WHERE SHOULD I STAY IN TOKYO?

CATEGORIZING NEIGHBORHOODS REDUCE WORKLOAD ON PLANNING FOR TRAVELERS

- For a traveler, especially a first-time traveler, choosing a neighborhood to stay in a big city like Tokyo is a difficult and time-consuming decision.

- A neighborhood's style is usually presented in its most common types of venues.

- My preferred venues: coffee shops, souvenir shops.

- Clustering the neighborhoods in Tokyo based on their venues will help travelers:

  - Get the first feeling about the atmosphere of the neighborhoods

  - Narrow down the staying options

  - Not to spend hours to read reviews and articles of every neighborhoods

DATA ACQUISITION AND CLEANING

- 11 neighborhoods recommended by a traveling article for first-time traveler on Elite.

- Neighborhoods' locations from python geopyp library.

- Venue data from Foursquare API with the limit of 100 venues in 500-meter distance from each neighborhood's location.

- In total, 990 venues with 183 unique categories in 11 neighborhoods.

- The number of venues were grouped by each category and neighborhood, then summarized in a table of the 5 most common venue categories in each of 11 neighborhoods.

LOCATION OF 11 NEIGHBORHOODS IN TOKYO

MOST NEIGHBORHOODS REACHED THE LIMIT OF 100 VENUES

Neighborhood	Neighborhood Latitude	Neighborhood Longitude	Venue	Venue Latitude	Venue Longitude	Venue Category
Akihabara	100	100	100	100	100	100
Ginza	100	100	100	100	100	100
Harajuku	100	100	100	100	100	100
Kenji	53	53	53	53	53	53
Nakameguro	100	100	100	100	100	100
Odaiba	37	37	37	37	37	37
Roppongi	100	100	100	100	100	100
Shibuya	100	100	100	100	100	100
Shimokitazawa	100	100	100	100	100	100
Shinjuku	100	100	100	100	100	100
Ueno	100	100	100	100	100	100

This result can be improved by running several pairs of latitude-longitude for each neighborhood.

THE TOP 5 MOST COMMON VENUES

	Neighborhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue
0	Akihabara	Electronics Store	Hobby Shop	Café	Ramen Restaurant	Arcade
1	Ginza	Coffee Shop	Café	Japanese Restaurant	Boutique	Sushi Restaurant
2	Harajuku	Café	Clothing Store	Boutique	Coffee Shop	Thai Restaurant
3	Kenji	Hotel	French Restaurant	Creperie	Sushi Restaurant	Cupcake Shop
4	Nakameguro	Japanese Restaurant	BBQ Joint	Italian Restaurant	Coffee Shop	Sushi Restaurant
5	Odaiba	Convenience Store	Bus Stop	Intersection	Japanese Restaurant	Hot Spring
6	Roppongi	Japanese Restaurant	Steakhouse	Ramen Restaurant	Chinese Restaurant	Art Gallery
7	Shibuya	Café	Record Shop	Ramen Restaurant	Nightclub	Rock Club
8	Shimokitazawa	Café	Sake Bar	Coffee Shop	Bar	Ramen Restaurant
9	Shinjuku	Bar	Sake Bar	Ramen Restaurant	BBQ Joint	Record Shop
10	Ueno	Sake Bar	Japanese Restaurant	Ramen Restaurant	Chinese Restaurant	Bed & Breakfast

- Restaurants, café, and bars seem to be popular in most neighborhoods.

- However, each neighborhood has one special kind of venues such as hobby shop, hot spring, gallery, etc.

CLUSTERING RESULT

- Cluster 1: Restaurants & bars

	Neighborhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	Cluster Labels
0	Shinjuku	Bar	Sake Bar	Ramen Restaurant	BBQ Joint	Record Shop	0
5	Ueno	Sake Bar	Japanese Restaurant	Ramen Restaurant	Chinese Restaurant	Bed & Breakfast	0
8	Nakameguro	Japanese Restaurant	BBQ Joint	Italian Restaurant	Coffee Shop	Sushi Restaurant	0
9	Roppongi	Japanese Restaurant	Steakhouse	Ramen Restaurant	Chinese Restaurant	Art Gallery	0
10	Odaiba	Convenience Store	Bus Stop	Intersection	Japanese Restaurant	Hot Spring	0

