FINAL CAPSTONE PROJECT

THE BATTLE OF NEIGHBORS – WEEK 2

WELCOME TO RIO DE JANEIRO!

Rio de Janeiro is one of the most beautiful cities in the world. It is a multicultural city, with a great potential for tourism. Its beaches are always crowded, so it is also one of the best places to make business.

BUSINESS PROBLEM

Rio is a coast city, where every year thousands of tourists come to know Rio's most famous places, like Christ the Redemptor, the Sugar Loaf or Santa Teresa's Stairway. It is known to hold the most famous party: the carnaval.

This much of attractivity is also good for business, so in this Project, we will see the best place in rio to open an Italian restaurant.

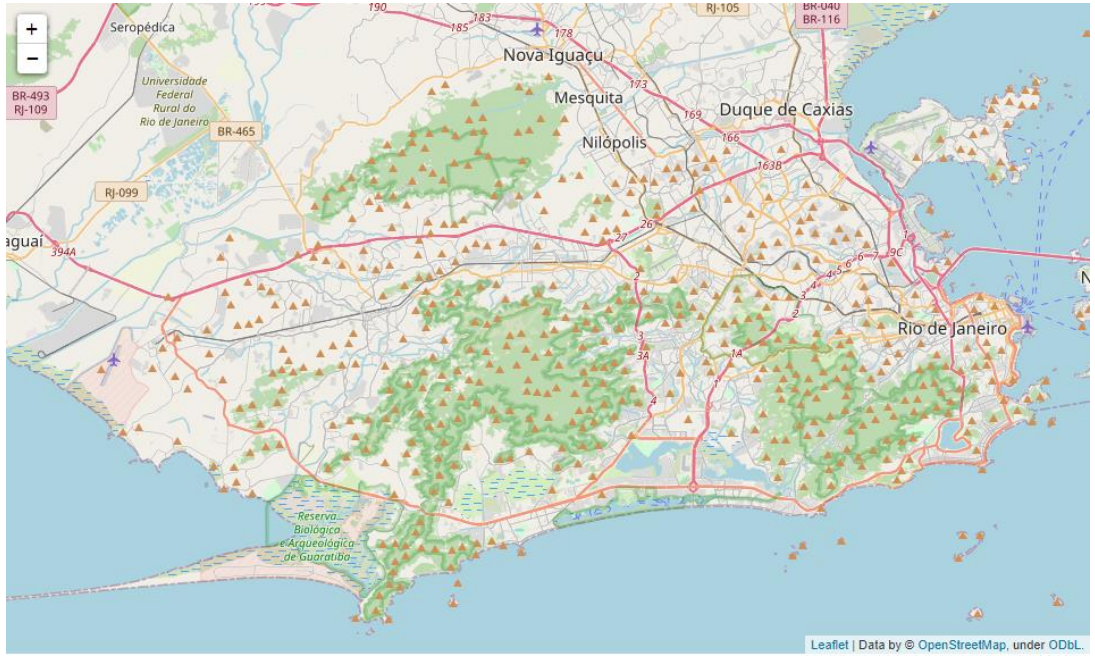
BUSINESS PROBLEM

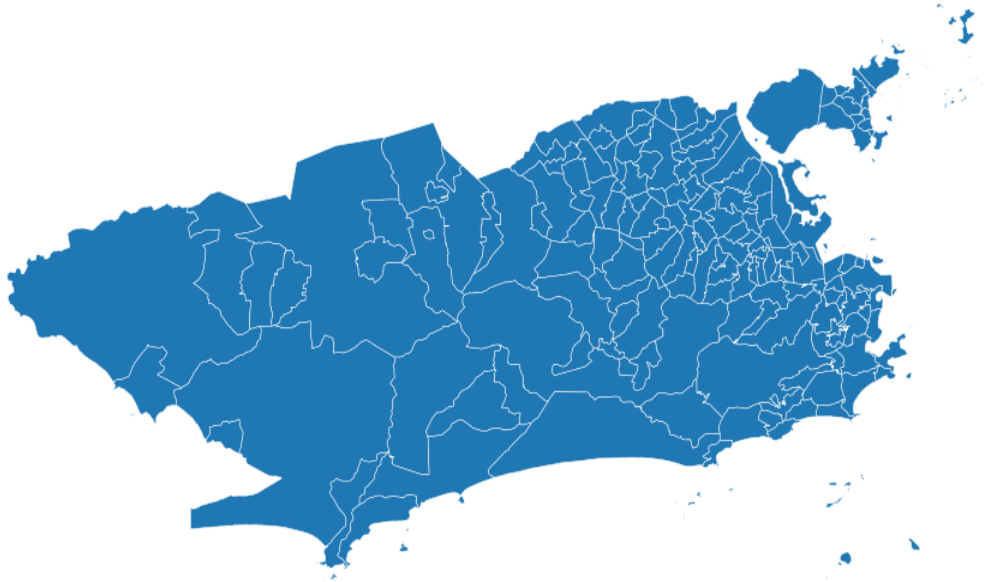
It is not na easy task opening a restaurant in Rio. There's a lot of cheap options, with extremely good food. So, in order to make money with a restaurant, it must be not only good, but excelente. Rio, as many other cities, has its noble zones, which we call South zone, and some pieces of West zone, although they are not really geographically correct. So in order to get the best location, what we are going to do is to survey how some restaurants are distributed among Rio's districts, and we are going to use Python to do this.

ENTER FOURSQUARE

- Foursquare is a social media tool to share experiences about an specific place. Everything in a geographical point can be shared, and ranked compared with other features. We are going to use the API provided by Foursquare to find our restaurant's homeplace.

FOLIUM VS GEOPANDAS

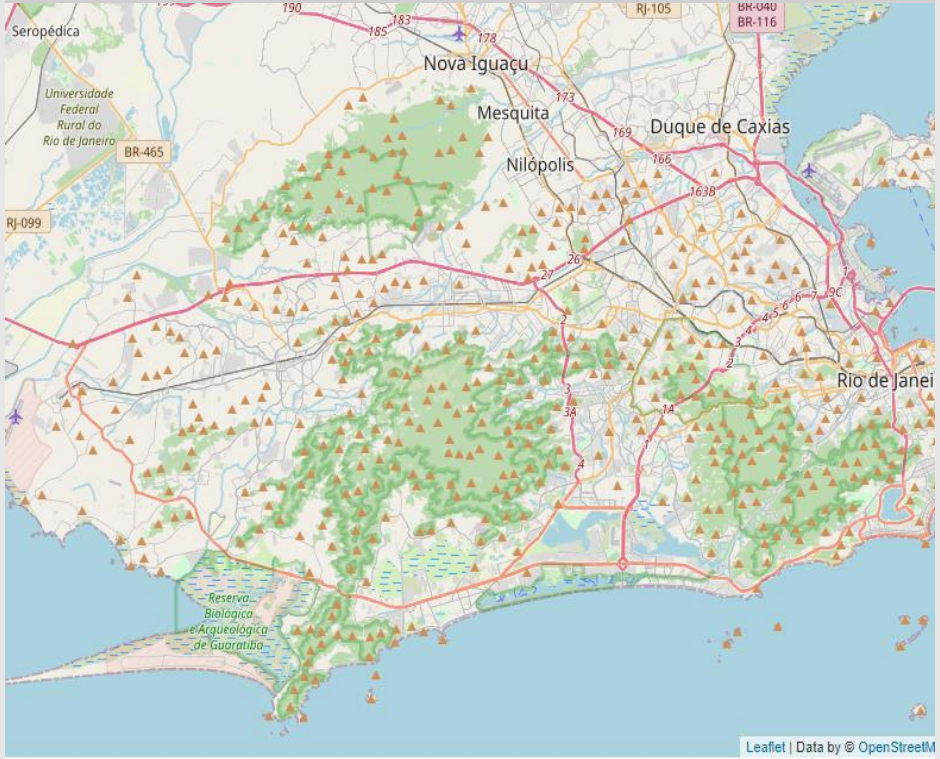




FOLIUM VS GEOPANDAS

FOLIUM

Folium: Folium visualizes data that's been manipulated in Python on an interactive leaflet map. Folium has built-in tilesets from OpenStreetMap and Mapbox. Folium provides an interactive map with many features.



GEOPANDAS

GeoPandas: GeoPandas is a Python package used to produce a tangible, visible output that is directly linked to the real world, but for that, you need a shapefile, in order to draw your map. However, you can do a lot of things Folium can't.

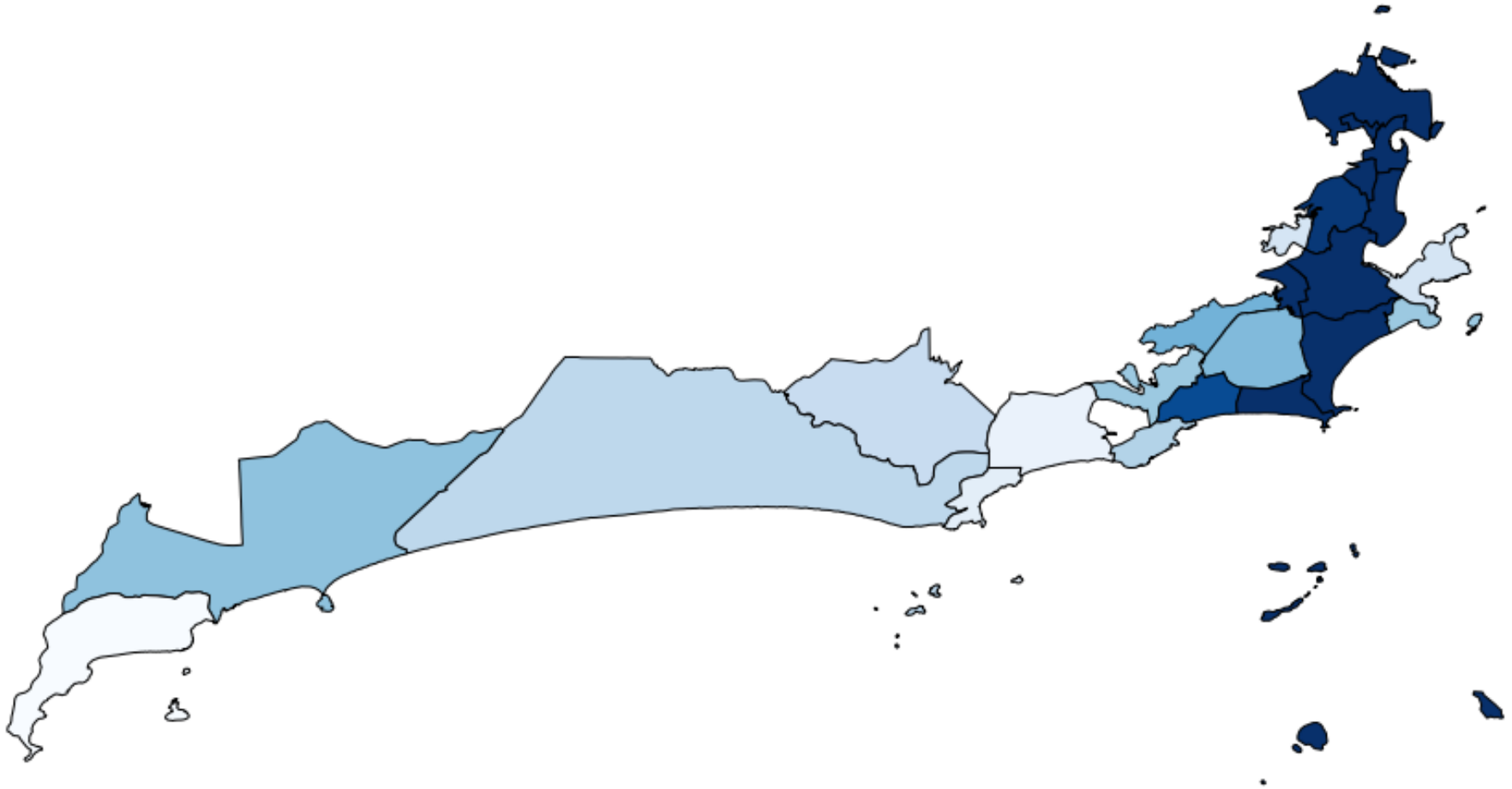
And for last...bokeh!

Bokeh is an interactive visualization library for modern web browsers. It provides elegant, concise construction of versatile graphics, and affords high-performance interactivity over large or streaming datasets. Bokeh can help anyone who would like to quickly and easily make interactive plots, dashboards, and data applications.

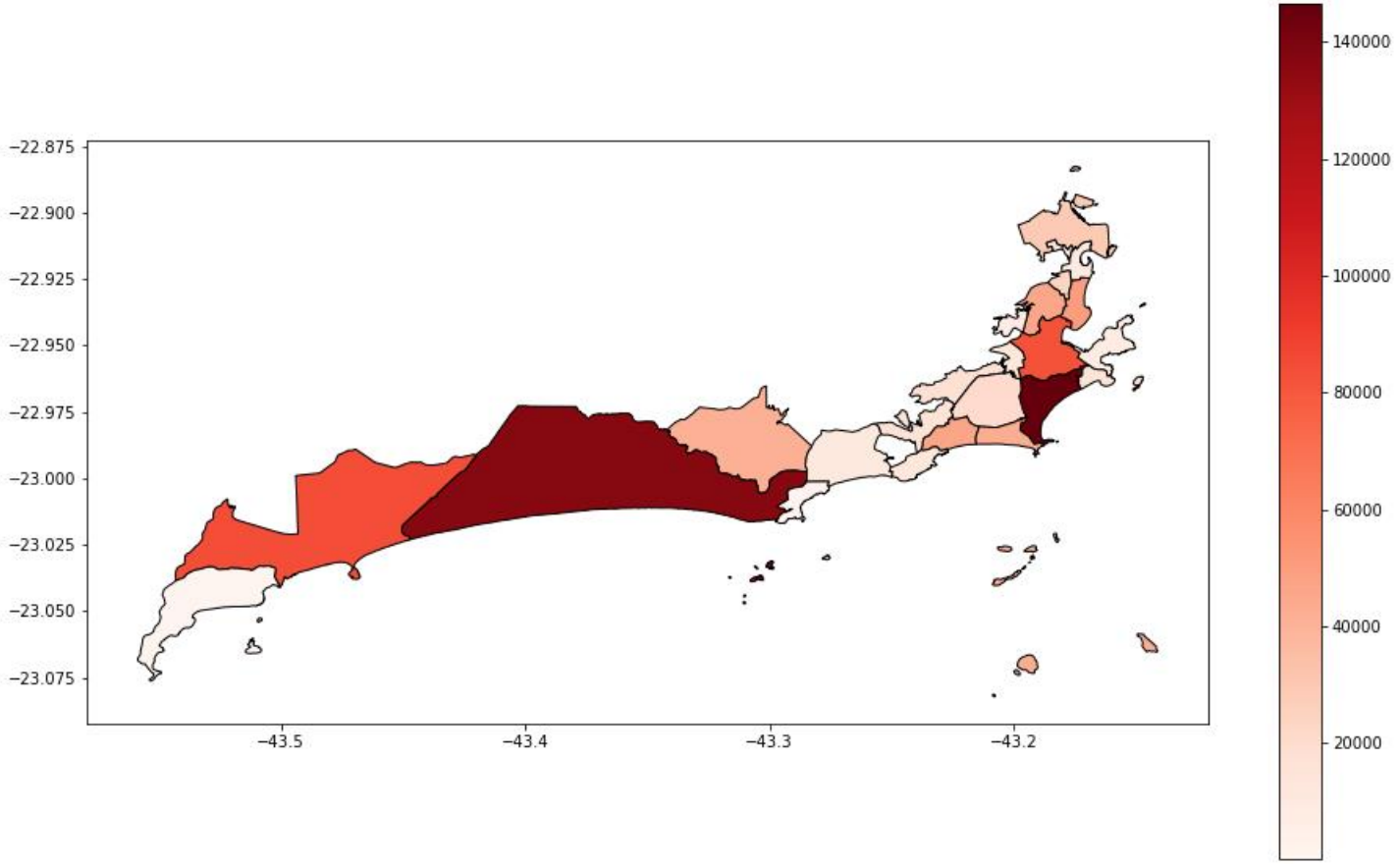
RESULTS - DATA FRAME

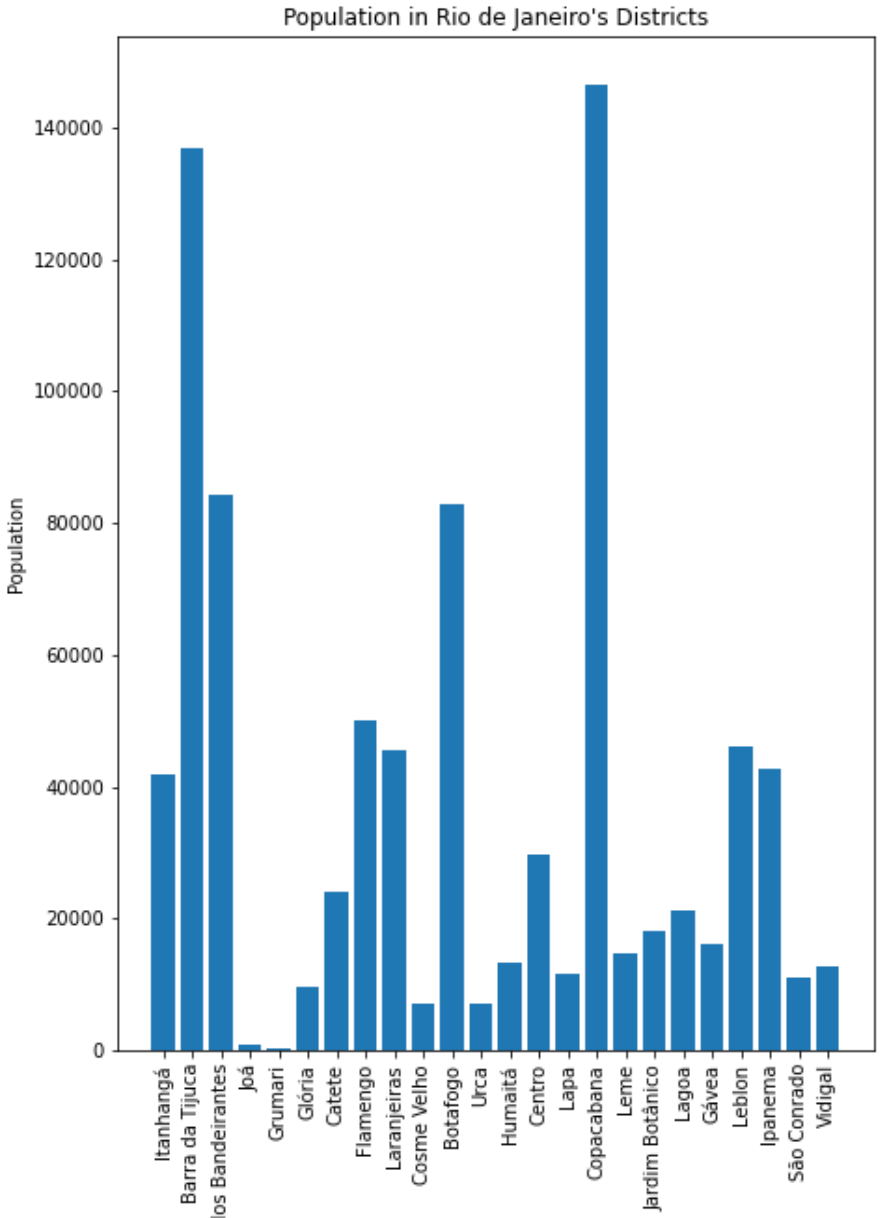
NOME	REGIAO_ADM	Numero_de_restaurantes	Population	Residencies	longitude	latitude	people_per_restaurant
Itanhangá	BARRA DA TIJUCA	8	41801	13997	-43,3100786	-22,98588458	5225,13
Barra da Tijuca	BARRA DA TIJUCA	9	136831	51427	-43,37288455	-22,99870042	15203,44
Recreio dos Bandeirantes	BARRA DA TIJUCA	13	84224	29118	-43,4808279	-23,01509567	6478,77
Joá	BARRA DA TIJUCA	4	818	251	-43,28722136	-23,00796157	204,50
Grumari	BARRA DA TIJUCA	1	167	44	-43,5309152	-23,04675888	167,00
Glória	BOTAFOGO	30	9661	4564	-43,17327652	-22,91910183	322,03
Catete	BOTAFOGO	30	24057	10446	-43,18018849	-22,92664607	801,90
Flamengo	BOTAFOGO	30	50043	23230	-43,17418202	-22,93471075	1668,10
Laranjeiras	BOTAFOGO	29	45554	18867	-43,1884927	-22,93534772	1570,83
Cosme Velho	BOTAFOGO	6	7178	2377	-43,20073502	-22,94158606	1196,33
Botafogo	BOTAFOGO	30	82890	35254	-43,18610178	-22,95224427	2763,00
Urca	BOTAFOGO	6	7061	2851	-43,16184041	-22,95041772	1176,83
Humaitá	BOTAFOGO	30	13285	5812	-43,20102095	-22,95494751	442,83
Centro	CENTRO	30	29555	14196	-43,17856458	-22,90629649	985,17
Lapa	CENTRO	30	11587	5713	-43,18091771	-22,91340069	386,23
Copacabana	COPACABANA	30	146392	66250	-43,18741209	-22,9705608	4879,73
Leme	COPACABANA	12	14799	6234	-43,1648042	-22,96225116	1233,25
Jardim Botânico	LAGOA	15	18009	7052	-43,22426144	-22,96451155	1200,60
Lagoa	LAGOA	14	21198	8433	-43,20923771	-22,971085	1514,14
Gávea	LAGOA	12	16003	6438	-43,23882776	-22,97981908	1333,58
Leblon	LAGOA	27	46044	19633	-43,22534139	-22,98379865	1705,33
Ipanema	LAGOA	30	42743	18496	-43,19571376	-23,01206721	1424,77
São Conrado	LAGOA	3	10980	3855	-43,26854068	-22,99201857	3660,00
Vidigal	LAGOA	10	12797	4311	-43,23996318	-22,99474224	1279,70

