



# Paris - Neighborhood cluster for Tourist agency

Younes Younsi

As a tourism agency we need to know  
which neighborhood are the same to  
**optimise the customer journey**

# Probleme description

My Client is a tourism agency, so I will focus on Paris borough during my analysis. The objective is to determine the 4 types of neighborhood of Paris city .

- how many Boroughs and neighborhoods are in Paris.
- how many neighborhoods are in each cluster.
- what are the particularities of each cluster.
- What are the best 5 clusters to visit

# Target Audience

	L_QU	C_AR	latitude	longitude
0	Monnaie	6	48.854384	2.340035
1	Odéon	6	48.847801	2.336339
2	Champs-Élysées	8	48.867074	2.308652
3	Maison-Blanche	13	48.823128	2.352433
4	Croulebarbe	13	48.833734	2.347673
...	...	...	...	...
75	Clignancourt	18	48.891668	2.345979
76	Goutte-d'Or	18	48.892138	2.355536
77	Rochechouart	9	48.879812	2.344861
78	Bercy	12	48.835209	2.386210
79	Halles	1	48.862289	2.344899

## Neighborhood Data

- the data for paris borough, Neighborhood, coordinates from the official web site of the Paris town :

[https://opendata.paris.fr/explore/dataset/quartier\\_paris/information/](https://opendata.paris.fr/explore/dataset/quartier_paris/information/)





# Venues Data

- Getting 30 first venues of each neighborhood on dataframe

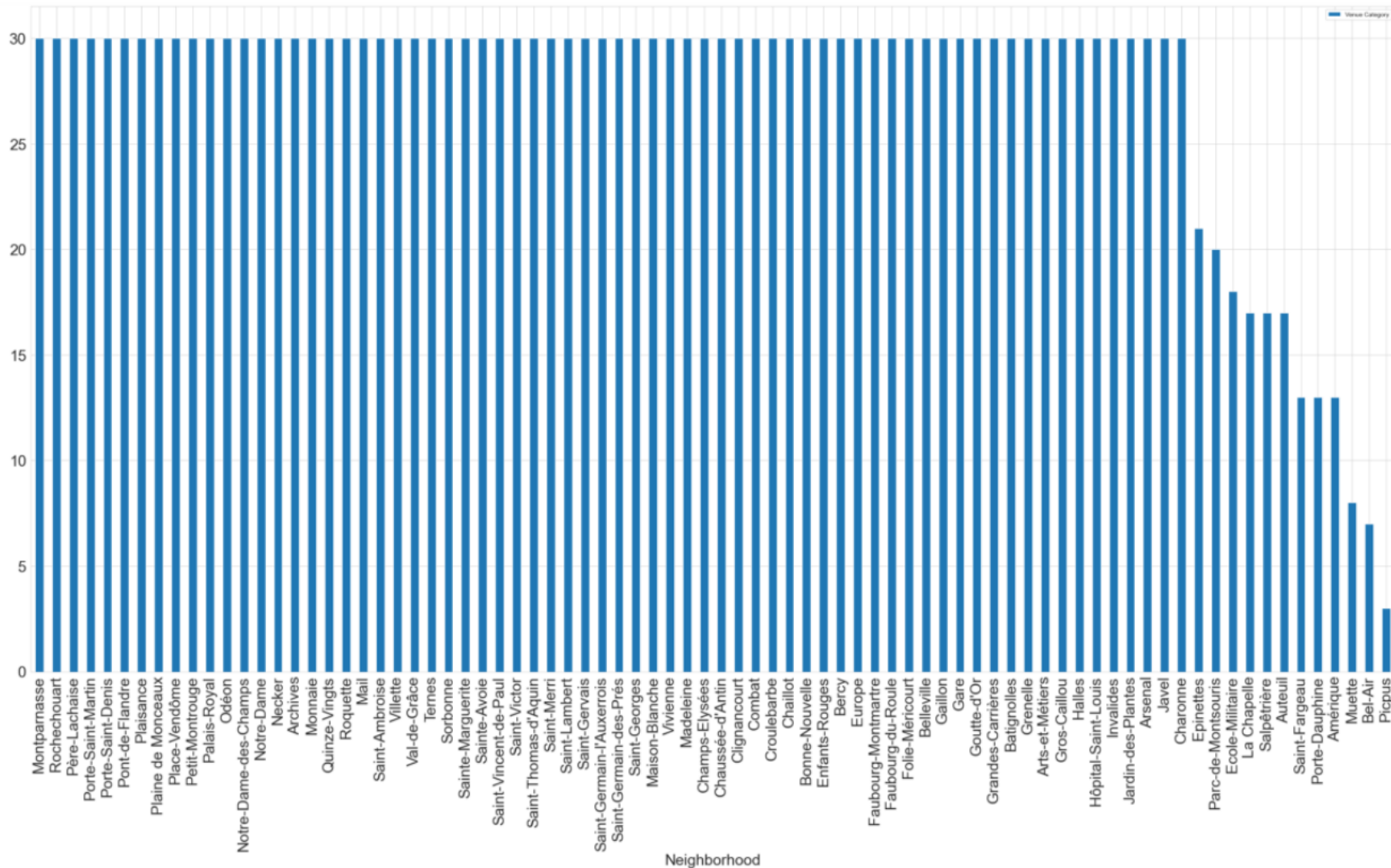
Source : (Foursquare)

