

CAPSTONE PROJECT DATA SCIENCE

Business Problem

Find the Best location in Puerto Rico to start Burger point

Methodology

- Understand the neighborhood in order to find the best location for starting new Burger point
- Find a location where there are more schools, universities and offices.
- Utilized Foursquare API call to do the neighborhood analysis.
- Analyze the data to find the location where more offices , schools and universities.

Data Section:

Data for the analysis is taken from the below URL

https://zipcodedownload.com/lookup/Puerto_Rico

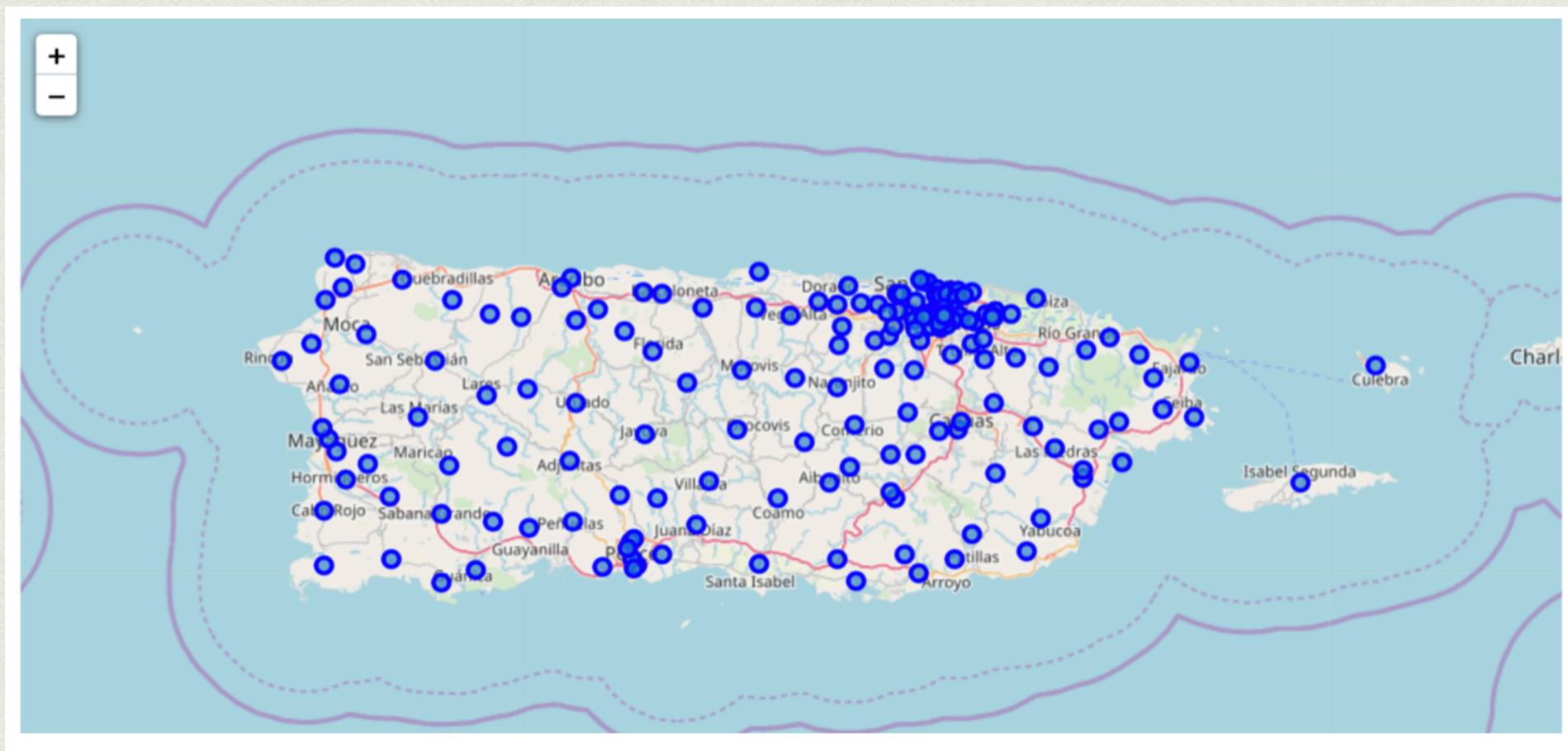
It has Zip code, City Name, State Name columns and links to find the latitude and longitude for each Zip code. I have pulled all these details and saved it in csv file

Out[2]:

	ZIP	CITY NAME	COUNTY NAME	STATE NAME	LAT	LNG
0	00601	Adjuntas	Adjuntas	Puerto Rico	18.165950	-66.723630
1	00602	Aguada	Aguada	Puerto Rico	18.361945	-67.175597
2	00603	Aguadilla	Aguadilla	Puerto Rico	18.455183	-67.119887
3	00604	Aguadilla	Aguadilla	Puerto Rico	18.505290	-67.135900
4	00605	Aguadilla	Aguadilla	Puerto Rico	18.436150	-67.151340
5	00606	Maricao	Maricao	Puerto Rico	18.158345	-66.932911
6	00610	Anasco	Anasco	Puerto Rico	18.295366	-67.125135
7	00611	Angeles	Utuado	Puerto Rico	18.287720	-66.797580
8	00612	Arecibo	Arecibo	Puerto Rico	18.402253	-66.711397
9	00613	Arecibo	Arecibo	Puerto Rico	18.472740	-66.719280
10	00614	Arecibo	Arecibo	Puerto Rico	18.456900	-66.735890

Locations in Puerto Rico

Below map shows the location zip code in Puerto Rico



Below table and Map shows the Offices in PR

Offices

```
zipcode_venues_office = getNearbyVenues(names=df['ZIP'], latitudes=df['LAT'], longitudes=df['LNG'], radius=1000, categories='Post Office')
zipcode_venues_office.head()
```

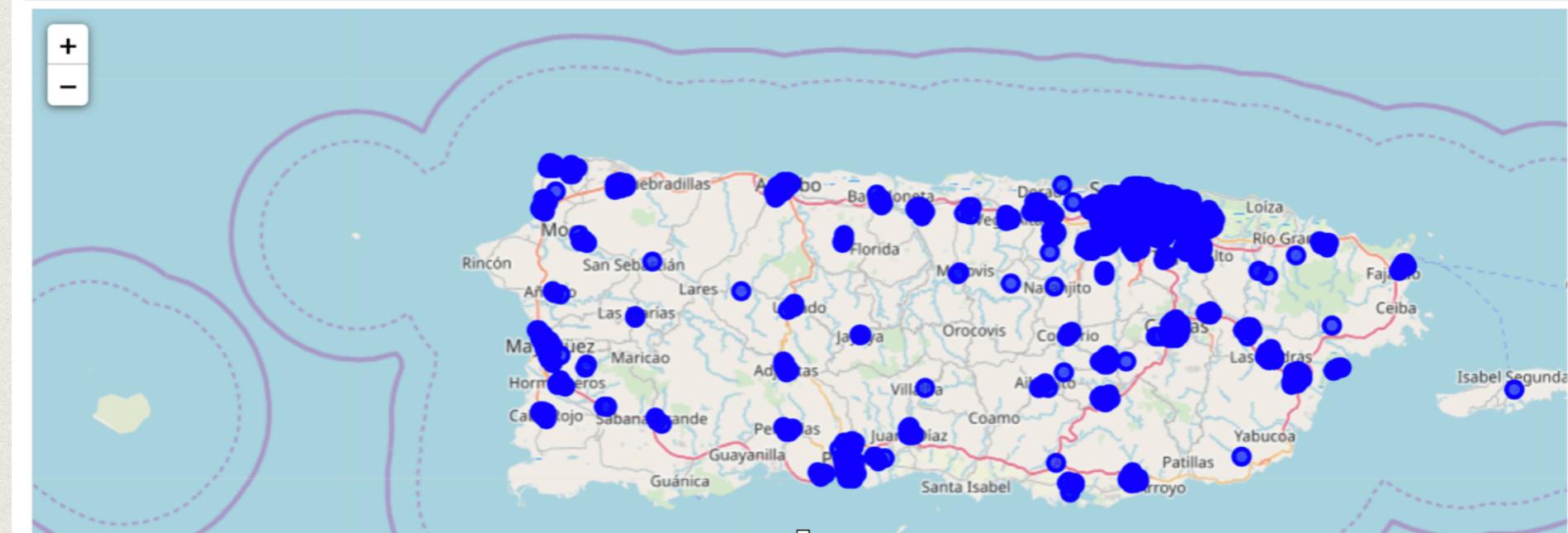
	Localidad	Localidad	Latitude	Localidad	Longitude	Venue	Venue Latitude	Venue Longitude	Venue Category
0	00601		18.16595		-66.72363	Comite PPD Adjuntas	18.165085	-66.723804	Government Building
1	00601		18.16595		-66.72363	Tribunal de Primera Instancia de Adjuntas	18.166603	-66.724940	Courthouse
2	00601		18.16595		-66.72363	COMICIÓN ESTATAL DE ELECCIONES	18.164359	-66.723519	Voting Booth
3	00601		18.16595		-66.72363	Funeraria Del Carmen	18.162893	-66.725784	Funeral Home
4	00601		18.16595		-66.72363	US Postal Office (Correo Adjuntas)	18.163619	-66.721990	Post Office

```
zipcode_venues_office.shape
```

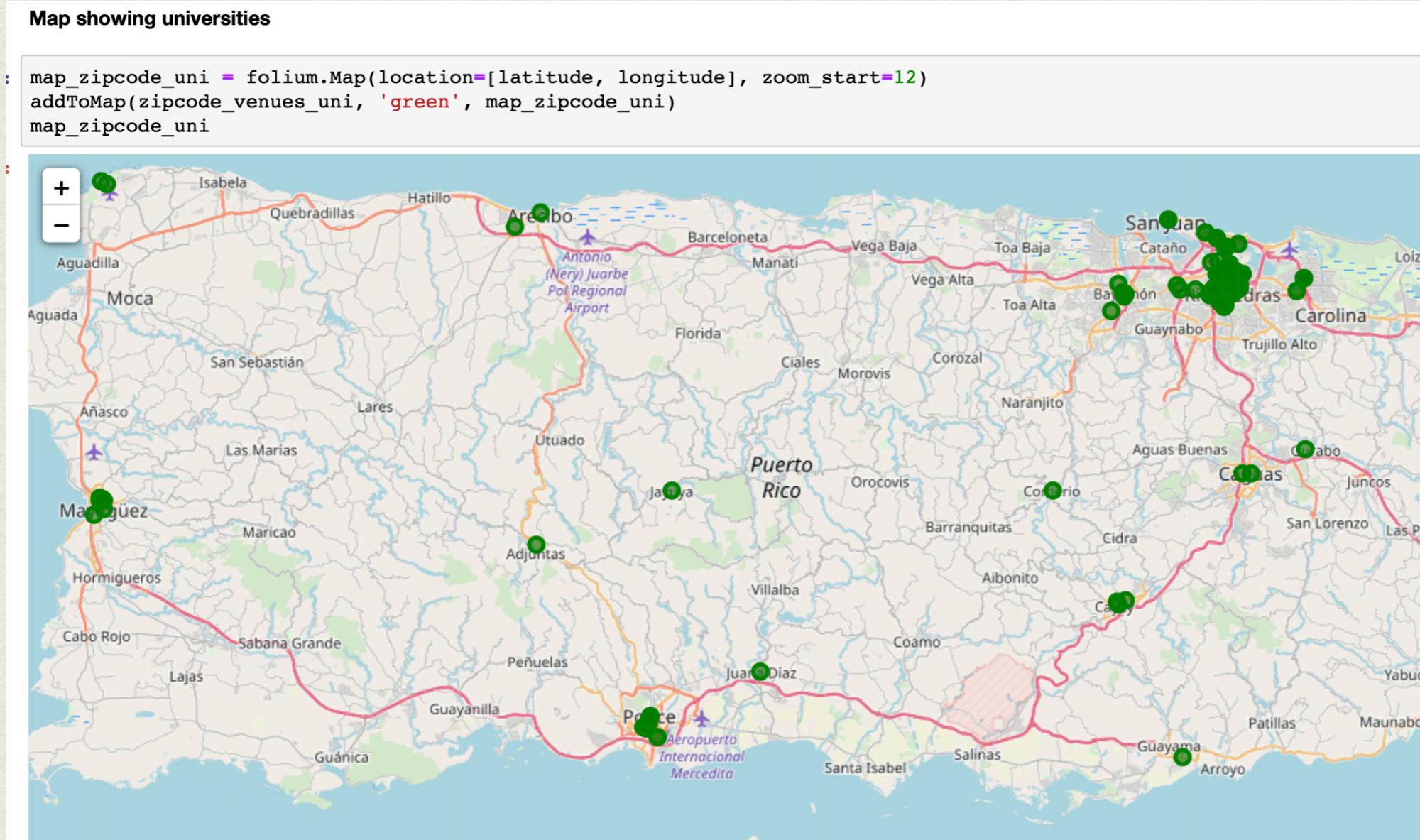
```
(3825, 7)
```

Offices in MAP

```
map_zipcode_office = folium.Map(location=[latitude, longitude], zoom_start=12)
addToMap(zipcode_venues_office, 'blue', map_zipcode_office)
map_zipcode_office
```



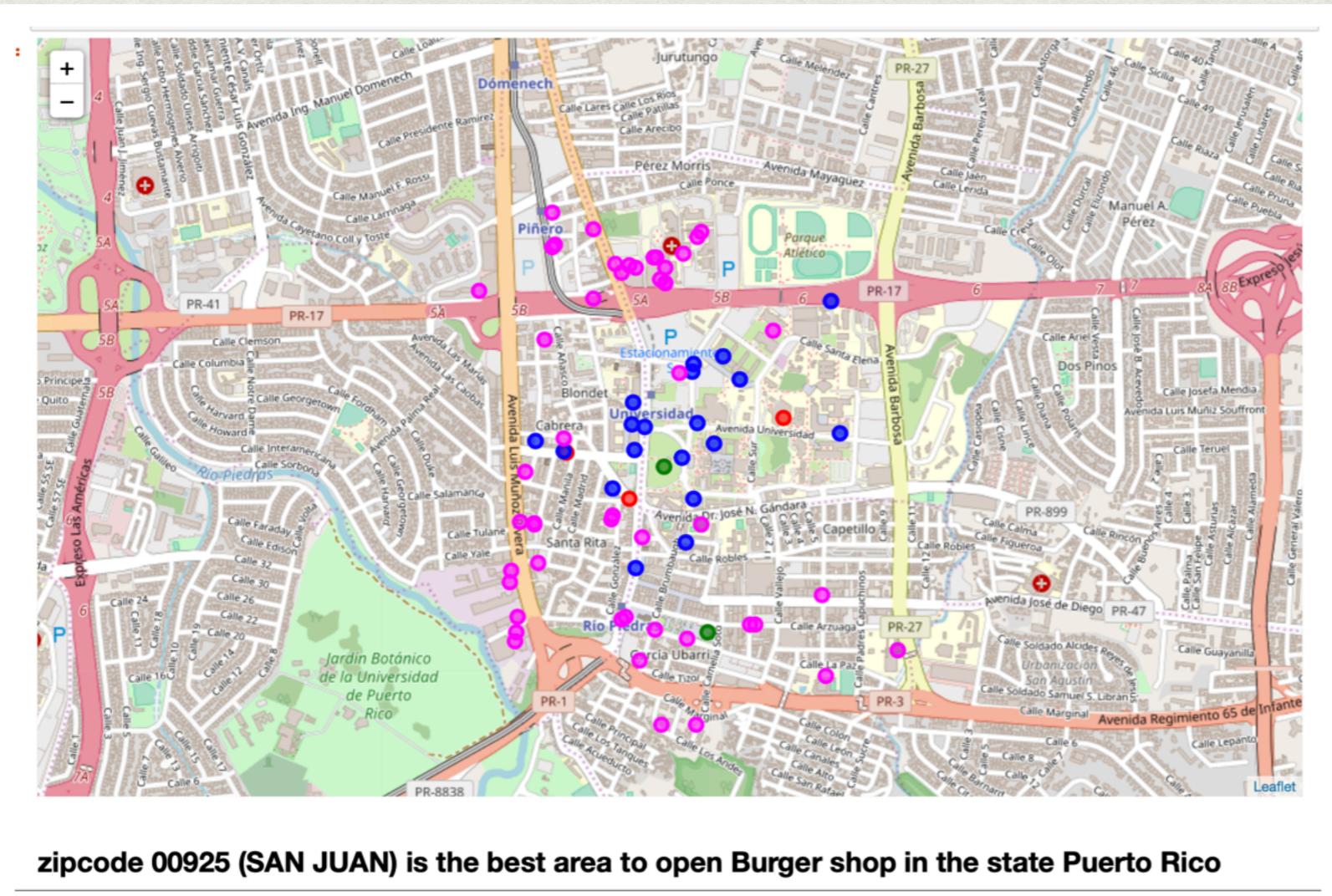
Below map shows the Universities in Puerto Rico



Neighborhood:

Below map shows the neighborhood of our potential place of our new Burger point

- Blue shows Universities
- Pink shows Offices
- Green shows schools
- Red shows Burger Points



Results and Discussion

- The best score goes to the location zip code: 00925.
- This location is best for starting a new Burger point.

	Localidad	Score
128	00925	187.0
134	00931	176.0
133	00930	175.0
139	00937	168.0
148	00955	168.0
120	00917	167.0

Conclusion:

One can start a new Burger point at SAN JUAN city in Puerto Rico (zip code 00925) to serve more people and earn more profits