IBM DATA SCIENCE CAPSTONE PROJECT

COURSERA
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THE BATTLE OF NEIGHBORHOODS

In this module we are going to discuss a business problem to be solved first .

We will use foursquare api to gather the data for a specific location .

Based on some analysis we will conclude a result .

BUSINESS PROBLEM

- Planning to start a new restaurant in San Francisco.

- While opening a new restaurant we might have to face many problems. We need to decide location based on factors such as locality , people there , money etc... , We have to decide that either we should rent a place or buy it. We also need to think about the competition from other people who have their restaurant in that particular area. Need to decide the budget for kitchen tools , timing , how to carry a good staff , what kind of food we are going to provide etc...

DISCUSSION

We want to open a new restaurant in San Francisco so we need to consider many things such as

- Most important thing is that the quality of food should be very good and for that we need to hire some of the very good chefs who can cook food very well with hygiene.

- Competition , if there are already many restaurant of same type e.g. Indian in that area then opening a new restaurant of similar kind is risky

- Timing , suppose we opened a new restaurant , to beat our competition we need to have an early opening timing and late shut down than others so that we could gather more customers , also we need to have some offers for customers

- Staff should feel good while working by providing them a good salary and timing nobody would want stress at work.

DATA DESCRIPTION

- We have taken the data of San Francisco Rent Data Base.

- This data contains following fields

1. Neighborhoods	5. 2018-1	9. 2018-5
2. City	6. 2018-2	10. 2018-6
3.CountryName	7. 2018-3	
4. State	8. 2018-4	

TECHNOLOGY USED

- I have used python programming language and its packages for my work.

- I have mainly used geopy and pandas package

- Pandas is used for data analysis

- geopy is a library that makes geographical calculations easier for the users.

FOURSQUARE API

- The foursquare api allowa application developers to interact with Foursquare Platform

- The API itself is a RESTFUL set of addresses to which you can send requests , so there is really nothing to download onto your server.

PROCESS

With the help of Foursquare API we have gathered material , a json file by running the following code i.e.

```
import requests

results = requests.get(url).json()

results
```

With the help of file we have come to an result that there are 17 restaurants in that particular area.

And so we have gathered the venue id for first restaurant in that area.

RATING

SO with the help of the following code we have gathered the rating of that particular restaurant in that area.

restaurantrating= results2['response']['venue']['rating']

restaurantrating

-Like this for every neighborhood we can retrieve the rating value from json and calculate the finalScore.

-Please note I have shown example only for one neighborhood in this data section. To execute the formula and final results for all neighborhoods I'll be using for loop. In methodology section of report I'll do all calculation part for all neighborhoods.

END