	Neighborhood	Neighborhood Latitude	Neighborhood Longitude	Venue	Venue Latitude	Venue Longitude	Venue Category
0	Monnaie	48.854384	2.340035	Chez Nous	48.855823	2.340271	Wine Bar
1	Monnaie	48.854384	2.340035	Chez Le Libanais	48.853285	2.341673	Lebanese Restaurant
2	Monnaie	48.854384	2.340035	Maison Sauvage	48.853744	2.337993	French Restaurant
3	Monnaie	48.854384	2.340035	Taschen Store	48.853750	2.338162	Bookstore
4	Monnaie	48.854384	2.340035	Ze Kitchen Galerie	48.855101	2.341297	Restaurant
...	...	...	...	...	...	...	...
2202	Halles	48.862289	2.344899	LECLAIREUR Hérold	48.864832	2.341530	Clothing Store
2203	Halles	48.862289	2.344899	Tir-Bouchon	48.864648	2.348728	French Restaurant



# Data analyses

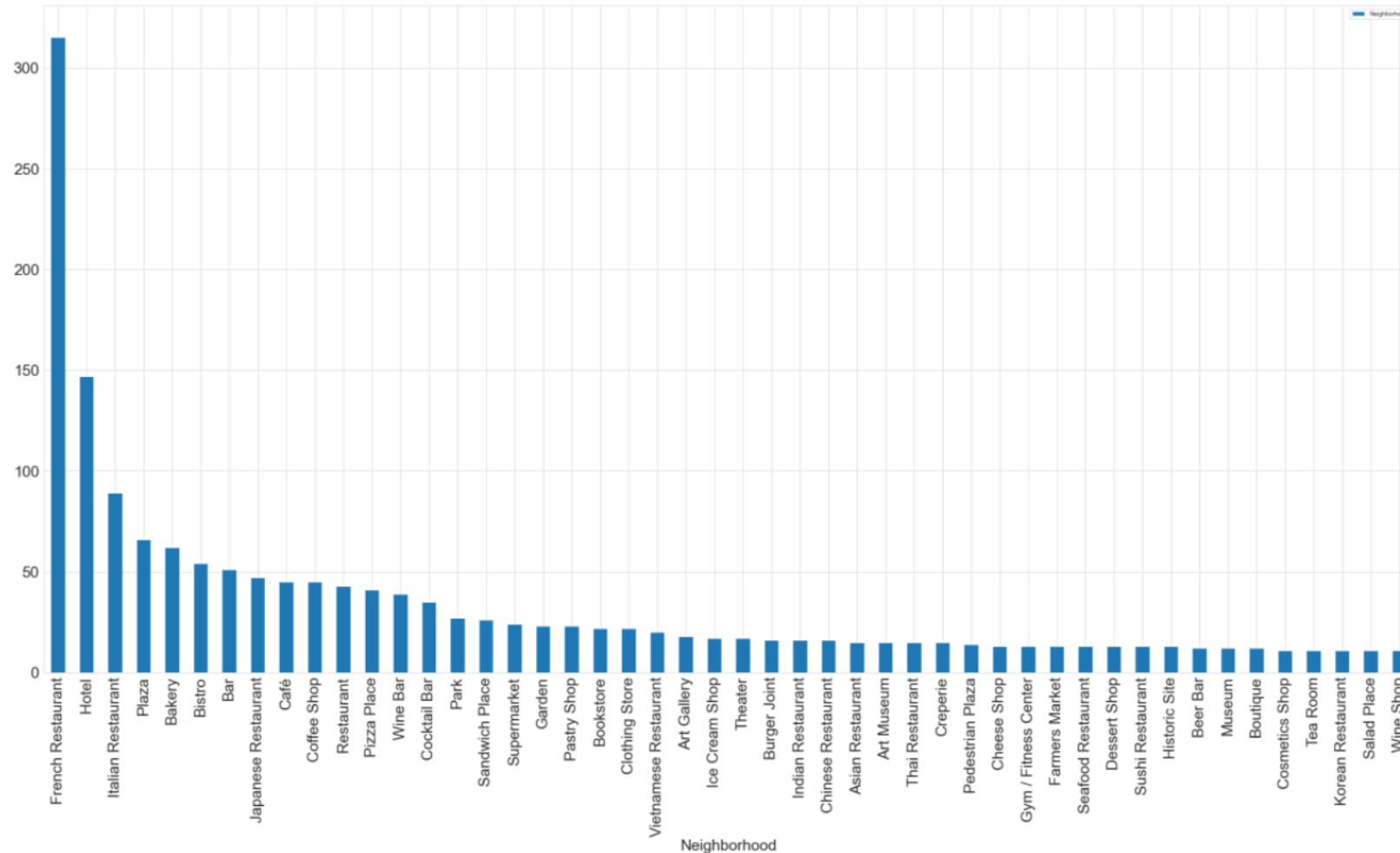
# Groupe data by Neighborhood



There are 30 venues for each Neighborhood except 12 of them, this because they are small ones.

