

# Coffee Business in Cairo

## Coursera Capstone Project



AHMED SAFWAT EWIDA



# Contents

**01 Introduction**

**02 Data Scraping and Analysis**

**03 Methodology**

**04 Results**



# Introduction

## Cairo, the city of lively nights and coffee shops

Establishing a business plan for a Coffee shop in Cairo is a very challenging Project. The city has a Population of more than 20 Million People, an extensive selection of tastes, a Diversity of Social classes and variety of Population density as its main features and attributes, which must be considered before selecting the location of your Coffee Shop.

This Project is to guide those interested in opening a coffee shop Business in Cairo, as they can find the suitable location among different locations in Cairo taking in consideration the density of population and number of available Coffee shops.





# Data Scraping and Analysis

## Scrapping The Data from Wikipedia for the Below Locations in Cairo and Giza :

Anglicized name ⇄	Native name ⇄	Arabic transliteration ⇄	Population (July 2017 Est.) ⇄	Type ⇄
15 May City	قسم 15 مايو	<i>Māyū</i>	93,879	Kism (fully urban)
Abdeen	قسم عابدين	<i>ʿĀbidīn</i>	40,450	Kism (fully urban)
<a href="#">El Darb El Ahmar</a>	قسم الدرب الأحمر	<i>Al-Darb Al-Aḥmar</i> <sup>[10]</sup>	58,677	Kism (fully urban)
Ain Shams	قسم عين شمس	<i>ʿAin Schams</i>	616,374	Kism (fully urban)
Amreya	قسم الاميرية	<i>Al-Amīrīyah</i>	153,046	Kism (fully urban)
Azbakeya	قسم الأزبكية	<i>Al-Azbakiyah</i>	19,826	Kism (fully urban)
El Basatin	قسم البساتين	<i>Al-Basāṭīn</i>	497,041	Kism (fully urban)
El Gamaliya	قسم الجمالية	<i>Al-Jamāliyah</i>	36,485	Kism (fully urban)
El Khalifa	قسم الخليفة	<i>Al-Khalīfah</i>	105,578	Kism (fully urban)
Maadi	قسم المعادي	<i>Al-Maʿādī</i>	88,869	Kism (fully urban)
<a href="#">El Marg</a>	قسم المرح	<i>Al-Marj</i>	801,222	Kism (fully urban)
El Masara	قسم المعصرة	<i>Al-Maʿsarah</i>	270,907	Kism (fully urban)
El Matareya	قسم المطرية	<i>Al-Maṭariyah</i>	604,428	Kism (fully urban)
El Mokattam	قسم المقطم	<i>Al-Muqaṭṭam</i>	224,860	Kism (fully urban)
El Muski	قسم الموسكي	<i>Al-Mūskī</i>	16,715	Kism (fully urban)
New Cairo 1	قسم أول القاهرة الجديدة	<i>Al-Qāhirah al-Jadīdah 1</i>	136,271	Kism (fully urban)
New Cairo 2	قسم ثان القاهرة الجديدة	<i>Al-Qāhirah al-Jadīdah 2</i>	90,960	Kism (fully urban)
New Cairo 3	قسم ثالث القاهرة الجديدة	<i>Al-Qāhirah al-Jadīdah 3</i>	71,112	Kism (fully urban)
El Weili	قسم الوابلي	<i>Al-Waylī</i>	79,548	Kism (fully urban)
El Nozha	قسم النزهة	<i>An-Nuzḥah</i>	231,987	Kism (fully urban)
El Sahel	قسم الساحل	<i>Al-saḥel</i>	187,806	Kism (fully urban)
El Sharabiya	قسم الشرايبة	<i>Ash-Sharābiyah</i>	187,806	Kism (fully urban)
El Shorouk	قسم الشروق	<i>Ash-Shurūq</i>	87,565	Kism (fully urban)
El Segil	قسم الساحل	<i>As-Sāḥil</i>	317,442	Kism (fully urban)
El Salam	قسم أول السلام	<i>As-Salām 1</i>	482,271	Kism (fully urban)
El Salam	قسم ثان السلام	<i>As-Salām 2</i>	154,267	Kism (fully urban)
El Sayeda Zeinab	قسم السيدة زينب	<i>As-Sayyidah Zaynab</i>	136,722	Kism (fully urban)
El Tebbin	قسم التبين	<i>At-Tibbīn</i>	72,276	Kism (fully urban)
El Zaher	قسم الظاهر	<i>Az-Zāḥir</i>	72,101	Kism (fully urban)
Zamalek	قسم الزمالك	<i>Az-Zamālīk</i>	14,993	Kism (fully urban)
El Zawya El Hamra	قسم الزاوية الحمراء	<i>Az-Zāwiyah al-Ḥamrāʾ</i>	319,198	Kism (fully urban)
Zeitoun	قسم الزيتون	<i>Az-Zaytūn</i>	174,738	Kism (fully urban)
Bab El Sharia	قسم باب الشعربة	<i>Bāb ash-Shaʿriyah</i>	46,823	Kism (fully urban)
Bulaq	قسم بولاق	<i>Būlāq</i>	48,301	Kism (fully urban)
Dar El Salam	قسم دار السلام	<i>Dār as-Salām</i>	527,335	Kism (fully urban)
Hada'iq El Qobbah	قسم حدائق القبة	<i>Hada'iq al-Qubbah</i>	317,092	Kism (fully urban)
Helwan	قسم حلوان	<i>Ḥulwān</i>	522,927	Kism (fully urban)
Nasr City 1	قسم مدينة نصر أول	<i>Madīnat an-Naṣr 1</i>	636,864	Kism (fully urban)

