



# *Final Capstone*

*BEST NEIGHBORHOOD TO LIVE IN MADRID (FOR MY INTERESTS)*

# The problem

- ▶ Where do I live between the next postcodes:
  - ▶ 28001
  - ▶ 28003
  - ▶ 28008
  - ▶ 28050



The data

I found this

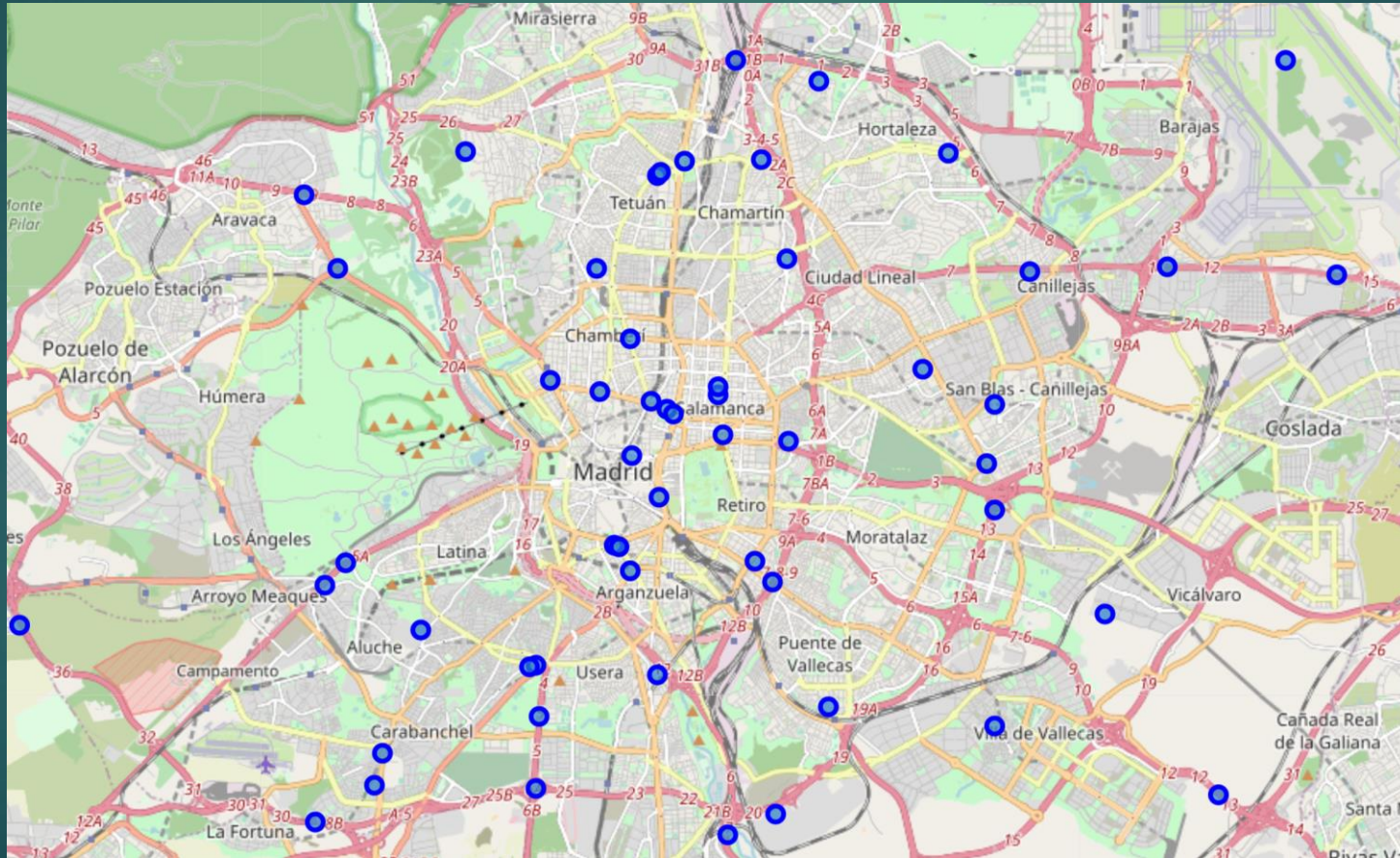
But I cleaned it into this

Codigo de viCodigo de viClase de la viParticula de lNombre de lLiteral de nuCodigo de diNombre del iCodigo de baNombre del iSeccion comoCodigo postaSeccion de ciZonaServicioCategoría lbaDireccion conCoordenadaCoordenadaLongitude en iLatitud en iTipo de la viSituación deTipo de domParcela catasTopología del Zona de valor																								
33033289	33031337	AUTOVIA	A-1	KM 0030000	8	FUENCARRAJ	6	VALVERDE	366	28050	ND	0	9	AUTOV A-1	44805563	448256340	1940723.67° W	40°29'21.82" N	Topónimo	Nivel	Admon	Parcela	R215	
33033306	33031337	AUTOVIA	A-1	KM 0030000	16	HORTALEZA	6	VALDEFUENTE	129	28050	ND	0	9	AUTOV A-1	44821246	448256377	1940226.75° W	40°29'21.45" N	Topónimo	Nivel	Admon	Parcela	R216	
33033301	33031337	AUTOVIA	A-1	KM 0031000	6	FUENCARRAJ	6	VALVERDE	170	28050	ND	0	9	AUTOV A-1	44825634	448330933	193957.53° W	40°29'48.11" N	Topónimo	Nivel	Admon	Parcela	R213	
33033300	33031337	AUTOVIA	A-1	KM 0031000	16	HORTALEZA	6	VALDEFUENTE	120	28050	ND	0	9	AUTOV A-1	44873755	44832551	193954.87° W	40°29'46.38" N	Topónimo	Nivel	Admon	Parcela	R218	
33033291	33031337	AUTOVIA	A-1	KM 0032000	8	FUENCARRAJ	6	VALVERDE	367	28050	ND	0	9	AUTOV A-1	44825637	448408185	1939733.37° W	40°29'13.12" N	Topónimo	Nivel	Admon	Parcela	R210	
33033302	33031337	AUTOVIA	A-1	KM 0032000	16	HORTALEZA	6	VALDEFUENTE	114	28050	ND	0	9	AUTOV A-1	44832661	44840433	1939236.94° W	40°29'12.14" N	Topónimo	Nivel	Admon	439950294	Parcela	R219
33033306	33031337	AUTOVIA	A-1	KM 0033000	8	FUENCARRAJ	6	VALVERDE	367	28058	ND	0	9	AUTOV A-1	44848526	448495442	193927.89° W	40°29'41.63" N	Topónimo	Nivel	Admon	Parcela	RUSTICA	
33033305	33031337	AUTOVIA	A-1	KM 0033000	16	HORTALEZA	6	VALDEFUENTE	123	28050	ND	0	9	AUTOV A-1	44843263	448497941	193926.43° W	40°29'42.45" N	Topónimo	Nivel	Admon	Parcela	R219	
33033293	33031336	AUTOVIA	A-2	KM 0030000	15	CIUDAD LINE	6	SAN JUAN BF	149	28037	ND	0	9	AUTOV A-2	44849993	447782363	193912.37° W	40°29'35.54" N	Topónimo	Nivel	Admon	Parcela	R354B	
33033252	33031336	AUTOVIA	A-2	KM 0030000	15	CIUDAD LINE	6	SAN PABLO	144	28037	ND	0	9	AUTOV A-2	44825640	447796264	193912.62° W	40°29'49.81" N	Topónimo	Nivel	Admon	Parcela	R354B	
33033358	33031336	AUTOVIA	A-2	KM 0030000	16	HORTALEZA	2	PROVERA	4	28037	ND	0	9	AUTOV A-2	44855876	447805791	193876.70° W	40°29'38.28" N	Topónimo	Nivel	Admon	308750204	Parcela	R241
33033356	33031336	AUTOVIA	A-2	KM 0030000	20	SAN BLAS CA	8	EL SALVADOR	106	28037	ND	0	9	AUTOV A-2	44857997	447802578	193835.00° W	40°29'57.24" N	Topónimo	Nivel	Admon	Parcela	R23M	
33033305	33031336	AUTOVIA	A-2	KM 0030700	2	PROVERA	3	PROVERA	103	28037	ND	0	9	AUTOV A-2	44855346	447804210	193733.67° W	40°29'57.88" N	Topónimo	Nivel	Admon	Parcela	R241	
33033363	33031336	AUTOVIA	A-2	KM 0030700	20	SAN BLAS CA	8	EL SALVADOR	99	28037	ND	0	9	AUTOV A-2	44855780	447801231	193733.49° W	40°29'56.98" N	Topónimo	Nivel	Admon	Parcela	R23M	
33033367	33031336	AUTOVIA	A-2	KM 0030800	16	HORTALEZA	1	PALOMAS	2	28042	ND	0	9	AUTOV A-2	44757023	447808230	193710.55° W	40°29'59.48" N	Topónimo	Nivel	Admon	Parcela	R241	
33033366	33031336	AUTOVIA	A-2	KM 0030800	20	SAN BLAS CA	7	CANILLAS	93	28042	ND	0	9	AUTOV A-2	44757024	447804961	193710.43° W	40°29'58.48" N	Topónimo	Nivel	Admon	Parcela	R23M	
33033370	33031336	AUTOVIA	A-2	KM 0030900	16	HORTALEZA	1	PALOMAS	3	28042	ND	0	9	AUTOV A-2	44852358	447808488	193629.96° W	40°29'59.31" N	Topónimo	Nivel	Admon	Parcela	R26A	
33033369	33031336	AUTOVIA	A-2	KM 0030900	20	SAN BLAS CA	7	CANILLAS	73	28042	ND	0	9	AUTOV A-2	44852621	447803877	193629.95° W	40°29'58.37" N	Topónimo	Nivel	Admon	Parcela	R237	
33033372	33031336	AUTOVIA	A-2	KM 0031000	21	BARAJAS	1	ALAMEDA DE	14	28042	ND	0	9	AUTOV A-2	44854893	447811082	193546.54° W	40°27'0.76" N	Topónimo	Nivel	Admon	Parcela	R304B	
33033371	33031336	AUTOVIA	A-2	KM 0031000	20	SAN BLAS CA	6	REAS	123	28042	ND	0	9	AUTOV A-2	44854892	447807767	193546.49° W	40°29'59.83" N	Topónimo	Nivel	Admon	Parcela	R306	
33033376	33031336	AUTOVIA	A-2	KM 0031200	21	BARAJAS	2	AEROPUERTO	15	28042	ND	0	9	AUTOV A-2	45052779	447808411	193533.97° W	40°27'0.23" N	Topónimo	Nivel	Admon	Parcela	R25Q	
33033375	33031336	AUTOVIA	A-2	KM 0031200	20	SAN BLAS CA	6	REAS	123	28042	ND	0	9	AUTOV A-2	45052781	447805242	193533.00° W	40°29'59.35" N	Topónimo	Nivel	Admon	Parcela	R26P	
33033378	33031336	AUTOVIA	A-2	KM 0031200	21	BARAJAS	2	AEROPUERTO	15	28042	ND	0	9	AUTOV A-2	45148023	447806019	193424.21° W	40°29'59.66" N	Topónimo	Nivel	Admon	Parcela	R25Q	
33033377	33031336	AUTOVIA	A-2	KM 0031200	20	SAN BLAS CA	6	REAS	126	28042	ND	0	9	AUTOV A-2	45148024	447803156	193424.25° W	40°29'58.72" N	Topónimo	Nivel	Admon	Parcela	R26P	
33033380	33031336	AUTOVIA	A-2	KM 0031300	21	BARAJAS	2	AEROPUERTO	15	28042	ND	0	9	AUTOV A-2	45248789	447803060	193431.70° W	40°29'58.97" N	Topónimo	Nivel	Admon	Parcela	R26Q	
33033379	33031336	AUTOVIA	A-2	KM 0031300	20	SAN BLAS CA	6	REAS	126	28042	ND	0	9	AUTOV A-2	45248961	447800716	193431.77° W	40°29'57.90" N	Topónimo	Nivel	Admon	Parcela	R26Q	
33035805	33031336	AUTOVIA	A-2	KM 0031390	21	BARAJAS	2	AEROPUERTO	15	28042	ND	0	9	AUTOV A-2	45279173	447803766	193278.63° W	40°29'58.88" N	Topónimo	Nivel	Admon	28000M0110	Parcela	RUSTICA
33035841	33031336	AUTOVIA	A-2	KM 0031400	21	BARAJAS	2	AEROPUERTO	15	28042	ND	0	9	AUTOV A-2	45348934	447782667	193259.17° W	40°29'55.76" N	Topónimo	Nivel	Admon	Parcela	R26Q	
33035840	33031336	AUTOVIA	A-2	KM 0031400	20	SAN BLAS CA	6	REAS	120	28042	ND	0	9	AUTOV A-2	45348937	447788133	193259.47° W	40°29'54.27" N	Topónimo	Nivel	Admon	Parcela	R26Q	
33035806	33031336	AUTOVIA	A-2	KM 0031420	21	BARAJAS	2	AEROPUERTO	15	28042	ND	0	9	AUTOV A-2	45352762	447783043	193255.75° W	40°29'55.78" N	Topónimo	Nivel	Admon	Parcela	RUSTICA	
33035806	33031336	AUTOVIA	A-2	KM 0031430	21	BARAJAS	2	AEROPUERTO	15	28042	ND	0	9	AUTOV A-2	45381760	447789774	193249.26° W	40°29'54.88" N	Topónimo	Nivel	Admon	28000M0110	Parcela	RUSTICA
33035809	33031336	AUTOVIA	A-2	KM 0031450	21	BARAJAS	2	AEROPUERTO	15	28042	ND	0	9	AUTOV A-2	45382519	447789805	193249.96° W	40°29'54.88" N	Topónimo	Nivel	Admon	28000M0110	Parcela	RUSTICA
33035804	33031336	AUTOVIA	A-2	KM 0031420	21	BARAJAS	2	AEROPUERTO	15	28042	ND	0	9	AUTOV A-2	45391857	447789743	193240.96° W	40°29'54.29" N	Topónimo	Nivel	Admon	28000M0110	Parcela	RUSTICA
33035810	33031336	AUTOVIA	A-2	KM 0031460	71	BARAJAS	7	AEROPUERTO	15	78867	ND	0	9	AUTOV A-2	45468189	447779946	193177.140° W	40°29'57.177" N	Topónimo	Nivel	Admon	19800M0100	Parcela	RUSTICA