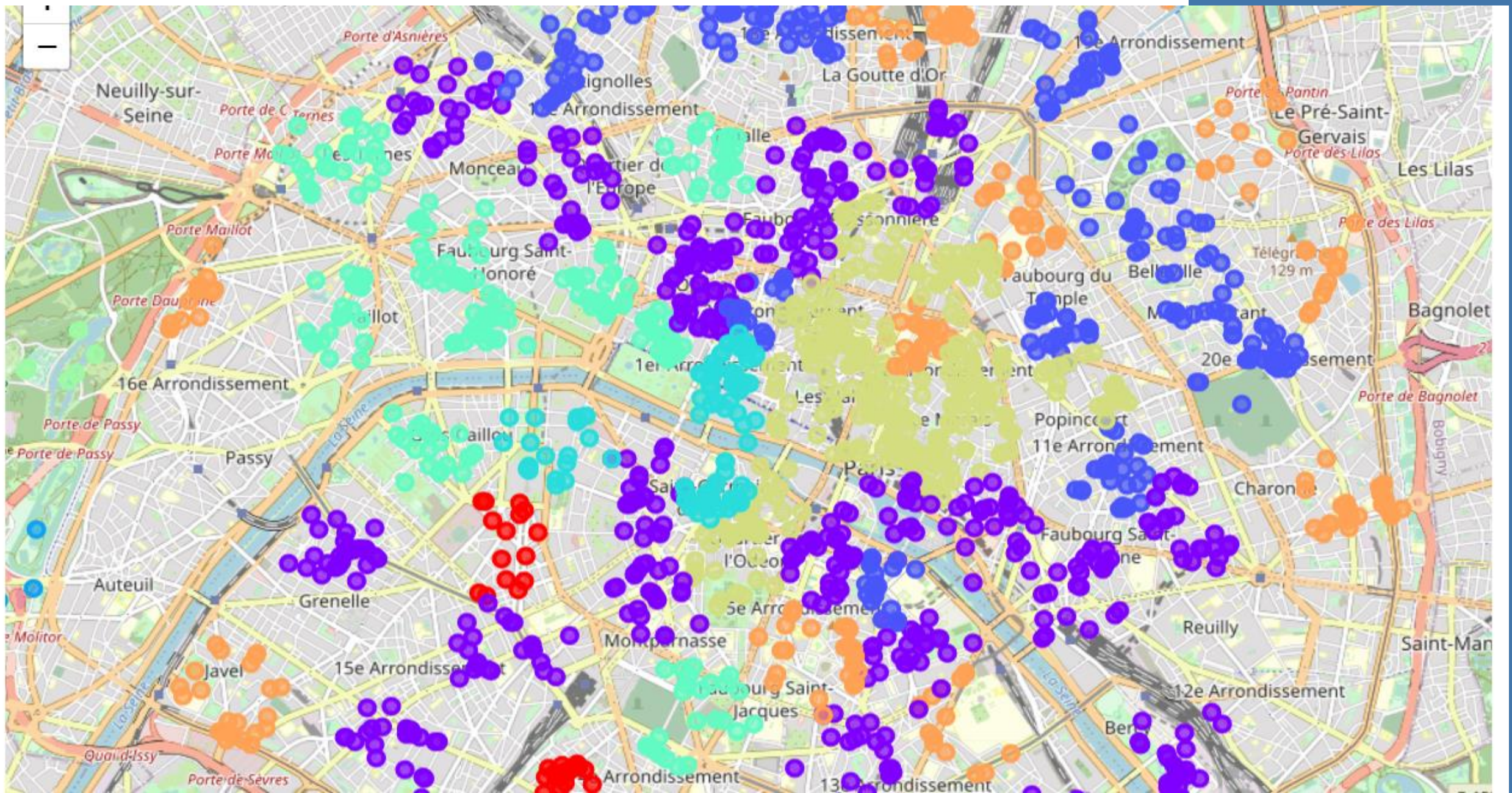


# Group data by Venues cathegory



Top 10 Category show that the most Paris have à lot of restaurant, Hotel, Bar.





Ten Paris clusters



# Clusters

	Neighborhood Latitude	Venue Longitude	Venue Category	Cluster Labels	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
437	48.850359	2.312234	Pastry Shop	0	Hotel	Plaza	Pastry Shop	Café	Diner	Asian Restaurant	Dessert Shop	Bistro
438	48.850359	2.310269	Farmers Market	0	Hotel	Plaza	Pastry Shop	Café	Diner	Asian Restaurant	Dessert Shop	Bistro
439	48.850359	2.310133	Bistro	0	Hotel	Plaza	Pastry Shop	Café	Diner	Asian Restaurant	Dessert Shop	Bistro
441	48.850359	2.309619	Hotel	0	Hotel	Plaza	Pastry Shop	Café	Diner	Asian Restaurant	Dessert Shop	Bistro
442	48.850359	2.312418	Asian Restaurant	0	Hotel	Plaza	Pastry Shop	Café	Diner	Asian Restaurant	Dessert Shop	Bistro
443	48.850359	2.311581	Plaza	0	Hotel	Plaza	Pastry Shop	Café	Diner	Asian Restaurant	Dessert Shop	Bistro

## Cluster 1

Hôtel, plaza and Food

2.387493	Italian Restaurant	1	Hotel	Italian Restaurant	Museum	Bakery	Pub	Garden
2.386747	Bakery	1	Hotel	Italian Restaurant	Museum	Bakery	Pub	Garden
2.386646	Hotel	1	Hotel	Italian Restaurant	Museum	Bakery	Pub	Garden
2.387468	Hotel	1	Hotel	Italian Restaurant	Museum	Bakery	Pub	Garden
2.386619	Italian Restaurant	1	Hotel	Italian Restaurant	Museum	Bakery	Pub	Garden