Anglicized name ⇄	Native name ⇄	Arabic transliteration ⇄	Population (July 2017 Est.) ⇄	Type ⇄
15 May City	قسم 15 مايو	<i>Māyū</i>	93,879	Kism (fully urban)
Abdeen	قسم عابدين	<i>ʿĀbidīn</i>	40,450	Kism (fully urban)
<a href="#">El Darb El Ahmar</a>	قسم الدرب الأحمر	<i>Al-Darb Al-Aḥmar</i> <sup>[10]</sup>	58,677	Kism (fully urban)
Ain Shams	قسم عين شمس	<i>ʿAin Schams</i>	616,374	Kism (fully urban)
Amreya	قسم الاميرية	<i>Al-Amīrīyah</i>	153,046	Kism (fully urban)
Azbakeya	قسم الأزبكية	<i>Al-Azbakiyah</i>	19,826	Kism (fully urban)
El Basatin	قسم البساتين	<i>Al-Basāṭīn</i>	497,041	Kism (fully urban)
El Gamaliya	قسم الجمالية	<i>Al-Jamāliyah</i>	36,485	Kism (fully urban)
El Khalifa	قسم الخليفة	<i>Al-Khalīfah</i>	105,578	Kism (fully urban)
Maadi	قسم المعادي	<i>Al-Maʿādī</i>	88,869	Kism (fully urban)
<a href="#">El Marg</a>	قسم المرح	<i>Al-Marj</i>	801,222	Kism (fully urban)
El Masara	قسم المعصرة	<i>Al-Maʿsarah</i>	270,907	Kism (fully urban)
El Matareya	قسم المطرية	<i>Al-Maṭariyah</i>	604,428	Kism (fully urban)
El Mokattam	قسم المقطم	<i>Al-Muqaṭṭam</i>	224,860	Kism (fully urban)
El Muski	قسم الموسكي	<i>Al-Mūskī</i>	16,715	Kism (fully urban)
New Cairo 1	قسم أول القاهرة الجديدة	<i>Al-Qāhirah al-Jadīdah 1</i>	136,271	Kism (fully urban)
New Cairo 2	قسم ثان القاهرة الجديدة	<i>Al-Qāhirah al-Jadīdah 2</i>	90,960	Kism (fully urban)
New Cairo 3	قسم ثالث القاهرة الجديدة	<i>Al-Qāhirah al-Jadīdah 3</i>	71,112	Kism (fully urban)
El Weili	قسم الوابلي	<i>Al-Waylī</i>	79,548	Kism (fully urban)
El Nozha	قسم النزهة	<i>An-Nuzḥah</i>	231,987	Kism (fully urban)
El Sahel	قسم الساحل	<i>Al-saḥel</i>	187,806	Kism (fully urban)
El Sharabiya	قسم الشرايبة	<i>Ash-Sharābiyah</i>	187,806	Kism (fully urban)
El Shorouk	قسم الشروق	<i>Ash-Shurūq</i>	87,565	Kism (fully urban)
El Segil	قسم الساحل	<i>As-Sāḥil</i>	317,442	Kism (fully urban)
El Salam	قسم أول السلام	<i>As-Salām 1</i>	482,271	Kism (fully urban)
El Salam	قسم ثان السلام	<i>As-Salām 2</i>	154,267	Kism (fully urban)
El Sayeda Zeinab	قسم السيدة زينب	<i>As-Sayyidah Zaynab</i>	136,722	Kism (fully urban)
El Tebbin	قسم التبين	<i>At-Tibbīn</i>	72,276	Kism (fully urban)
El Zaher	قسم الظاهر	<i>Az-Zāḥir</i>	72,101	Kism (fully urban)
Zamalek	قسم الزمالك	<i>Az-Zamālīk</i>	14,993	Kism (fully urban)
El Zawya El Hamra	قسم الزاوية الحمراء	<i>Az-Zāwiyah al-Ḥamrāʾ</i>	319,198	Kism (fully urban)
Zeitoun	قسم الزيتون	<i>Az-Zaytūn</i>	174,738	Kism (fully urban)
Bab El Sharia	قسم باب الشعربة	<i>Bāb ash-Shaʿriyah</i>	46,823	Kism (fully urban)
Bulaq	قسم بولاق	<i>Būlāq</i>	48,301	Kism (fully urban)
Dar El Salam	قسم دار السلام	<i>Dār as-Salām</i>	527,335	Kism (fully urban)
Hada'iq El Qobbah	قسم حدائق القبة	<i>Hada'iq al-Qubbah</i>	317,092	Kism (fully urban)
Helwan	قسم حلوان	<i>Ḥulwān</i>	522,927	Kism (fully urban)
Nasr City 1	قسم مدينة نصر أول	<i>Madīnat an-Naṣr 1</i>	636,864	Kism (fully urban)