CLUSTERING RESULT

- Cluster 2: Café and variety of shops

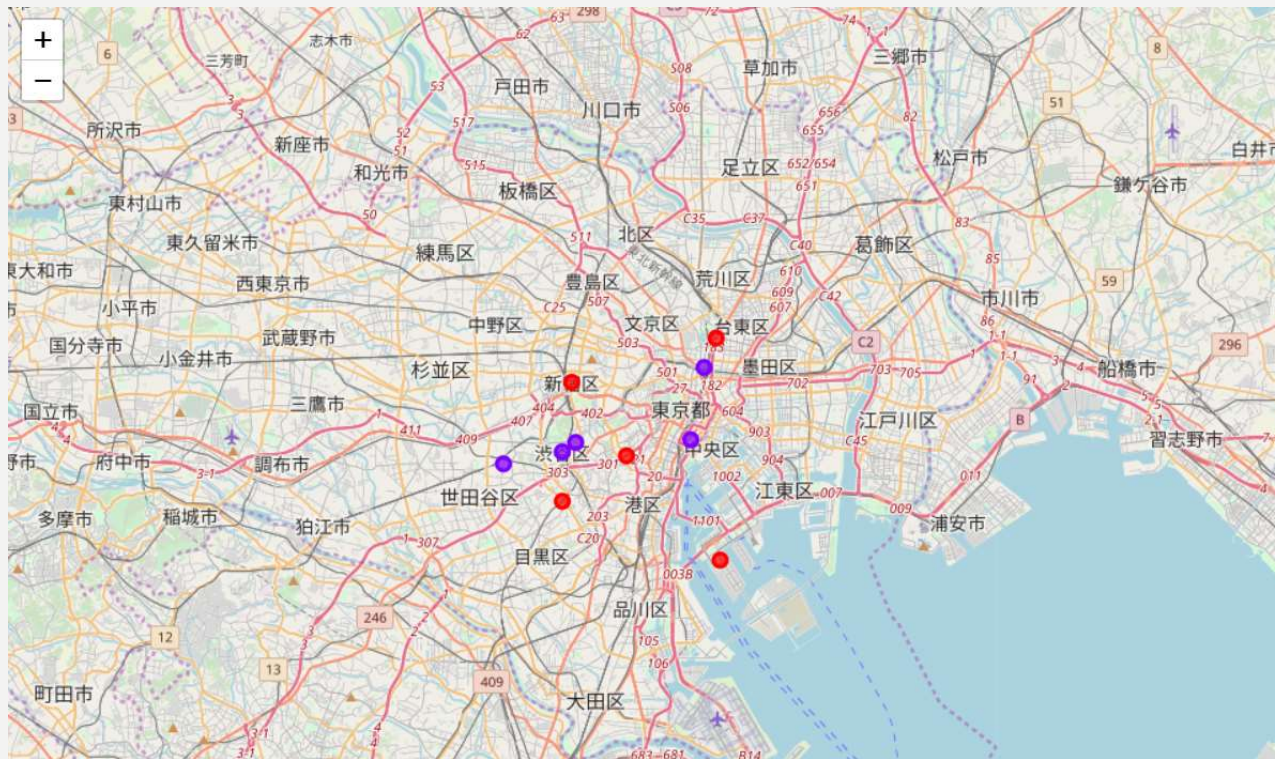|	Neighborhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	Cluster Labels
1	Shibuya	Café	Record Shop	Ramen Restaurant	Nightclub	Rock Club	1
2	Akihabara	Electronics Store	Hobby Shop	Café	Ramen Restaurant	Arcade	1
3	Harajuku	Café	Clothing Store	Boutique	Coffee Shop	Thai Restaurant	1
4	Ginza	Coffee Shop	Café	Japanese Restaurant	Boutique	Sushi Restaurant	1
6	Shimokitazawa	Café	Sake Bar	Coffee Shop	Bar	Ramen Restaurant	1

Since I prefer café and shops where I can buy interesting gifts for friends
=> I will look in neighborhoods in cluster 2 for a place to stay in my trip.

CLUSTERING RESULT

- Cluster 3: Hotels and restaurants

	Neighborhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	Cluster Labels
7	Kenji	Hotel	French Restaurant	Creperie	Sushi Restaurant	Cupcake Shop	2

CLUSTERING RESULT

- The neighborhoods in each cluster are far apart.

- To get better decision, I will add in further study the following information:
    - Attractions' locations
    - Room rates
    - Public transport

CONCLUSION

- 11 neighborhoods recommended for travelers in Tokyo can be categorized in 3 groups with different styles.

- For my preference, I will look in neighborhoods in cluster 2, café & shops, to plan my trip.

- The study has room for improvement:

  – Run with more pairs of latitude-longitude of each neighborhood

  – Add information on:

    - Attractions' location

    - Room rate

    - Public Transport