	Barrio	CP	Lon	Lat
0	CASTELLANA	28001	-3.681086	40.429061
1	CIUDAD JARDIN	28002	-3.666369	40.451381
2	ALMAGRO	28003	-3.699867	40.438308
3	ALMAGRO	28004	-3.695542	40.428072
4	ACACIAS	28005	-3.703536	40.404592
5	CASTELLANA	28006	-3.680981	40.430419
6	ADEFAS	28007	-3.673142	40.402025
7	ARGUELLES	28008	-3.717186	40.431500
8	GOYA	28009	-3.680008	40.422697
9	ALMAGRO	28010	-3.692111	40.426914
10	ALUCHE	28011	-3.761086	40.401814
11	ACACIAS	28012	-3.702308	40.404411
12	CORTES	28013	-3.699481	40.419275
13	CORTES	28014	-3.693883	40.412444
14	ARAPILES	28015	-3.706394	40.429808
15	CASTILLA	28016	-3.671872	40.467547
16	PUEBLO NUEVO	28017	-3.637119	40.433400
17	PALOMERAS BAJAS	28018	-3.657567	40.378314
18	ABRANTES	28019	-3.720228	40.385092



*This is the result of the data selected previously over the map of Madrid*



# Highlighted venues

- ▶ *interests=['Gym','Grocery Store','Pharmacy','Yoga Studio','Athletics & Sports','Bar','Café','Kebab Restaurant','Movie Theater','Market','Beer Store','Athletics & Sports','Art Museum','American Restaurant','Bakery','Cafeteria','Cocktail Bar','Convenience Store']*

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array(['Lounge', 'Art Gallery', 'Plaza', 'Tapas Restaurant', 'Bakery',  
      'Restaurant', 'Salon / Barbershop', 'Spanish Restaurant',  
      'Japanese Restaurant', 'Liquor Store', 'Boutique',  
      'Mexican Restaurant', 'Mediterranean Restaurant',  
      'General Entertainment', 'Seafood Restaurant',  
      'Sporting Goods Shop', 'Hotel', 'Juice Bar', 'Coffee Shop',  
      'Jewelry Store', 'American Restaurant', 'Ramen Restaurant',  
      'Market', 'Furniture / Home Store', 'Burger Joint',  
      'Women's Store', 'Italian Restaurant', 'Shoe Store',  
      'Thrift / Vintage Store', 'Ice Cream Shop', 'Snack Place',  
      'Perfume Shop', 'Gym / Fitness Center', 'Clothing Store',  
      'Cocktail Bar', 'Electronics Store', 'Spa', 'Wine Shop',  
      'Middle Eastern Restaurant', 'Indian Restaurant', 'Supermarket',  
      'Asian Restaurant', 'Café', 'Thai Restaurant', 'Rock Club', 'Park',  
      'Gun Range', 'Pub', 'Music Venue', 'Breakfast Spot', 'Playground',  
      'Paella Restaurant', 'Pizza Place', 'Bar', 'Beer Bar',  
      'Steakhouse', 'Bistro', 'Food Stand', 'Multiplex',  
      'Greek Restaurant', 'Theater', 'Science Museum', 'BBQ Joint',  
      'Food & Drink Shop', 'Motorcycle Shop', 'Sandwich Place', 'Diner',  
      'Metro Station', 'Brewery', 'Grocery Store', 'Burrito Place',  
      'Dessert Shop', 'Deli / Bodega', 'Concert Hall', 'Creperie',  
      'Pie Shop', 'Other Nightlife', 'Fried Chicken Joint',  
      'Yoga Studio', 'Vegetarian / Vegan Restaurant', 'Movie Theater',  
      'French Restaurant', 'College Classroom', 'Salad Place',  
      'Event Space', 'Gymnastics Gym', 'Theme Restaurant', 'Beer Garden',  
      'Bookstore', 'Gym', 'Sushi Restaurant', 'Indie Theater', 'Circus',  
      'Indie Movie Theater', 'South American Restaurant', 'Gourmet Shop',  
      'Flea Market', 'Photography Lab', 'Portuguese Restaurant',  
      'Chinese Restaurant', 'Gastropub', 'Museum', 'Korean Restaurant',  
      'Farmers Market', 'Gift Shop', 'Soccer Field', 'Football Stadium',  
      'Athletics & Sports', 'Skate Park', 'Martial Arts School',  
      'Department Store', 'Dumpling Restaurant', 'Fabric Shop',  
      'Pastry Shop', 'Boxing Gym', 'Kebab Restaurant', 'Cheese Shop',  
      ...])
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# Venues

## Score of the venues

Venue	Score
Gym	5
Grocery Store	10
Pharmacy	8
Yoga Studio	4
Athletics & Sports	5
Bar	1
Café	2
Kebab Restaurant	3
Movie Theater	1
Market	10
Beer Store	1
Athletics & Sports	5
Art Museum	3
American Restaurant	5
Bakery	5
Cafeteria	2
Cocktail Bar	1
Convenience Store	10



# Preview of the neighborhoods

	Neighborhood	Neighborhood Latitude	Neighborhood Longitude	Venue	Venue Latitude	Venue Longitude	Venue Category
0	28003	40.438308	-3.699867	SimplyCity	40.435390	-3.704314	Grocery Store
1	28050	40.513994	-3.676703	Mercadona	40.512263	-3.677663	Grocery Store
2	28003	40.438308	-3.699867	Fide	40.437304	-3.699554	Bar
3	28003	40.438308	-3.699867	Artium	40.435162	-3.702124	Bar
4	28003	40.438308	-3.699867	Ferreras	40.435927	-3.704347	Bar
5	28008	40.431500	-3.717186	Bravas	40.433104	-3.716156	Bar
6	28008	40.431500	-3.717186	El Chapandaz	40.434099	-3.717356	Bar
7	28008	40.431500	-3.717186	Bar Morales El atómico	40.433170	-3.715881	Bar
8	28008	40.431500	-3.717186	Tuareg	40.433460	-3.714796	Bar
9	28003	40.438308	-3.699867	Cafetería Bretón	40.439621	-3.698994	Café
10	28003	40.438308	-3.699867	Santa kafeina	40.435885	-3.700121	Café
11	28008	40.431500	-3.717186	London	40.431835	-3.712844	Café
12	28008	40.431500	-3.717186	Los Arcos de Moncloa	40.434569	-3.718444	Café
13	28008	40.431500	-3.717186	Alpunto	40.434694	-3.719493	Café
14	28050	40.513994	-3.676703	Restaurante La Estación	40.511907	-3.673857	Café
15	28008	40.431500	-3.717186	Kebab House	40.433245	-3.717466	Kebab Restaurant
16	28001	40.429061	-3.681086	Mercado de la Paz	40.427132	-3.685696	Market
17	28003	40.438308	-3.699867	Mercado de Chamberí	40.436249	-3.697763	Market
18	28001	40.429061	-3.681086	Dingo	40.427247	-3.684072	American Restaurant
19	28001	40.429061	-3.681086	Mallorca	40.429077	-3.683929	Bakery
20	28001	40.429061	-3.681086	Le Pain Quotidien	40.432572	-3.683321	Bakery
21	28001	40.429061	-3.681086	Natas Belem	40.425075	-3.679807	Bakery
22	28003	40.438308	-3.699867	Orio Pan	40.435849	-3.704320	Bakery
23	28008	40.431500	-3.717186	Wicked Sweet	40.433951	-3.713285	Bakery
24	28001	40.429061	-3.681086	Milford	40.432896	-3.683972	Cocktail Bar
25	28001	40.429061	-3.681086	La Flaca	40.433114	-3.683466	Cocktail Bar



## *Results*