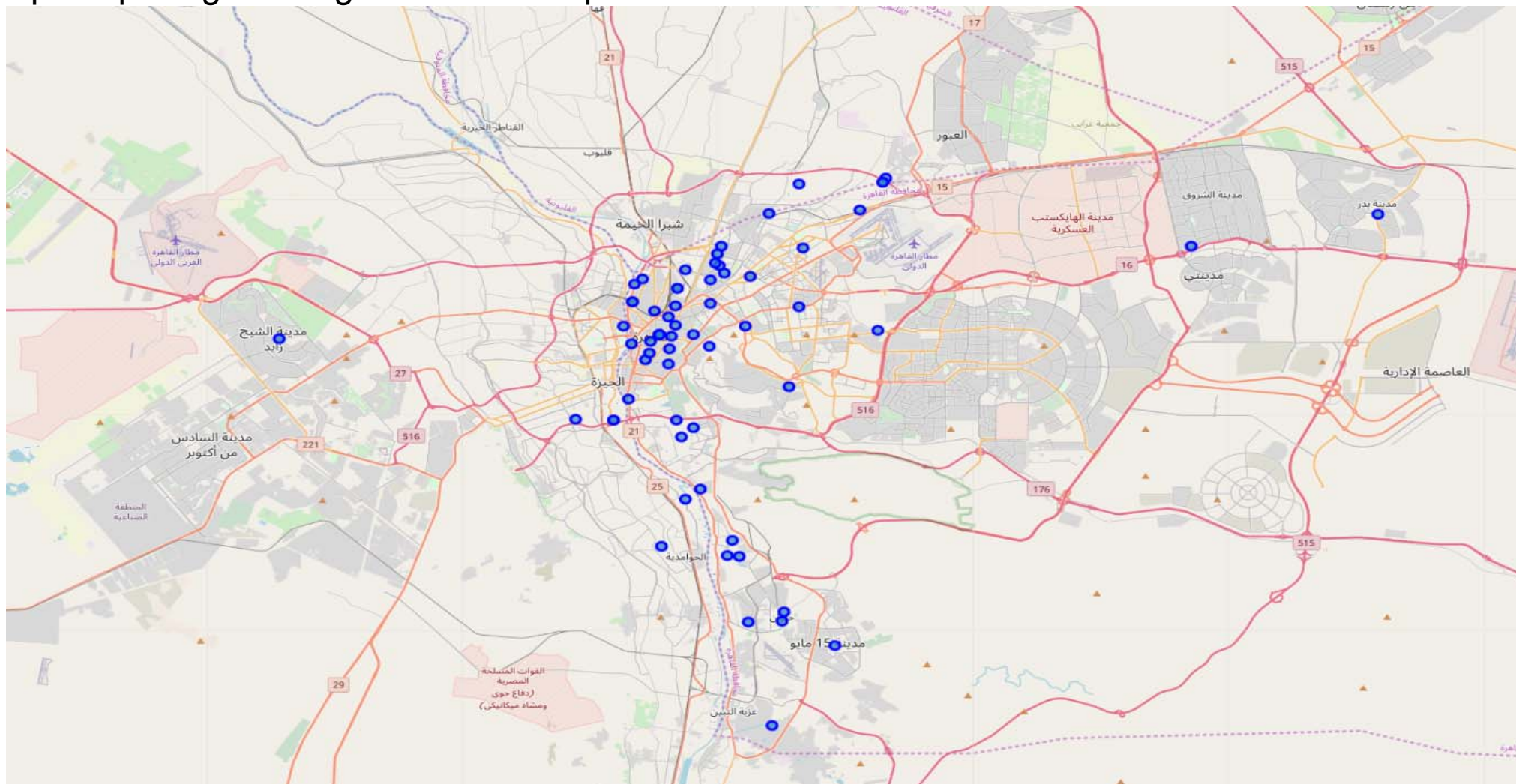


## Getting the Coordinates for those Locations:

	region	Population	Latitude	Longitude
0	15 May City	93,879	29.829830	31.369650
1	Abdeen	40,450	30.045420	31.242100
2	El Darb El Ahmar	58,677	29.977690	31.263610
3	Ain Shams	616,374	30.135420	31.323890
4	Amreya	153,046	30.112380	31.291330
5	Azbakeya	19,826	30.049920	31.248600
6	El Basatin	497,041	29.893630	31.295180
7	El Gamaliya	36,485	30.098950	31.289440
8	El Khalifa	105,578	29.964960	31.251520
9	Maadi	88,869	29.984160	31.271630
10	El Marg	801,222	30.156510	31.344590
11	El Masara	270,907	29.904410	31.298840
12	El Matareya	604,428	30.093450	31.292990
13	El Mokattam	224,860	30.012930	31.338090
14	El Muski	16,715	30.048749	31.256511
15	New Cairo 1	136,271	30.082930	31.261069
16	New Cairo 2	90,960	30.049920	31.248600
17	New Cairo 3	71,112	30.082849	31.261051
18	El Weili	79,548	30.072060	31.283490
19	El Nozha	231,987	30.111000	31.347490
20	El Sahel	187,806	30.089260	31.236870
21	El Sharabiya	187,806	30.070050	31.259640
22	El Shorouk	87,565	30.106880	31.288040
23	El Segil	317,442	30.049920	31.248600
24	El Salam	482,271	30.157800	31.402070
25	El Salam	154,267	30.157800	31.402070
26	El Sayeda Zeinab	136,722	30.032409	31.239037
27	El Tebbin	72,276	29.773240	31.325970
28	El Zaher	72,101	30.062530	31.254790
29	Zamalek	14,993	30.055860	31.223900



