.067132 -118.309017 Century Cit 44 Yerim Korean BBQ Korean Restaurant 34.068971 -118.305157 Cerrito 45 Orangetheory Fitness Gym / Fitness Center 34.061505 -118.305735 Charter Oa	37	Paris Baguette	Bakery	34.062902	-118.309452	Carson
40 Myungrang Hot Dog (영랑핫도그) Food Service 34.065654 -118.308696 Chatsworth 41 Anko by Serve O Café 34.067135 -118.308998 Castai 42 Jangchungdong Pork Feet Korean Restaurant 34.066460 -118.309576 Central-Alamed 43 The Kimbap Korean Restaurant 34.067132 -118.309017 Century Cit 44 Yerim Korean BBQ Korean Restaurant 34.068971 -118.305157 Cerrito 45 Orangetheory Fitness Gym / Fitness Center 34.061505 -118.305735 Charter Oa	38	Madang Plaza	Shopping Mall	34.062956	-118.309763	Carthay
41         Anko by Serve O         Café         34.067135         -118.308998         Castain           42         Jangchungdong Pork Feet         Korean Restaurant         34.066460         -118.309576         Central-Alamed           43         The Kimbap         Korean Restaurant         34.067132         -118.309017         Century Cit           44         Yerim Korean BBQ         Korean Restaurant         34.068971         -118.305157         Cerrito           45         Orangetheory Fitness         Gym / Fitness Center         34.061505         -118.305735         Charter Oa	39	Alchemist Coffee Project at The Pearl	Coffee Shop	34.061409	-118.305746	Castaic Canyons
42         Jangchungdong Pork Feet         Korean Restaurant         34.066460         -118.309576         Central-Alamed           43         The Kimbap         Korean Restaurant         34.067132         -118.309017         Century Cit           44         Yerim Korean BBQ         Korean Restaurant         34.068971         -118.305157         Cerrito           45         Orangetheory Fitness         Gym / Fitness Center         34.061505         -118.305735         Charter Oa	40	Myungrang Hot Dog (명랑 핫도그)	Food Service	34.065654	-118.308696	Chatsworth
43         The Kimbap         Korean Restaurant         34.067132         -118.309017         Century Cit           44         Yerim Korean BBQ         Korean Restaurant         34.068971         -118.305157         Cerrito           45         Orangetheory Fitness         Gym / Fitness Center         34.061505         -118.305735         Charter Oa	41	Anko by Serve O	Café	34.067135	-118.308998	Castaic
44         Yerim Korean BBQ         Korean Restaurant         34.068971         -118.305157         Cerrito           45         Orangetheory Fitness         Gym / Fitness Center         34.061505         -118.305735         Charter Oa	42	Jangchungdong Pork Feet	Korean Restaurant	34.066460	-118.309576	Central-Alameda
45 Orangetheory Fitness Gym / Fitness Center 34.061505 -118.305735 Charter Oa	43	The Kimbap	Korean Restaurant	34.067132	-118.309017	Century City
	44	Yerim Korean BBQ	Korean Restaurant	34.068971	-118.305157	Cerritos
46 Beard Papa's Bakery 34.062849 -118.309189 Chatsworth Reservo	45	Orangetheory Fitness	Gym / Fitness Center	34.061505	-118.305735	Charter Oak
	46	Beard Papa's	Bakery	34.062849	-118.309189	Chatsworth Reservoir

	Venue Name	Category	Lat	Lng	Neighborhood_name
47	Gong Cha	Bubble Tea Shop	34.061789	-118.308835	Chesterfield Square
48	The Coffee Bean & Tea Leaf	Coffee Shop	34.065872	-118.308678	Cheviot Hills
49	Bulgogi Hut	Korean Restaurant	34.061529	-118.303221	Chinatown
50	Le Comptoir at the Hotel Normandie	Restaurant	34.063627	-118.300534	Citrus
51	Buil Samgye Tang	Korean Restaurant	34.068913	-118.305630	Claremont
52	Phoever Yum	Vietnamese Restaurant	34.066483	-118.309351	Northridge
53	Hotel Normandie	Hotel	34.063318	-118.300601	Commerce
54	Klat	Café	34.062845	-118.309160	Compton
55	Ombu Grill	Korean Restaurant	34.067036	-118.308823	Cypress Park
56	Openaire	Restaurant	34.061674	-118.300984	La Mirada
57	Fountains Of Wilshire Blvd	Scenic Lookout	34.062045	-118.307156	Covina
58	T-Mobile	Mobile Phone Shop	34.061561	-118.302962	Cudahy
59	Starbucks	Coffee Shop	34.061339	-118.306407	Culver City
60	Terra Cotta	Asian Restaurant	34.061697	-118.308202	Del Aire
61	Aroma Golf Range	Golf Course	34.060937	-118.306472	Del Rey
62	Apt 503	Lounge	34.061463	-118.306828	Desert View Highlands
63	Pachecos Tacos	Food Truck	34.061322	-118.301350	Diamond Bar
64	Redbox	Video Store	34.061700	-118.308010	Downey
65	Wells Fargo	Bank	34.061514	-118.302143	Downtown
66	Pharaoh Karaoke Lounge	Karaoke Bar	34.061523	-118.306666	Duarte
67	CVS pharmacy	Pharmacy	34.061927	-118.308149	Eagle Rock
68	Avis Car Rental	Rental Car Location	34.061397	-118.303813	East Compton
69	Chase Bank	Bank	34.062031	-118.307612	East Hollywood
70	Gowess Food Truck (Indonesian/Mexican)	Indonesian Restaurant	34.061718	-118.306871	East La Mirada
71	Starbucks	Coffee Shop	34.062126	-118.301079	Elizabeth Lake
72	Restaurant Namsan (남산)	Korean Restaurant	34.063755	-118.300827	East Los Angeles
73	JJ Grand Hotel	Hotel	34.062693	-118.304054	East Pasadena
74	Subway	Sandwich Place	34.061957	-118.305901	East San Gabriel
75	Cafe Scent	Korean Restaurant	34.060673	-118.306578	Echo Park
76	Denny's	Breakfast Spot	34.061271	-118.308028	El Monte

