

The Battle of Neighborhoods

1. The Problem

Compare the (dis)similarities that multicultural cities have by considering clusters of coffee shops.

1.1 Discussion of the Problem

We will analyze similarities among clusters of coffee shops in each area.

New York City, Toronto and Paris belong to the top ten multicultural cities in the world. From the "center" of each city we will consider 50 coffee shops within a radius of 1km. For example, is it true that in all clusters of coffee shops there are an executive offices, or supermarkets, or restaurants, or parks nearby?

The audience interested in this problem is any person that wish to open a coffee shop branch in a potentially multicultural city. This analysis would suggest that the audience will success by opening a new coffee shop regardless there is already competition around.

1.2 Background

Let's say I want to open a new coffee shop in Mexico City which is known to have a wide variety of culture (you can think of any other city with this feature, not necessarily a big city). I might fear I won't have success because there are already coffee shops in the location that I like, I'm afraid of the competition.

Now let's assume that clusters of coffee shops in multicultural cities share the fact that there are parks and museums closeby. The following report will tell us whether it is reliable to take the risk by opening a new branch only by looking at the type of venues close to the location.

2. The Data

2.1 Description of the Data

The data that we are going to work with are 3 data frames (one for each city) that include information about each coffee shop such as name, category, address, latitude, longitude, distance, postal code, city, state, country, neighborhood and id.

The information is obtained from the Foursquare API. Here we present the essential information that we will need.

2.2 Obtaining the Data

For each city we set a point of reference. This could be a popular venue in the middle of the city such as a cathedral, a super center or a museum. From this point we take a sample of 50 coffee shops within a radius of 1 kilometer.

Coffee Shops in Paris

In [7]: `data_frames[0].head()`

Out[7]:

	name	categories	address	lat	lng	labeledLatLngs	dist
0	Coffee Crêpes	Coffee Shop	24 quai du Louvre	48.858841	2.340802	[{'label': 'display', 'lat': 48.85884059518823...	:
1	Starbucks Coffee - kiosque	Café	rue Du 8 Mai 1945	48.875763	2.358857	[{'label': 'display', 'lat': 48.875763, 'lng':...	:
2	Super Wild Coffee	Café	rue Du 8 Mai 1945	48.875763	2.358857	[{'label': 'display', 'lat': 48.875763, 'lng':...	:
3	Costa Coffee - zone Eurostar	Café	12 rue De Dunkerque	48.880948	2.355314	[{'label': 'display', 'lat': 48.880948, 'lng':...	:
4	Coffee Parisien	American Restaurant	4 rue Princesse	48.852607	2.334536	[{'label': 'display', 'lat': 48.85260711376305...	:

Coffee Shops in Manhattan

In [9]: `data_frames[1].head()`

Out[9]:

	name	categories	address	crossStreet	lat	lng	labeled
0	Coffee Project New York	Coffee Shop	239 E 5th St	btwn 2nd Ave & Bowery	40.727153	-73.989527	{{'label': 'disp 40.727153
1	WFM Coffee Bar	Coffee Shop	95 E Houston St	At Bowery	40.723627	-73.991291	{{'label': 'disp 40.723626640
2	Think Coffee	Coffee Shop	1 Bleeker St	at Bowery	40.725266	-73.992341	{{'label': 'disp 40.725266430
3	Kam Hing Coffee Shop 金興	Coffee Shop	118 Baxter St	btwn Hester and Canal St	40.718017	-73.999210	{{'label': 'disp 40.718016684
4	COFFEE & CREAM by Oddfellows	Ice Cream Shop	55 E Houston St	at Mott St	40.724707	-73.994281	{{'label': 'disp 40.724707325

Coffee Shops in Toronto

In [8]: `data_frames[2].head()`

Out[8]:

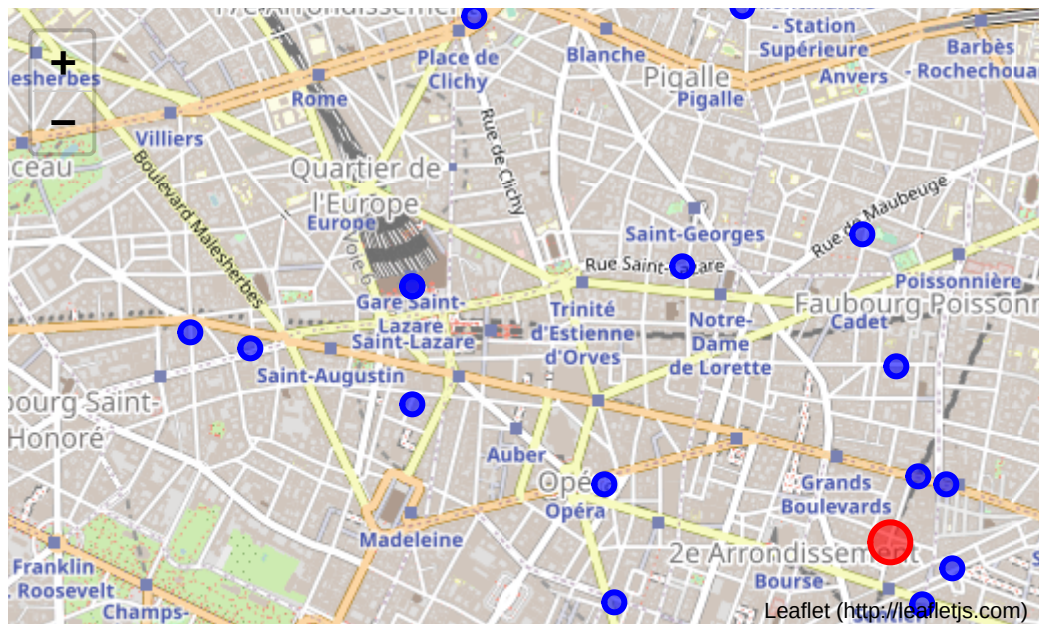
	name	categories	address	crossStreet	lat	lng	labeled
0	HotBlack Coffee	Coffee Shop	245 Queen Street West	at St Patrick St	43.650364	-79.388669	{{'label': 'displ 43.650364348
1	Timothy's World Coffee	Coffee Shop	427 University Avenue	NaN	43.654053	-79.388090	{{'label': 'displ 43.654053179
2	Timothy's World Coffee	Coffee Shop	483 Bay St, Bell Trinity Square	Bell Trinity Square	43.653436	-79.382314	{{'label': 'displ 43.653436
3	Timothy's World Coffee	Coffee Shop	425 University Ave	Dundas	43.654270	-79.387448	{{'label': 'displ 43.65427
4	Timothy's World Coffee	Coffee Shop	401 Bay St.	at Richmond St. W	43.652135	-79.381172	{{'label': 'displ 43.652134558

2.2 Visualization

Map of Paris

In [6]: `maps[0]`

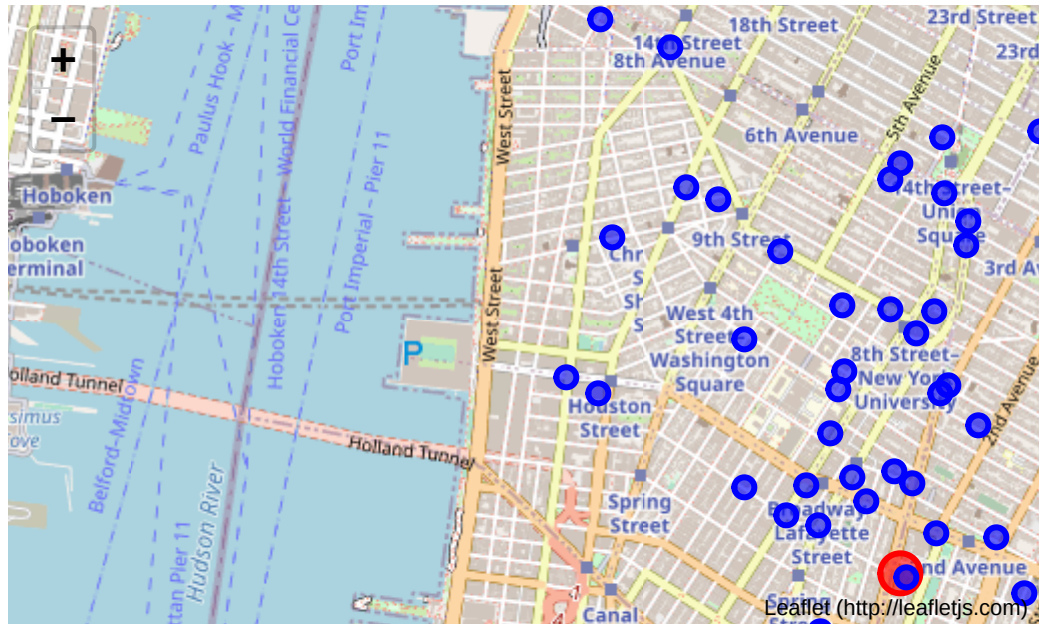
Out[6]:



Map of Manhattan

In [7]: maps[1]

Out[7]:



Map of Toronto

In [8]: maps[2]

Out[8]:

