

Capstone Project_London Tech Bar_week1_part2

Topic: To Find the Best Location to Operate A Futuristic High-Tech Bar

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2. Data

2.1 Data needed

We need to extract/generate following data from corresponding data sources:

- List of Locations in London, United Kingdom with borough name and postcode
- Coordinates information (latitude and longitude) of these locations
- Information of venues around these locations, such as bars, pubs, coffee shops

2.2 Extracting Data

Part1: Scrapping Location Name, London Borough, Post Town, Postcode District, etc information for each locations in London via Wikipedia.

Data set URL: https://en.wikipedia.org/wiki/List_of_areas_of_London

	Location	London borough	Post town	Postcode district	Dial code	OS grid ref
0	Abbey Wood	Bexley, Greenwich [7]	LONDON	SE2	020	TQ465785
1	Acton	Ealing, Hammersmith and Fulham[8]	LONDON	W3, W4	020	TQ205805
2	Addington	Croydon[8]	CROYDON	CR0	020	TQ375645
3	Addiscombe	Croydon[8]	CROYDON	CR0	020	TQ345665
4	Albany Park	Bexley	BEXLEY, SIDCUP	DA5, DA14	020	TQ478728
...
528	Woolwich	Greenwich	LONDON	SE18	020	TQ435795
529	Worcester Park	Sutton, Kingston upon Thames	WORCESTER PARK	KT4	020	TQ225655
530	Wormwood Scrubs	Hammersmith and Fulham	LONDON	W12	020	TQ225815
531	Yeading	Hillingdon	HAYES	UB4	020	TQ115825
532	Yiewsley	Hillingdon	WEST DRAYTON	UB7	020	TQ063804

533 rows × 6 columns

Part2: Using 'geocoder.arcgis' to get latitude and longitude of these locations via Geocoder package.

	Location	Borough	Postcode	Post town	Latitude	Longitude
0	Aldwych	Westminster	WC2	LONDON	51.513307	-0.117092
1	Bloomsbury	Camden	WC1	LONDON	51.520740	-0.123100
2	Charing Cross	Westminster	WC2	LONDON	51.509010	-0.124720
3	Covent Garden	Westminster	WC2	LONDON	51.515440	-0.126930
4	Holborn	Camden	WC1	LONDON	51.516510	-0.119680

1	central_data.shape
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(18, 6)

Part3: Using Foursquare API to get venue data related to these locations.

```
1 # input the coordinates of all the locations in Central London, create a new dataframe called city_venues.
2
3 central_venues = getNearbyVenues (locations = central_data['Location'],
4                                   latitudes=central_data['Latitude'],
5                                   longitudes=central_data['Longitude']
6                                   )
```

Aldwych
Bloomsbury
Charing Cross
Covent Garden
Holborn
King's Cross
St Giles
St Pancras
Aldgate
Angel
Barbican
Blackfriars
Clerkenwell
Farringdon
Finsbury
St Luke's
Temple
Tower Hill

```
1 print(central_venues.shape)
2 central_venues.head()
```

(513, 7)

	Location	Location Latitude	Location Longitude	Venue	Venue Latitude	Venue Longitude	Venue Category
0	Aldwych	51.513307	-0.117092	The Courtauld Gallery	51.511584	-0.117559	Art Museum
1	Aldwych	51.513307	-0.117092	Lundenwic	51.512823	-0.118343	Coffee Shop
2	Aldwych	51.513307	-0.117092	The Delaunay	51.513181	-0.117988	Restaurant
3	Aldwych	51.513307	-0.117092	Aldwych Theatre	51.513053	-0.118993	Theater
4	Aldwych	51.513307	-0.117092	Novello Theatre	51.512280	-0.119322	Theater

```
1 print('There are {} uniques categories.'.format(len(central_venues['Venue Category'].unique())))
```

There are 142 uniques categories.