## Superimposing the Regions on the Map:







# Methodology

## Getting the Venues numbers and Categories for each region:

region	Latitude	Longitude	VenueName	VenueLatitude	VenueLongitude	VenueCategory
15 May City	4	4	4	4	4	4
6 October City (1 & 3)	6	6	6	6	6	6
6th of October City (2)	4	4	4	4	4	4
Abdeen	95	95	95	95	95	95
Agouza	8	8	8	8	8	8
Ain Shams	6	6	6	6	6	6
Amreya	4	4	4	4	4	4
Atfeh	44	44	44	44	44	44
Azbakeya	44	44	44	44	44	44
Bab El Sharia	19	19	19	19	19	19
Bulaq	88	88	88	88	88	88
Dar El Salam	3	3	3	3	3	3
Dokki	5	5	5	5	5	5
El Ayyat	9	9	9	9	9	9
El Badrashein	29	29	29	29	29	29
El Basatin	6	6	6	6	6	6
El Darb El Ahmar	1	1	1	1	1	1
El Gamaliya	7	7	7	7	7	7
El Khalifa	10	10	10	10	10	10
El Marg	2	2	2	2	2	2
El Masara	2	2	2	2	2	2
El Matareya	9	9	9	9	9	9
El Mokattam	5	5	5	5	5	5
El Muski	34	34	34	34	34	34
El Nozha	28	28	28	28	28	28
El Omraniya	4	4	4	4	4	4
El Sahel	9	9	9	9	9	9
El Salam	6	6	6	6	6	6
El Sayeda Zeinab	31	31	31	31	31	31
El Segil	44	44	44	44	44	44
El Sharabiya	7	7	7	7	7	7
El Shorouk	5	5	5	5	5	5
El Warraq	7	7	7	7	7	7
El Weili	5	5	5	5	5	5
El Zaher	4	4	4	4	4	4

Venues Categories

1	Accessories Store
2	American Restaurant
3	Aquarium
4	Art Gallery
5	Art Museum
6	Arts & Crafts Store
7	Arts & Entertainment
8	Asian Restaurant
9	Auto Garage
10	Bakery
11	Bar
12	Basketball Court
13	Beer Garden
14	Beer Store
15	Bistro
16	Boat or Ferry
17	Bookstore
18	Breakfast Spot
19	Buffet
20	Burger Joint
21	Bus Station
22	Café
23	Candy Store
24	Casino
25	Castle
26	Chinese Restaurant
27	Church
28	Clothing Store
29	Coffee Shop
...	...
119	Salon / Barbershop
120	Sandwich Place
121	Science Museum
122	Sculpture Garden
123	Seafood Restaurant
124	Shawarma Place
125	Shopping Mall
126	Soccer Field
127	Souvenir Shop
128	Spa
129	Sports Club



Getting the weightage for Each venue category per region by dividing the number of the venue category in each region by the total number of the venue category:

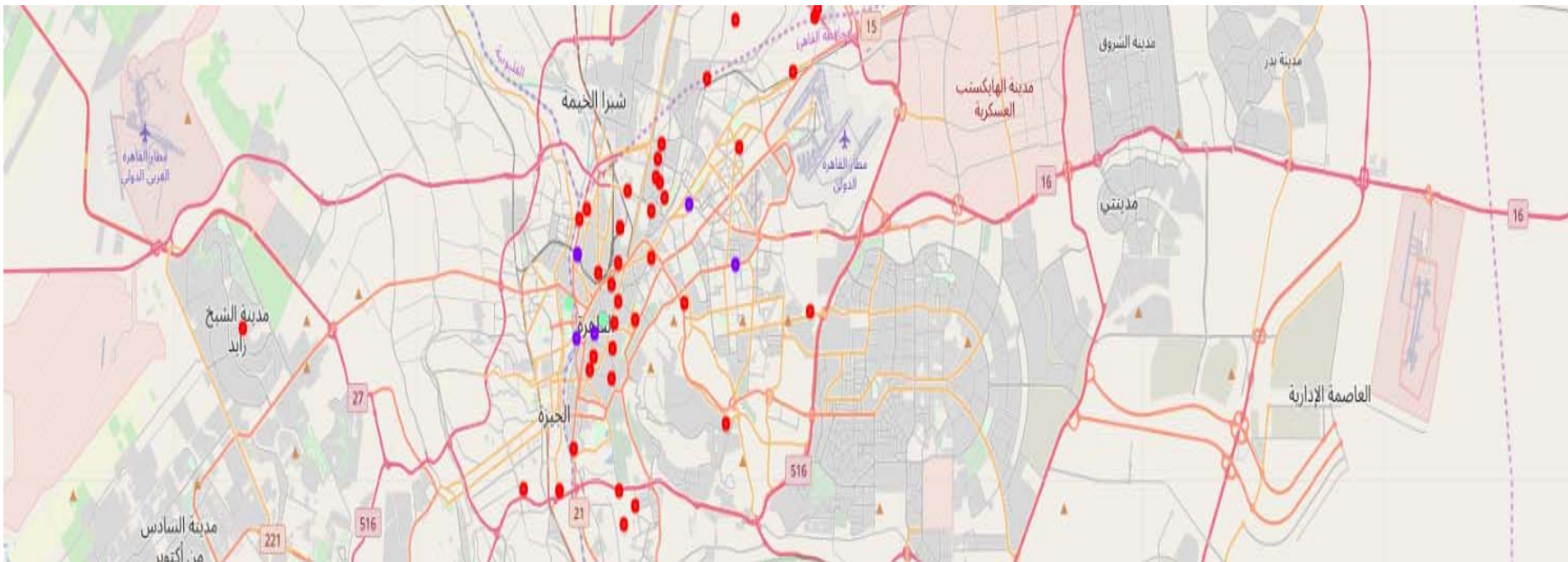
region	Accessories Store	American Restaurant	Aquarium	Art Gallery	Art Museum	Arts & Crafts Store	Arts & Entertainment	Asian Restaurant	Auto Garage	Thai Restaurant	Theater	Theme Park Ride / Attraction	Track	Tunnel	Turkish Restaurant	Used Bookstore	Waterfront
15 May City	0.000000	0.00	0.0	0.000000	0.000000	0.000000	0.0	0.000000	0.000000	0.0	0.000000	0.0	0.0	0.0	0.000000	0.000000	0.0
5 October City (1 & 3)	0.000000	0.00	0.0	0.000000	0.000000	0.000000	0.0	0.000000	0.000000	0.0	0.000000	0.0	0.0	0.0	0.000000	0.000000	0.0
6th of October City (2)	0.000000	0.00	0.0	0.000000	0.000000	0.000000	0.0	0.000000	0.000000	0.0	0.000000	0.0	0.0	0.0	0.000000	0.000000	0.0
Abdeen	0.000000	0.00	0.0	0.214286	0.000000	0.333333	0.0	0.000000	0.000000	0.0	0.200000	0.0	0.0	0.1	0.000000	0.000000	0.0
Agouza	0.000000	0.00	0.0	0.000000	0.000000	0.000000	0.0	0.000000	0.000000	0.0	0.000000	0.0	0.0	0.0	0.000000	0.000000	0.0
Ain Shams	0.000000	0.00	0.0	0.000000	0.000000	0.000000	0.0	0.000000	0.000000	0.0	0.000000	0.0	0.0	0.0	0.000000	0.000000	0.0
Amreya	0.000000	0.00	0.0	0.000000	0.000000	0.000000	0.0	0.000000	0.142857	0.0	0.000000	0.0	0.0	0.0	0.000000	0.000000	0.0
Atfeh	0.166667	0.00	0.0	0.071429	0.000000	0.000000	0.0	0.000000	0.000000	0.0	0.100000	0.0	0.0	0.1	0.000000	0.166667	0.0
Azbakeya	0.166667	0.00	0.0	0.071429	0.000000	0.000000	0.0	0.000000	0.000000	0.0	0.100000	0.0	0.0	0.1	0.000000	0.166667	0.0
Bab El Sharia	0.000000	0.00	0.0	0.000000	0.000000	0.000000	0.5	0.000000	0.000000	0.0	0.000000	0.0	0.0	0.0	0.000000	0.000000	0.0
Bulaq	0.333333	0.00	0.0	0.142857	0.000000	0.000000	0.0	0.000000	0.000000	0.0	0.200000	0.0	0.0	0.2	0.000000	0.333333	0.0
Dar El Salam	0.000000	0.00	0.0	0.000000	0.000000	0.000000	0.0	0.000000	0.000000	0.0	0.000000	0.0	0.0	0.0	0.000000	0.000000	0.0
Dokki	0.000000	0.00	0.0	0.000000	0.000000	0.000000	0.0	0.000000	0.000000	0.0	0.000000	0.0	0.0	0.0	0.000000	0.000000	0.0
El Ayyat	0.000000	0.00	0.0	0.000000	0.333333	0.000000	0.0	0.000000	0.000000	0.0	0.000000	0.0	0.0	0.0	0.000000	0.000000	0.0
El Badrashein	0.000000	0.00	0.0	0.000000	0.000000	0.000000	0.0	0.000000	0.000000	0.0	0.066667	0.0	0.0	0.0	0.000000	0.000000	0.0
El Baatin	0.000000	0.00	0.0	0.000000	0.000000	0.000000	0.0	0.000000	0.000000	0.0	0.000000	0.0	0.0	0.0	0.000000	0.000000	0.0