In [101]: # step 1 get data set and ready LA\_Korea=test[['Neighborhood\_name','Category']]

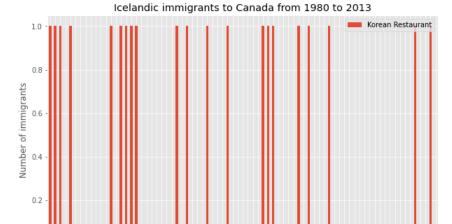
In [102]: LA\_Korea.head()

Out[102]:

	Neighborhood_name	Category		
0	Acton	Korean Restaurant		
1	Adams-Normandie	Korean Restaurant		
2	Agoura Hills	Korean Restaurant		
3	Agua Dulce	BBQ Joint		
4	Alhambra	Korean Restaurant		

```
In [91]: # step 2: plot data
LA_keepers.plot(kind='bar', figsize=(10, 6))

plt.xlabel('Year') # add to x-label to the plot
plt.ylabel('Number of Korean Restaurants') # add y-label to the plot
plt.title('Korean Resturants') # add title to the plot
plt.show()
```



```
In [ ]:
In [84]:
           # type your answer here
           LA_venues = getNearbyVenues(names=LA_data['name'],
                                               latitudes=LA_data['latitude'],
                                               longitudes=LA_data['longitude']
           Acton
                                                      Traceback (most recent call last)
           <ipython-input-84-0dc5fedc2bb0> in <module>
                 3 LA_venues = getNearbyVenues(names=LA_data['name'],
                                                       latitudes=LA_data['latitude'],
           ---> 5
                                                       longitudes=LA_data['longitude']
                 6
           <ipython-input-70-e7dc9769b37c> in getNearbyVenues(names, latitudes, longitudes, radius)
                16
                17
                           # make the GET request
           ---> 18
                           results = requests.get(url).json()["response"]['groups'][28]['items']
                19
                20
                           # return only relevant information for each nearby venue
```

KeyError: 'groups'

```
In [57]:
           LA_data.groupby('name').count().head()
Out[57]:
                           set latitude longitude
                     name
                     Acton
            Adams-Normandie
                 Agoura Hills
                 Agua Dulce
                  Alhambra
                           1
In [58]:
           print('There are {} uniques categories.'.format(len(LA_data['set'].unique())))
           There are 1 uniques categories.
In [59]:
           LA_onehot = pd.get_dummies(nearby_venues[['set']], prefix="", prefix_sep="")
           # add neighborhood column back to dataframe
           LA_onehot['name'] = LA_data['name']
           \# move neighborhood column to the first column
           fixed_columns = [La_onehot.columns[-1]] + list(LA_onehot.columns[:-1])
           LA_onehot = LA_onehot[fixed_columns]
           LA onehot.head()
                                                      Traceback (most recent call last)
           <ipython-input-59-8bac5d3ae154> in <module>
            ---> 1 LA_onehot = pd.get_dummies(nearby_venues[['set']], prefix="", prefix_sep="")
                 3 # add neighborhood column back to dataframe
                 4 LA_onehot['name'] = LA_data['name']
           ~/conda/envs/python/lib/python3.6/site-packages/pandas/core/frame.py in __getitem__(self, key)
                                if is_iterator(key):
              2903
              2904
                                    key = list(key)
            -> 2905
                                indexer = self.loc._get_listlike_indexer(key, axis=1, raise_missing=True)[1]
              2906
              2907
                            # take() does not accept boolean indexers
           ~/conda/envs/python/lib/python3.6/site-packages/pandas/core/indexing.py in _get_listlike_indexer(self, |
              1252
                                keyarr, indexer, new_indexer = ax._reindex_non_unique(keyarr)
              1253
            -> 1254
                            self._validate_read_indexer(keyarr, indexer, axis, raise_missing=raise_missing)
              1255
                            return keyarr, indexer
              1256
           ~/conda/envs/python/lib/python3.6/site-packages/pandas/core/indexing.py in _validate_read_indexer(self,
              1296
                                if missing == len(indexer):
              1297
                                    axis_name = self.obj._get_axis_name(axis)
            -> 1298
                                    raise KeyError(f"None of [{key}] are in the [{axis_name}]")
              1299
              1300
                                # We (temporarily) allow for some missing keys with .loc, except in
           KeyError: "None of [Index(['set'], dtype='object')] are in the [columns]"
```

In [ ]: