

A decorative graphic on the left side of the slide, consisting of a network of thin, light green lines that resemble a circuit board or a stylized tree. These lines are connected to small, empty circles at various points, creating a complex, branching pattern that extends from the top to the bottom of the frame.

# IDENTIFY A LOCATION TO START **TOY STORE** IN PARIS

## Abstract:

- City of Paris is well known for its art, fashion and museum
- In 2019, Paris has reported around 35.4 million tourists' arrivals. It has its major share in the France tourist income
- Tourism has contributed many direct and indirect employments. This tourist sector is made up mainly of service sectors such as hotels, leisure, retails, catering and transport.
- In this project we will identify **an optimal location for a Toy Store.**

## Data & Analysis

- There are 20 arrondissements in Paris, the details of same is obtained from following website - <https://frenchmoments.eu/arrondissements-of-paris>
- **BeautifulSoup** – is used to extract details such as Borough, Neighborhoods and Zip Code
- Using **geopy.geocoders**, the latitude and longitude of all locations are obtained
- **Pandas and clustering algorithm(Kmeans)** are used for data analysis
- **Folium** is used for Map representations.
- **FourSquare** API is used for obtaining Toy stores and venue details in all Paris locations.

# Arrondissements in Paris

- Below data is obtained after data scraping

Out[4]:

	Borough	Neighborhood	Postal Code	Latitude	Longitude
0	1st arrondissement	Louvre	75001	48.8646144	2.334396
1	2nd arrondissement	Bourse	75002	48.868743	2.341688
2	3rd arrondissement	Marais – north	75003	48.864212	2.360936
3	4th arrondissement	Marais – south, Notre-Dame	75004	48.8562021	2.3556193
4	5th arrondissement	Latin Quarter	75005	48.8460591	2.3445228
5	6th arrondissement	St. Germain-des-Prés, Luxembourg Garden	75006	48.8504333	2.3329507
6	7th arrondissement	Eiffel Tower, Invalides	75007	48.8570281	2.3201953
7	8th arrondissement	Arc de Triomphe, Champs-Élysées	75008	48.87225991745448	2.311689291751072
8	9th arrondissement	Opéra Garnier, Grands Boulevards	75009	48.876019	2.339962
9	10th arrondissement	Canal Saint-Martin	75010	48.876106	2.35991
10	11th arrondissement	Faubourg St. Antoine – Oberkampf	75011	48.858416	2.379703
11	12th arrondissement	Bercy, Bois de Vincennes	75012	48.8396154	2.3957517

## Toy Store Details

- Retrieve toy store details in all locations using FourSquare API.

Total Number of Toys store : 21

21]:

	index	Borough	Neighbourhood	Borough Latitude	Borough Longitude	Store Name	Venue Type	Store Latitude	Store Longitude
0	0	1st arrondissement	Louvre	48.8646144	2.334396	Toys"R"Us	Toy / Game Store	48.876202	2.324837
1	2	1st arrondissement	Louvre	48.8646144	2.334396	Pulp's Toys	Toy / Game Store	48.851367	2.346638
2	4	2nd arrondissement	Bourse	48.868743	2.341688	Toys"R"Us	Toy / Game Store	48.876202	2.324837
3	7	2nd arrondissement	Bourse	48.868743	2.341688	Pulp's Toys	Toy / Game Store	48.851367	2.346638
4	9	3rd arrondissement	Marais – north	48.864212	2.360936	Toys"R"Us	Toy / Game Store	48.859749	2.369441
5	11	3rd arrondissement	Marais – north	48.864212	2.360936	Manga Toys	Toy / Game Store	48.854262	2.376240

## Common Venues in all locations

- Retrieve all venue details in all locations using FourSquare API.
- Below is the Map representation of venues around each arrondissement





## Common Venues in all locations- Continued.....

- The list is further scrutinized to get the 15 most common locations in each neighborhood.

Out[77]:

	Borough	1st most common venue	2nd most common venue	3rd most common venue	4th most common venue	5th most common venue	6th most common venue	7th most common venue	8th most common venue	9th most common venue	10th most common venue	11th most common venue	12th most common venue
0	10th arrondissement	Coffee Shop	African Restaurant	French Restaurant	Breakfast Spot	Bakery	Salad Place	Juice Bar	Korean Restaurant	Seafood Restaurant	Shanxi Restaurant	Boxing Gym	Café
1	11th arrondissement	Bistro	Cocktail Bar	Wine Bar	French Restaurant	Moroccan Restaurant	Pizza Place	Park	Dance Studio	Beer Store	Mexican Restaurant	Record Shop	Restaurant
2	12th arrondissement	French Restaurant	Museum	Chinese Restaurant	Bistro	Bakery	Beer Bar	Department Store	Seafood Restaurant	Shopping Plaza	Portuguese Restaurant	Creperie	Farmers Market
3	13th arrondissement	French Restaurant	Japanese Restaurant	Asian Restaurant	Thai Restaurant	Park	Gaming Cafe	Basque Restaurant	Cambodian Restaurant	Dessert Shop	Italian Restaurant	Bistro	Put
4	14th arrondissement	French Restaurant	Bar	Bakery	Italian Restaurant	Tea Room	Brasserie	Japanese Restaurant	Ice Cream Shop	Gourmet Shop	Wine Shop	Art Gallery	Wine Bar
5	15th arrondissement	French Restaurant	Korean Restaurant	Park	Lebanese Restaurant	Italian Restaurant	Hotel	Corsican Restaurant	Plaza	Russian Restaurant	Pastry Shop	Bookstore	Indian Restaurant
6	16th arrondissement	French Restaurant	Hotel	Italian Restaurant	Plaza	Burger Joint	Garden	Restaurant	Bakery	Food & Drink Shop	Japanese Restaurant	Middle Eastern Restaurant	Museum
7	17th arrondissement	French Restaurant	Wine Bar	Bar	Coffee Shop	Farmers Market	Indian Restaurant	Pizza Place	Pastry Shop	Park	Creperie	Lebanese Restaurant	Korean Restaurant