El Darb El Ahmar	0.000000	0.00	0.0	0.000000	0.000000	0.000000	0.0	0.000000	0.000000	0.0	0.000000	0.0	0.0	0.0	0.000000	0.000000	0.0
El Gamaliya	0.000000	0.00	0.0	0.000000	0.000000	0.000000	0.0	0.000000	0.000000	0.0	0.000000	0.0	0.0	0.0	0.000000	0.000000	0.0
El Khalifa	0.000000	0.00	0.0	0.000000	0.000000	0.000000	0.0	0.000000	0.000000	0.0	0.000000	0.0	0.0	0.0	0.000000	0.000000	0.0
El Marg	0.000000	0.00	0.0	0.000000	0.000000	0.000000	0.0	0.000000	0.000000	0.0	0.000000	0.0	0.0	0.0	0.000000	0.000000	0.0
El Masara	0.000000	0.25	0.0	0.000000	0.000000	0.000000	0.0	0.000000	0.000000	0.0	0.000000	0.0	0.0	0.0	0.000000	0.000000	0.0
El Matareya	0.000000	0.00	0.0	0.000000	0.000000	0.000000	0.0	0.000000	0.000000	0.0	0.000000	0.0	0.0	0.0	0.000000	0.000000	0.0
El Mokattam	0.000000	0.00	0.0	0.000000	0.000000	0.000000	0.0	0.000000	0.000000	0.0	0.000000	0.0	0.0	0.0	0.000000	0.000000	0.0
El Muski	0.000000	0.00	0.0	0.000000	0.333333	0.000000	0.5	0.000000	0.000000	0.0	0.066667	0.0	0.0	0.0	0.000000	0.000000	0.0
El Nozha	0.000000	0.00	0.0	0.000000	0.000000	0.000000	0.0	0.000000	0.000000	0.0	0.000000	0.0	0.0	0.0	0.000000	0.000000	0.0
El Omraniya	0.000000	0.00	0.0	0.000000	0.000000	0.000000	0.0	0.000000	0.000000	0.0	0.000000	0.0	0.0	0.0	0.000000	0.000000	0.0
El Sahel	0.000000	0.00	0.0	0.000000	0.000000	0.000000	0.0	0.000000	0.000000	0.0	0.000000	0.0	0.0	0.0	0.000000	0.000000	1.0
El Salam	0.000000	0.00	0.0	0.000000	0.000000	0.000000	0.0	0.000000	0.571429	0.0	0.000000	0.0	0.0	0.0	0.000000	0.000000	0.0
El Sayeda Zeinab	0.000000	0.00	0.0	0.000000	0.000000	0.000000	0.0	0.333333	0.000000	0.0	0.000000	0.0	0.0	0.0	0.000000	0.000000	0.0
El Segil	0.166667	0.00	0.0	0.071429	0.000000	0.000000	0.0	0.000000	0.000000	0.0	0.100000	0.0	0.0	0.1	0.000000	0.166667	0.0
El Sharabiya	0.000000	0.00	0.0	0.000000	0.000000	0.000000	0.0	0.000000	0.000000	0.0	0.000000	0.0	0.0	0.0	0.000000	0.000000	0.0
El Shorouk	0.000000	0.00	0.0	0.000000	0.000000	0.000000	0.0	0.000000	0.000000	0.0	0.000000	0.0	0.0	0.0	0.000000	0.000000	0.0
El Warraq	0.000000	0.00	0.0	0.000000	0.000000	0.000000	0.0	0.000000	0.000000	0.0	0.000000	0.0	0.0	0.0	0.000000	0.000000	0.0
El Weili	0.000000	0.00	0.0	0.071429	0.000000	0.000000	0.0	0.000000	0.000000	0.0	0.000000	0.0	0.0	0.0	0.000000	0.000000	0.0

The Most Common venue per each region sorted Horizontally:

region	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	...	139th Most Common Venue	140th Most Common Venue	141th Most Common Venue	142th Most Common Venue	143th Most Common Venue	144th Most Common Venue	145th Most Common Venue	146th Most Common Venue	147th Most Common Venue	148th Most Common Venue
15 May City	Pharmacy	Sports Club	Coffee Shop	Flea Market	Frozen Yogurt Shop	Fried Chicken Joint	French Restaurant	Food Truck	Food Stand	...	Park	Optical Shop	Multiplex	Opera House	Nightclub	New American Restaurant	Neighborhood	Music Venue	Museum	Accessories Store
6 October City (1 & 3)	Juice Bar	Shopping Mall	Sports Club	Dessert Shop	Falafel Restaurant	Café	Ice Cream Shop	Flea Market	French Restaurant	...	Park	Optical Shop	Multiplex	Opera House	Nightclub	New American Restaurant	Neighborhood	Music Venue	Museum	Accessories Store
6th of October City (2)	Pharmacy	Gym	Supermarket	Metro Station	Yoga Studio	Flea Market	French Restaurant	Food Truck	Food Stand	...	Park	Optical Shop	Multiplex	Opera House	Nightclub	New American Restaurant	Neighborhood	Music Venue	Museum	Accessories Store
Abdeen	Hostel	Beer Garden	Herbs & Spices Store	Arts & Crafts Store	Pie Shop	Music Venue	Roof Deck	Bistro	Art Gallery	...	Mosque	Museum	New American Restaurant	Nightclub	Opera House	Optical Shop	Palace	Park	Pedestrian Plaza	Accessories Store
Agouza	Soccer Field	Creperie	Supermarket	Mobile Phone Shop	Fast Food Restaurant	Pastry Shop	Kebab Restaurant	Café	Yoga Studio	...	Park	Optical Shop	Multiplex	Opera House	Nightclub	New American Restaurant	Neighborhood	Music Venue	Museum	Accessories Store
Ain Shams	Electronics Store	Kitchen Supply Store	Gym	Seafood Restaurant	Mobile Phone Shop	Metro Station	Yoga Studio	Food Stand	Fried Chicken Joint	...	Pedestrian Plaza	Park	Music Venue	Palace	Optical Shop	Opera House	Nightclub	New American Restaurant	Neighborhood	Accessories Store
Amreya	Auto Garage	Kebab Restaurant	Egyptian Restaurant	Café	Yoga Studio	Food Court	Frozen Yogurt Shop	Fried Chicken Joint	French Restaurant	...	Pedestrian Plaza	Park	Music Venue	Palace	Optical Shop	Opera House	Nightclub	New American Restaurant	Neighborhood	Accessories Store
Atfeh	Accessories Store	Used Bookstore	Swiss Restaurant	Market	Flea Market	Tunnel	Pastry Shop	Theater	Tea Room	...	New American Restaurant	Nightclub	Opera House	Optical Shop	Palace	Park	Pedestrian Plaza	Performing Arts Venue	Pet Store	Juice Bar
Azbakeya	Accessories Store	Used Bookstore	Swiss Restaurant	Market	Flea Market	Tunnel	Pastry Shop	Theater	Tea Room	...	New American Restaurant	Nightclub	Opera House	Optical Shop	Palace	Park	Pedestrian Plaza	Performing Arts Venue	Pet Store	Juice Bar
Bab El Sharia	Mosque	Arts & Entertainment	Music Venue	Pie Shop	Sandwich Place	Historic Site	Dessert Shop	Kebab Restaurant	Plaza	...	Opera House	Optical Shop	Palace	Park	Pastry Shop	Pedestrian Plaza	Performing Arts Venue	Pet Store	Pharmacy	Accessories Store
Bulaq	Accessories Store	Used Bookstore	Swiss Restaurant	Market	Flea Market	Tunnel	Pastry Shop	Theater	Tea Room	...	New American Restaurant	Nightclub	Opera House	Optical Shop	Palace	Park	Pedestrian Plaza	Performing Arts Venue	Pet Store	Juice Bar
Dar El Salam	Flea Market	Bakery	Middle Eastern Restaurant	Frozen Yogurt Shop	Fried Chicken Joint	French Restaurant	Food Truck	Food Stand	Food Court	...	Pedestrian Plaza	Park	Music Venue	Palace	Optical Shop	Opera House	Nightclub	New American Restaurant	Neighborhood	Accessories Store
Dokki	Historic Site	Sports Club	Yoga Studio	Flea Market	Frozen Yogurt Shop	Fried Chicken Joint	French Restaurant	Food Truck	Food Stand	...	Pastry Shop	Palace	Museum	Optical Shop	Opera House	Nightclub	New American Restaurant	Neighborhood	Music Venue	Accessories Store
El Ayyat	Art Museum	Historic Site	Plaza	Dessert Shop	Kebab Restaurant	Flea Market	Fried Chicken Joint	French Restaurant	Food Truck	...	Pastry Shop	Palace	Museum	Optical Shop	Opera House	Nightclub	New American Restaurant	Neighborhood	Music Venue	Accessories Store
El Badrashein	Performing Arts Venue	Memorial Site	Farmers Market	Gym / Fitness Center	Mobile Phone Shop	Egyptian Restaurant	Pharmacy	Dessert Shop	Neighborhood	...	Nightclub	Opera House	Optical Shop	Palace	Park	Pastry Shop	Pedestrian Plaza	Pet Store	Pie Shop	Accessories Store
El Basatin	Fast Food Restaurant	Supermarket	Pastry Shop	Kebab Restaurant	Café	Flea Market	Fried Chicken Joint	French Restaurant	Food Truck	...	Park	Optical Shop	Multiplex	Opera House	Nightclub	New American Restaurant	Neighborhood	Music Venue	Museum	Accessories Store
El Darb El Ahmar	Kebab Restaurant	Yoga Studio	Fast Food Restaurant	Frozen Yogurt Shop	Fried Chicken Joint	French Restaurant	Food Truck	Food Stand	Food Court	...	Pedestrian Plaza	Park	Music Venue	Palace	Optical Shop	Opera House	Nightclub	New American Restaurant	Neighborhood	Accessories Store
El Gamaliya	Kids Store	Nightclub	Clothing Store	Bakery	Kebab Restaurant	Egyptian Restaurant	Café	Falafel Restaurant	Farmers Market	...	Pedestrian Plaza	Park	Museum	Palace	Optical Shop	Opera House	New American Restaurant	Neighborhood	Music Venue	Accessories Store
El Khalifa	Museum	History Museum	Historic Site	Flea Market	Plaza	Electronics Store	Event Service	Falafel Restaurant	Farmers Market	...	Pastry Shop	Palace	Multiplex	Optical Shop	Opera House	Nightclub	New American Restaurant	Neighborhood	Music Venue	Accessories Store
El Marg	Hot Dog Joint	Metro Station	Yoga Studio	Fast Food Restaurant	Fried Chicken Joint	French Restaurant	Food Truck	Food Stand	Food Court	...	Pedestrian Plaza	Park	Music Venue	Palace	Optical Shop	Opera House	Nightclub	New American Restaurant	Neighborhood	Accessories Store



Selecting the Coffee Shop to be our Category and dividing the regions to three Clusters according to the total number of Coffee shops in each region and superimposing on the map:



Coffee



First Cluster (in red):the regions with least number(Weight) of Coffee Shops and the highest

## Population Density:

	region	Coffee Shop	Cluster Labels	Population	Latitude	Longitude
28	El Sayeda Zeinab	0.021277	0	136,722	30.032409	31.239037
27	El Salam	0.000000	0	154,267	30.157800	31.402070
30	El Sharabiya	0.000000	0	187,806	30.070050	31.259640
31	El Shorouk	0.021277	0	87,565	30.106880	31.288040
32	El Warraq	0.000000	0	724,963	30.138270	31.386710
33	El Weili	0.000000	0	79,548	30.072060	31.283490
34	El Zaher	0.000000	0	72,101	30.062530	31.254790
35	El Zawya El Hamra	0.000000	0	319,198	30.096000	31.266340
36	Giza	0.000000	0	286,668	29.989460	31.216890
36	Giza	0.000000	0	369,351	29.989460	31.216890
37	Hada'iq El Qobbah	0.000000	0	317,092	30.088430	31.283510
39	Helwan	0.000000	0	522,927	29.846340	31.309780
41	Kerdasa	0.000000	0	449,596	29.940770	31.276960
42	Maadi	0.000000	0	88,869	29.984160	31.271630
44	Nasr City 2	0.000000	0	72,414	30.056210	31.307350
45	New Cairo 1	0.000000	0	136,271	30.082930	31.261069
46	New Cairo 2	0.000000	0	90,960	30.160286	31.404182
47	New Cairo 3	0.000000	0	71,112	30.082849	31.261051
48	Old Cairo	0.000000	0	251,125	30.004520	31.227000
50	Pyramids	0.000000	0	661,478	29.846980	31.332810
52	Rod El Farag	0.000000	0	146,102	30.085615	31.231344
53	Sheikh Zayed City	0.000000	0	90,997	30.047330	30.986790
54	Shubra	0.000000	0	76,942	30.066961	31.245032
55	Tura	0.000000	0	231,154	29.933330	31.266670
27	El Salam	0.000000	0	482,271	30.157800	31.402070
26	El Sahel	0.000000	0	187,806	30.089260	31.236870
57	Zeitoun	0.000000	0	174,738	30.100851	31.286824
24	El Nozha	0.000000	0	231,987	30.111000	31.347490
5	Ain Shams	0.000000	0	616,374	30.135420	31.323890
11	Dar El Salam	0.000000	0	527,335	29.989280	31.260200
25	El Omraniya	0.000000	0	367,274	29.990180	31.190570
4	Agouza	0.000000	0	279,400	29.893120	31.303190
12	Dokki	0.000000	0	71,161	30.050070	31.271920
13	El Ayyat	0.000000	0	494,548	30.040050	31.255300
14	El Badrashein	0.021277	0	539,656	30.036720	31.241910
9	Bab El Sharia	0.000000	0	46,823	30.056520	31.259540
16	El Darb El Ahmar	0.000000	0	58,677	29.977690	31.263610



**Second Cluster (in purple): the regions with Moderate number(Wight) of Coffee Shops and the high Population Density**

region	Coffee Shop	Cluster Labels	Population	Latitude	Longitude
Abdeen	0.085106	1	40,450	30.045420	31.24210
Qasr El Nil	0.042553	1	10,596	30.043712	31.22953
Ossim	0.063830	1	384,527	30.049920	31.24860
Imbaba	0.085106	1	518,036	30.073545	31.23005
Azbakeya	0.063830	1	19,826	30.049920	31.24860
Nasr City 1	0.063830	1	636,864	30.069660	31.34495
Imbaba	0.085106	1	634,686	30.073545	31.23005
Heliopolis	0.063830	1	134,549	30.091020	31.31137
El Segil	0.063830	1	317,442	30.049920	31.24860
Atfeh	0.063830	1	370,079	30.049920	31.24860
15 May City	0.042553	1	93,879	29.829830	31.36965



**Third Cluster (in green): the regions with highest number(Weight) of Coffee Shops and the lowest Population Density**

region	Coffee Shop	Cluster Labels	Population	Latitude	Longitude
Bulaq	0.127660	2	963,201	30.04992	31.2486
Zamalek	0.148936	2	14,993	30.05586	31.2239





# Results

# The Best Choice is the regions in Cluster 1

	region	Coffee Shop	Cluster Labels	Population	Latitude	Longitude
28	El Sayeda Zeinab	0.021277	0	136,722	30.032409	31.239037
27	El Salam	0.000000	0	154,267	30.157800	31.402070
30	El Sharabiya	0.000000	0	187,806	30.070050	31.259640
31	El Shorouk	0.021277	0	87,565	30.106880	31.288040
32	El Warraq	0.000000	0	724,963	30.138270	31.386710
33	El Weili	0.000000	0	79,548	30.072060	31.283490
34	El Zaher	0.000000	0	72,101	30.062530	31.254790
35	El Zawya El Hamra	0.000000	0	319,198	30.096000	31.266340
36	Giza	0.000000	0	286,668	29.989460	31.216890
36	Giza	0.000000	0	369,351	29.989460	31.216890
37	Hada'iq El Qobbah	0.000000	0	317,092	30.088430	31.283510
39	Helwan	0.000000	0	522,927	29.846340	31.309780
41	Kerdasa	0.000000	0	449,596	29.940770	31.276960
42	Maadi	0.000000	0	88,869	29.984160	31.271630
44	Nasr City 2	0.000000	0	72,414	30.056210	31.307350
45	New Cairo 1	0.000000	0	136,271	30.082930	31.261069
46	New Cairo 2	0.000000	0	90,960	30.160286	31.404182
47	New Cairo 3	0.000000	0	71,112	30.082849	31.261051
48	Old Cairo	0.000000	0	251,125	30.004520	31.227000
50	Pyramids	0.000000	0	661,478	29.846980	31.332810
52	Rod El Farag	0.000000	0	146,102	30.085615	31.231344
53	Sheikh Zayed City	0.000000	0	90,997	30.047330	30.986790
54	Shubra	0.000000	0	76,942	30.066961	31.245032
55	Tura	0.000000	0	231,154	29.933330	31.266670
27	El Salam	0.000000	0	482,271	30.157800	31.402070
26	El Sahel	0.000000	0	187,806	30.089260	31.236870
57	Zeitoun	0.000000	0	174,738	30.100851	31.286824
24	El Nozha	0.000000	0	231,987	30.111000	31.347490
5	Ain Shams	0.000000	0	616,374	30.135420	31.323890
11	Dar El Salam	0.000000	0	527,335	29.989280	31.260200
25	El Omraniya	0.000000	0	367,274	29.990180	31.190570
4	Agouza	0.000000	0	279,400	29.893120	31.303190
12	Dokki	0.000000	0	71,161	30.050070	31.271920
13	El Ayyat	0.000000	0	494,548	30.040050	31.255300
14	El Badrashein	0.021277	0	539,656	30.036720	31.241910
9	Bab El Sharia	0.000000	0	46,823	30.056520	31.259540
16	El Darb El Ahmar	0.000000	0	58,677	29.977690	31.263610