## Cluster 2

Hotel , museum and Food

# Clusters

210	48.871531	2.385014	Park	2	Bar	Bistro	Bakery	Café	Chinese Restaurant	Restaurant	Music Venue	Bookstore	Cocktail Bar	Theater
213	48.871531	2.386359	Pizza Place	2	Bar	Bistro	Bakery	Café	Chinese Restaurant	Restaurant	Music Venue	Bookstore	Cocktail Bar	Theater
214	48.871531	2.386034	Restaurant	2	Bar	Bistro	Bakery	Café	Chinese Restaurant	Restaurant	Music Venue	Bookstore	Cocktail Bar	Theater
215	48.871531	2.389507	Bistro	2	Bar	Bistro	Bakery	Café	Chinese Restaurant	Restaurant	Music Venue	Bookstore	Cocktail Bar	Theater
216	48.871531	2.386210	Italian Restaurant	2	Bar	Bistro	Bakery	Café	Chinese Restaurant	Restaurant	Music Venue	Bookstore	Cocktail Bar	Theater
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2081	48.891668	2.348018	Bar	2	Bar	Café	Italian Restaurant	Restaurant	Pizza Place	Seafood Restaurant	Beer Store	Gastropub	Beer Bar	Cheese Shop
2082	48.891668	2.340120	Pizza Place	2	Bar	Café	Italian Restaurant	Restaurant	Pizza Place	Seafood Restaurant	Beer Store	Gastropub	Beer Bar	Cheese Shop
2084	48.891668	2.346563	Park	2	Bar	Café	Italian Restaurant	Restaurant	Pizza Place	Seafood Restaurant	Beer Store	Gastropub	Beer Bar	Cheese Shop
2085	48.891668	2.341668	Bar	2	Bar	Café	Italian Restaurant	Restaurant	Pizza Place	Seafood Restaurant	Beer Store	Gastropub	Beer Bar	Cheese Shop

## Cluster 3

- Bar and Music Venue

	Neighborhood Latitude	Venue Longitude	Venue Category	Cluster Labels	1st Most Common Venue	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	Most Common Venue
485	48.850622	2.249240	Tennis Court	3	Tennis Court	Stadium	Garden	Outdoors & Recreation	Sporting Goods Shop	Museum	Office	Racecourse	Botanical Garden	Plaza
487	48.850622	2.252549	Botanical Garden	3	Tennis Court	Stadium	Garden	Outdoors & Recreation	Sporting Goods Shop	Museum	Office	Racecourse	Botanical Garden	Plaza
488	48.850622	2.250180	Tennis Court	3	Tennis Court	Stadium	Garden	Outdoors & Recreation	Sporting Goods Shop	Museum	Office	Racecourse	Botanical Garden	Plaza
489	48.850622	2.250470	Tennis Court	3	Tennis Court	Stadium	Garden	Outdoors & Recreation	Sporting Goods Shop	Museum	Office	Racecourse	Botanical Garden	Plaza
490	48.850622	2.256789	Racecourse	3	Tennis Court	Stadium	Garden	Outdoors & Recreation	Sporting Goods Shop	Museum	Office	Racecourse	Botanical Garden	Plaza
491	48.850622	2.250550	Tennis Court	3	Tennis Court	Stadium	Garden	Outdoors & Recreation	Sporting Goods Shop	Museum	Office	Racecourse	Botanical Garden	Plaza