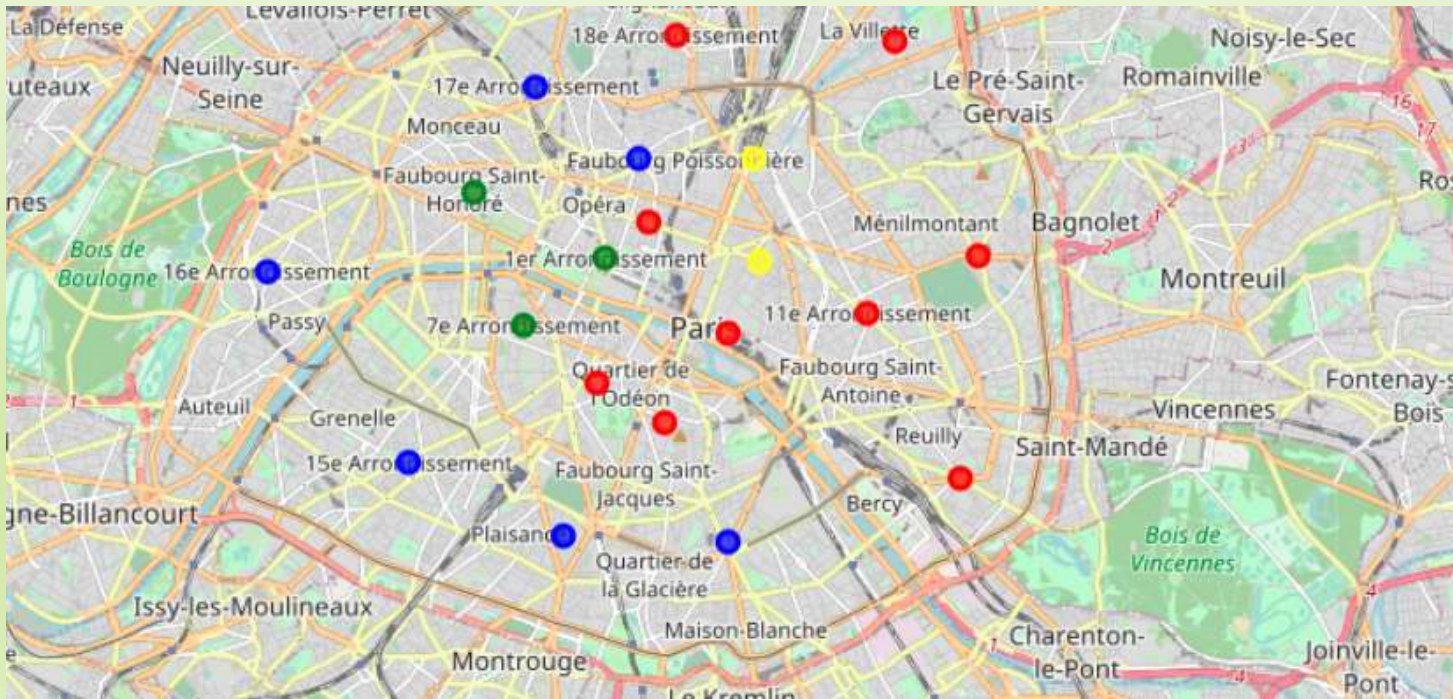
## Clustering

- The unsupervised cluster algorithm – Kmeans from Sklearn library is used for clustering. Clustering the data will help us to identify the venue density.
- In this case, we have considered the number of clusters as 4 and clustering done based on the venue types



## Clustering- Map representation

- Cluster 1 (Red) : Common venues are Restaurants and bars
- Cluster 2 (Blue) : Common venues are French Restaurants and bar
- Cluster 3 (Green) : Common venues are Restaurants and Museums.
- Cluster 4 (Yellow) : Coffee shops and restaurants



## Count of Toy Stores in each location:



## Conclusion:

- From the analysis done, following can be concluded
- in 7<sup>th</sup>, 10<sup>th</sup>, 13<sup>th</sup>, 14<sup>th</sup>, 15<sup>th</sup>, 16<sup>th</sup>, 18<sup>th</sup> and 20<sup>th</sup> arrondissements has no Toy stores
- Cluster 3 has museums and art gallery which will be most commonly visited by children.
- Also, the most famous – **Eiffel Tower**, is located at 7<sup>th</sup> Arrondissement. Hence the ideal place to start a Toy store will be at 7<sup>th</sup> Arrondissement.