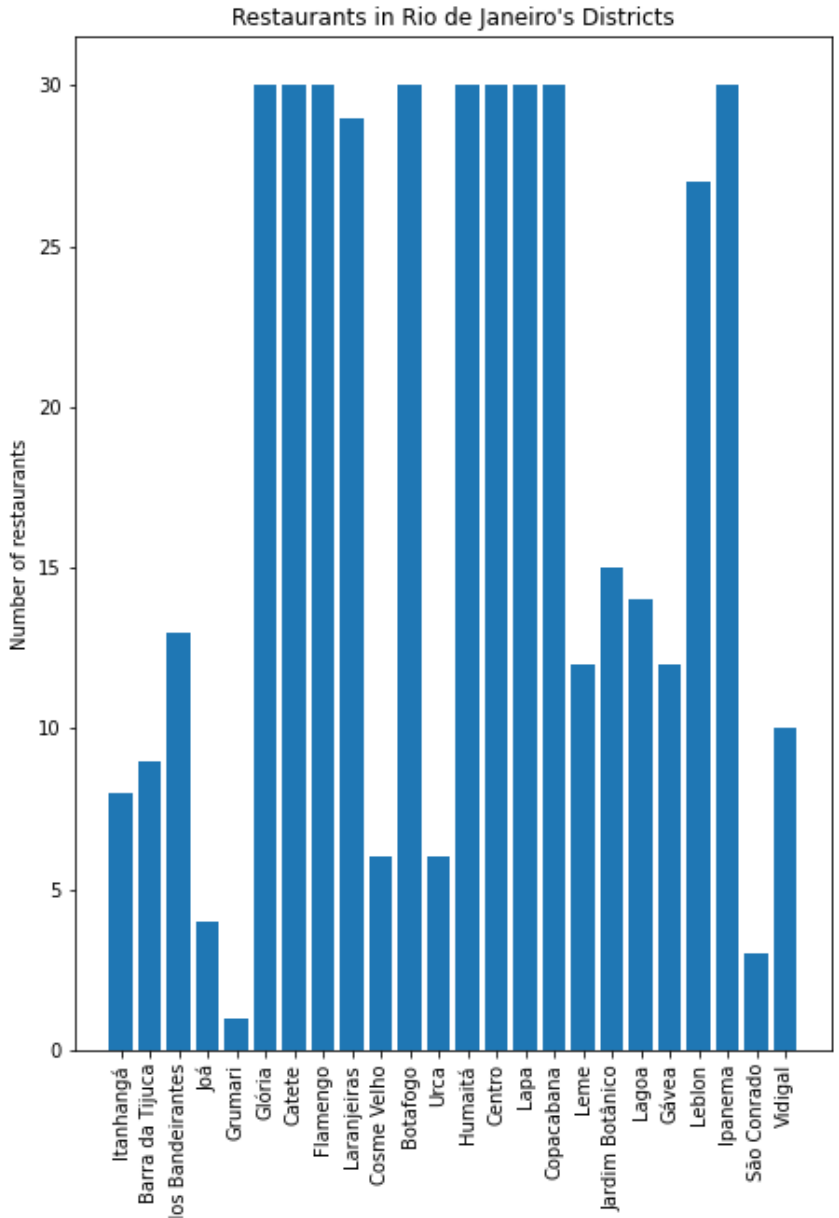
SOUTH AND WEST ZONE RESTAURANTS



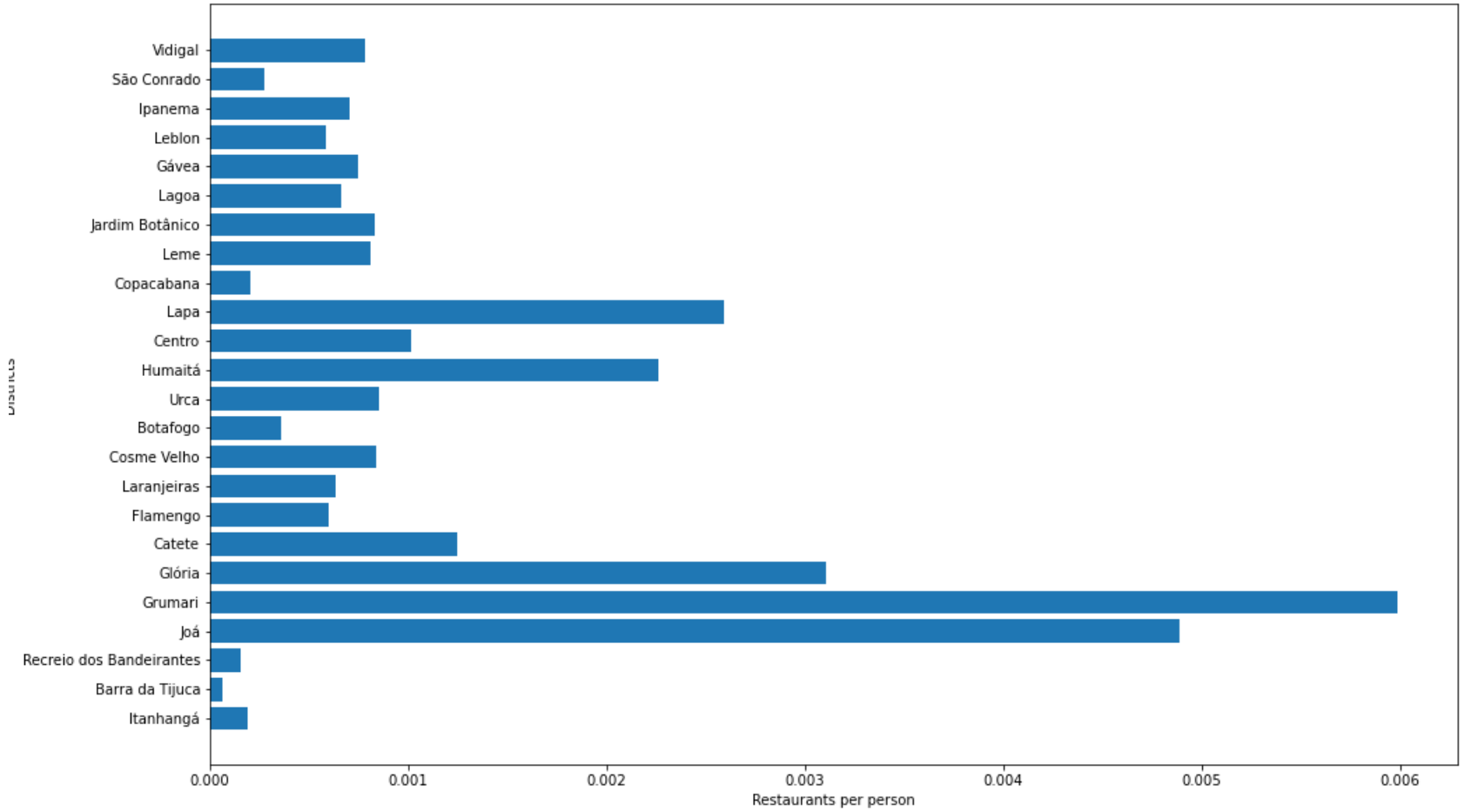
RIO DE JANEIRO - POPULATION



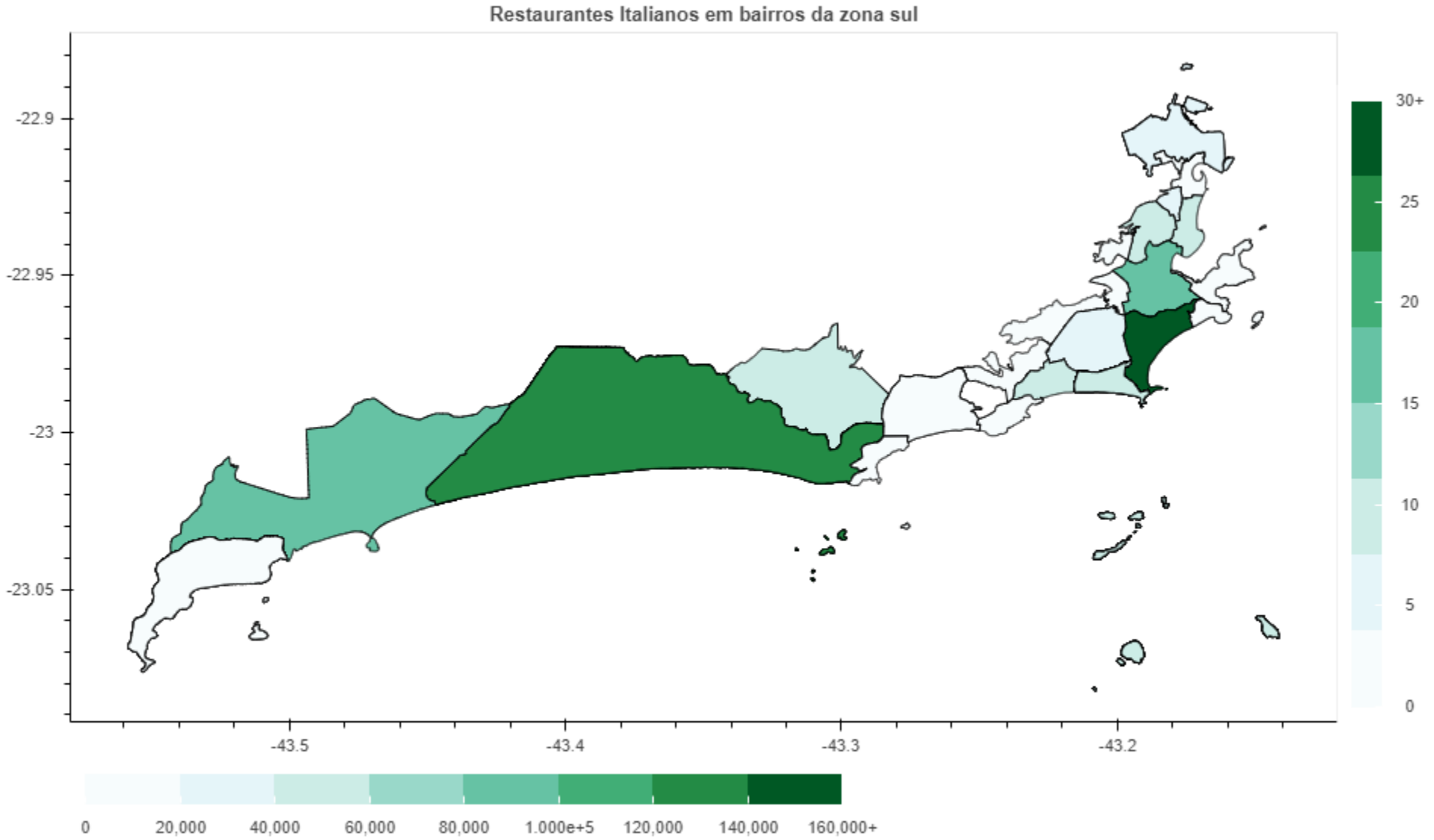

Population in Rio de Janeiro's Districts
Population
0
20000
40000
60000
80000
100000
120000
140000
Itanhangá
Barra da Tijuca
los Bandeirantes
Joá
Grumari
Glória
Catete
Flamengo
Laranjeiras
Cosme Velho
Botafogo
Urca
Humaitá
Centro
Lapa
Copacabana
Leme
Jardim Botânico
Lagoa
Gávea
Leblon
Ipanema
São Conrado
Vidigal


Restaurants in Rio de Janeiro's Districts
Number of restaurants
0
5
10
15
20
25
30
Itanhangá
Barra da Tijuca
los Bandeirantes
Joá
Grumari
Glória
Catete
Flamengo
Laranjeiras
Cosme Velho
Botafogo
Urca
Humaitá
Centro
Lapa
Copacabana
Leme
Jardim Botânico
Lagoa
Gávea
Leblon
Ipanema
São Conrado
Vidigal

RESTAURANTS PER PERSON



BOKEH PLOT


Restaurantes Italianos em bairros da zona sul
-22.9
-22.95
-23
-23.05
-43.5
-43.4
-43.3
-43.2
30+
25
20
15
10
5
0
0
20,000
40,000
60,000
80,000
1.000e+5
120,000
140,000
160,000+

THANK YOU!