## Cluster 4

- Sport, garden and some mesuem



# Clusters

623	48.86065	2.333508	Historic Site	4	Plaza	Hotel	Café	Art Museum	Cosmetics Shop	Historic Site	Italian Restaurant	Pedestrian Plaza	Bridge	Shopping Mall
624	48.86065	2.337234	Exhibit	4	Plaza	Hotel	Café	Art Museum	Cosmetics Shop	Historic Site	Italian Restaurant	Pedestrian Plaza	Bridge	Shopping Mall
625	48.86065	2.335088	Plaza	4	Plaza	Hotel	Café	Art Museum	Cosmetics Shop	Historic Site	Italian Restaurant	Pedestrian Plaza	Bridge	Shopping Mall
626	48.86065	2.332121	Art Museum	4	Plaza	Hotel	Café	Art Museum	Cosmetics Shop	Historic Site	Italian Restaurant	Pedestrian Plaza	Bridge	Shopping Mall
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1962	48.86466	2.336688	Plaza	4	Hotel	Café	Japanese Restaurant	Plaza	Theater	Udon Restaurant	Cosmetics Shop	Furniture / Home Store	Tea Room	Clothing Store
1963	48.86466	2.336550	Café	4	Hotel	Café	Japanese Restaurant	Plaza	Theater	Udon Restaurant	Cosmetics Shop	Furniture / Home Store	Tea Room	Clothing Store
1964	48.86466	2.335414	Japanese Restaurant	4	Hotel	Café	Japanese Restaurant	Plaza	Theater	Udon Restaurant	Cosmetics Shop	Furniture / Home Store	Tea Room	Clothing Store

## Cluster 5

- Meseum and plaza

60	48.867074	2.306857	Tailor Shop	5	Hotel	Boutique	Plaza	Tailor Shop	Spa	Clothing Store	Hotel Bar	Shoe Store	Women's Store	Design Studio
61	48.867074	2.309491	Tailor Shop	5	Hotel	Boutique	Plaza	Tailor Shop	Spa	Clothing Store	Hotel Bar	Shoe Store	Women's Store	Design Studio
62	48.867074	2.307503	Boutique	5	Hotel	Boutique	Plaza	Tailor Shop	Spa	Clothing Store	Hotel Bar	Shoe Store	Women's Store	Design Studio
63	48.867074	2.309150	Hotel	5	Hotel	Boutique	Plaza	Tailor Shop	Spa	Clothing Store	Hotel Bar	Shoe Store	Women's Store	Design Studio
64	48.867074	2.310415	Theater	5	Hotel	Boutique	Plaza	Tailor Shop	Spa	Clothing Store	Hotel Bar	Shoe Store	Women's Store	Design Studio
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
102	48.879934	2.329181	Italian Restaurant	5	Italian Restaurant	Hotel	Bakery	Pizza Place	Deli / Bodega	Cocktail Bar	Cheese Shop	Scandinavian Restaurant	Café	Museum
103	48.879934	2.332908	Italian Restaurant	5	Italian Restaurant	Hotel	Bakery	Pizza Place	Deli / Bodega	Cocktail Bar	Cheese Shop	Scandinavian Restaurant	Café	Museum
104	48.879934	2.336101	Scandinavian Restaurant	5	Italian Restaurant	Hotel	Bakery	Pizza Place	Deli / Bodega	Cocktail Bar	Cheese Shop	Scandinavian Restaurant	Café	Museum

## Cluster 6

- Shop and food

# Clusters

	Latitude	Longitude	Category	Labels	Common Venue	Common Venue	Common Venue	Common Venue	Common Venue	Common Venue	Common Venue	Common Venue	Common Venue	Common Venue
1789	48.863275	2.255769	Gym / Fitness Center	6	Lake	Pool	Gym / Fitness Center	Boat or Ferry	Diner	Snack Place	Zoo Exhibit	Electronics Store	Empanada Restaurant	English Restaurant
1790	48.863275	2.261209	Lake	6	Lake	Pool	Gym / Fitness Center	Boat or Ferry	Diner	Snack Place	Zoo Exhibit	Electronics Store	Empanada Restaurant	English Restaurant
1791	48.863275	2.260417	Boat or Ferry	6	Lake	Pool	Gym / Fitness Center	Boat or Ferry	Diner	Snack Place	Zoo Exhibit	Electronics Store	Empanada Restaurant	English Restaurant
1793	48.863275	2.255571	Pool	6	Lake	Pool	Gym / Fitness Center	Boat or Ferry	Diner	Snack Place	Zoo Exhibit	Electronics Store	Empanada Restaurant	English Restaurant
1794	48.863275	2.263485	Diner	6	Lake	Pool	Gym / Fitness Center	Boat or Ferry	Diner	Snack Place	Zoo Exhibit	Electronics Store	Empanada Restaurant	English Restaurant
1795	48.863275	2.261712	Snack Place	6	Lake	Pool	Gym / Fitness Center	Boat or Ferry	Diner	Snack Place	Zoo Exhibit	Electronics Store	Empanada Restaurant	English Restaurant

