Capstone Project - The Battle of the Neighbourhoods

Applied Data Science Capstone by IBM/Coursera

Introduction

London is one of the most popular and multicultural cities in the World. It is diverse and is the financial capital of the UK and Europe. It provides lot of business opportunities and business friendly environment. It is a global hub of business and commerce. The city is a major centre for banking and finance, retailing, world trade, transportation, tourism, real estate, new media, traditional media, advertising, legal services, accountancy, insurance, theatre, fashion, and the arts in Europe. Therefore, London attracts many people, especially young professionals.

There are many criterions for people who would like to move to London. One of the top concerns is safety when finding a new place. Safety is naturally a really big factor in buying or renting a home. This project aims to find out the safest borough and explore its neighbourhoods in London by analysing data based on crime statistics.

Data

In order to solve the problem, the following data sources are used in this project.

1- London Recorded Crime: Geographic Breakdown
   Source: London Datastore
   https://data.london.gov.uk/dataset/recorded_crime_summary
   The main focus is analysing MPS Borough Level Crime (most recent 24 months). Data is taken between 2018-05-01 and 2020-04-30

MajorText	MinorText	LookUp_B	201911	201912	202001	202002	202003	202004
Arson and Crimin:	Arson	Barking ar	8	6	4	5	6	2
Arson and Crimin:	Criminal Damage	Barking ar	97	121	97	103	108	82
Burglary	Burglary - Business and Cc	Barking ar	30	25	31	17	27	29
Burglary	Burglary - Residential	Barking ar	114	130	116	123	97	56
Drug Offences	Drug Trafficking	Barking ar	12	3	11	3	6	9
Drug Offences	Possession of Drugs	Barking ar	94	79	98	107	102	139
Miscellaneous Cri	Bail Offences	Barking ar	0	0	0	0	0	0
Miscellaneous Cri	Bigamy	Barking ar	0	0	0	0	0	0
Miscellaneous Cri	Dangerous Driving	Barking ar	1	2	2	0	1	0

2- List of London Boroughs
   This is a list of local authority districts within Greater London, including 32 London boroughs and the City of London. The London boroughs were all created on 1 April 1965. Upon creation, twelve were designated Inner London boroughs and the remaining twenty were designated Outer London boroughs. The Office for National Statistics has amended the designations of three boroughs for statistics purposes only.
   Source: Wikipedia

Borough	Inner	Status	Local authority	Political control	Headquarters	Area (sq mi)	Population (2013 est)[1]	Co-ordinates	Nr. in map
Barking and Dagenham [note 1]			Barking and Dagenham London Borough Council	Labour	Town Hall, 1 Town Square	13.93	194,352	51.5607°N 0.1557°E	25
Barnet			Barnet London Borough Council	Conservative	North London Business Park, Oakleigh Road South	33.49	369,088	51.6252°N 0.1517°W	31
Bexley			Bexley London Borough Council	Conservative	Civic Offices, 2 Watling Street	23.38	236,687	51.4549°N 0.1505°E	23
Brent			Brent London Borough Council	Labour	Brent Civic Centre, Engineers Way	16.70	317,264	51.5588°N 0.2817°W	12
Bromley			Bromley London Borough Council	Conservative	Civic Centre, Stockwell Close	57.97	317,899	51.4039°N 0.0198°E	20
Camden	✓		Camden London Borough Council	Labour	Camden Town Hall, Judd Street	8.40	229,719	51.5290°N 0.1255°W	11
Croydon			Croydon London Borough Council	Labour	Bernard Weatherill House, Mint Walk	33.41	372,752	51.3714°N 0.0977°W	19

3- Foursquare API

Foursquare API is used to extract venues from selected neighbourhood

	BoroughName	Borough Latitude	Borough Longitude	Venue	Venue Latitude	Venue Longitude	Venue Category
0	Barking and Dagenham	51.5607	0.1557	Central Park	51.559560	0.161981	Park
1	Barking and Dagenham	51.5607	0.1557	Crowlands Heath Golf Course	51.562457	0.155818	Golf Course
2	Barking and Dagenham	51.5607	0.1557	Beacontree Heath Leisure Centre	51.560997	0.148932	Gym / Fitness Center
3	Barking and Dagenham	51.5607	0.1557	Robert Clack Leisure Centre	51.560808	0.152704	Martial Arts Dojo
4	Barking and Dagenham	51.5607	0.1557	Morrisons Becontree Heath	51.559774	0.148752	Supermarket