## Cluster 7

Boat, lake and esplanade

Venue Longitude	Venue Category	Cluster Labels	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
2.340271	Wine Bar	7	Plaza	Sandwich Place	Cocktail Bar	Italian Restaurant	Wine Bar	Seafood Restaurant	Breton Restaurant	Tea Room
2.341673	Lebanese Restaurant	7	Plaza	Sandwich Place	Cocktail Bar	Italian Restaurant	Wine Bar	Seafood Restaurant	Breton Restaurant	Tea Room
2.338162	Bookstore	7	Plaza	Sandwich Place	Cocktail Bar	Italian Restaurant	Wine Bar	Seafood Restaurant	Breton Restaurant	Tea Room
2.341297	Restaurant	7	Plaza	Sandwich Place	Cocktail Bar	Italian Restaurant	Wine Bar	Seafood Restaurant	Breton Restaurant	Tea Room
2.337768	Cocktail Bar	7	Plaza	Sandwich Place	Cocktail Bar	Italian Restaurant	Wine Bar	Seafood Restaurant	Breton Restaurant	Tea Room

## Cluster 8

- Plaza and food

# Clusters

Neighborhood Latitude	Venue Longitude	Venue Category	Cluster Labels	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
48.823128	2.350713	Chinese Restaurant	8	Bakery	Plaza	Café	Bistro	Supermarket	Food & Drink Shop	Pool	Park	Chinese Restaurant
48.823128	2.350758	Bakery	8	Bakery	Plaza	Café	Bistro	Supermarket	Food & Drink Shop	Pool	Park	Chinese Restaurant
48.823128	2.354771	Bistro	8	Bakery	Plaza	Café	Bistro	Supermarket	Food & Drink Shop	Pool	Park	Chinese Restaurant
48.823128	2.347051	Beer Store	8	Bakery	Plaza	Café	Bistro	Supermarket	Food & Drink Shop	Pool	Park	Chinese Restaurant
48.823128	2.353007	Diner	8	Bakery	Plaza	Café	Bistro	Supermarket	Food & Drink Shop	Pool	Park	Chinese Restaurant

## Cluster 9

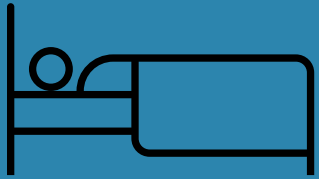
- Food

Venue Id	Venue Category	Cluster Labels	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
41	Music Venue	9	Locksmith	Music Venue	Pastry Shop	Food & Drink Shop	Fast Food Restaurant	Farmers Market	Falafel Restaurant	Exhibition
87	Locksmith	9	Locksmith	Music Venue	Pastry Shop	Food & Drink Shop	Fast Food Restaurant	Farmers Market	Falafel Restaurant	Exhibition
14	Pastry Shop	9	Locksmith	Music Venue	Pastry Shop	Food & Drink Shop	Fast Food Restaurant	Farmers Market	Falafel Restaurant	Exhibition

## Cluster 10

- Music and food

# Conclusion

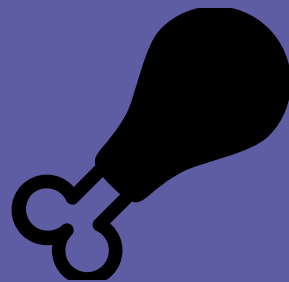


## Hotel

Cluster 1 and cluster 2

## Food

Clusters 1,6,8,9,10



## Museum and garden

Clusters 2,4,5,7

## Music and sport

Clusters 3,4,10

