REPORT ON CAPSTONE PROJECT

BATTLE OF NEIGHBORHOODS

1. INTRODUCTION TO BUSINESS PROBLEM

INTRODUCTION TO THE BUSINESS PROBLEM WHO WOULD LIKE TO BE INTRESTED IN THIS PROJECT

NOW IN THIS PROJECT I WOULD DEAL WITH THE ESTABLISHMENT OF HOTEL IN SHIMLA WITHIN 1 KM WITH ALL FACILTITES SO THAT BUSINESS GROWTH INCREASES.

IN THIS PROJECT I AM GOING TO COMPARE DIFFERENT HOTELS WITHIN 1KM RANGES

NOW FOR THIS:-

- RETERIVE THE HOTELS IN SHIMLA WITHIN RADIUS OF 1000 METER.
- OBTAIN THERE LOCATION BY GEOCODER
- THEN SHOW N THE MAP HOTELS WHICH ARE SITUATED IN SHIMLIA CITY WITHIN 1000 M

SHIMLA IS A TOURIST PLACE AT A NORTHERN PART OF INDIA ALSO KNOWN AS A SUMMPER PART OF INDIA THIS PLACE CONSIST OF COLD WEATHER IN WINTER AS WELL AS IN SUMMER ALSO BECAUSE OF HILLS AND HAVING HIMALYA SITUTAED IN IT. SHIMLA HAS A VERY NICE WEATHER AND ALSO CALLED BEAUTY HILLS AND IT HAVE ALSO A GOOD MARKET OF MALL ROAD THERE IS ALSO A TOY TRAIN WHICH TRAVEL BETWEEN THE HILLS OF SHIMLA .

I WOULD LIKE TO OPEN MY HOTEL IN THAT PLACE WHERE EVERY PLACE LIKE MALL ROAD, LAKE ETC ARE NEARE TO EACH OTHER SO THAT TOURISTS CAN VISIT ALL THE FAMOUS PLACES IN SHILA I WOUULD ALSO RECOMMEND MY HOTEL TO HAVE ALL TYPE OFF FOODS AND FACILUTY SO THAT IT DOESNT FELL UNCOMFORTABLE FOR ANY TOURIST THIS TYPE

2. DATA

DATA PLAYS AN IMPORTANT ROLE IN THIS PROJECT BECAUSE HAVING A DATA CAN DO CLUSTERING AND KMEANS OF PROJECT SO THAT WE CAN OBTAIN OUR MAP

FOR SHIMLA DATA

I HAVE USED FOURSQUARE API FOR THIS TO FIND THE HOTELS IN THE PROJECT FOR THIS I HAVE USE THE CODE

```
address = 'Shimla, Himachal Pradesh'
geolocator = Nominatim(user_agent="foursquare_agent")
location = geolocator.geocode(address)
latitude = location.latitude
longitude = location.longitude
print(latitude, longitude)
```

IN ABOVE CODE I CAN FIND THE LOCATION OF MY PLACE

```
search_query='hotel'
search_quuery_res='restaurant'
radius =1000
url_hotel =
'https://api.foursquare.com/v2/venues/search?client_id={}&client_secret={}&ll
={},{}&v={}&query={}&radius={}&limit={}'.format(CLIENT_ID, CLIENT_SECRET,
latitude, longitude, VERSION, search_query, radius, LIMIT)
url_restaurant=
'https://api.foursquare.com/v2/venues/search?client_id={}&client_secret={}&ll
={},{}&v={}&query={}&radius={}&limit={}'.format(CLIENT_ID, CLIENT_SECRET,
latitude, longitude, VERSION, search_query, radius, LIMIT)
url
```

FOR THIS I CAN FIND MY HOTEL AND RESTURANT IN SHIMLA

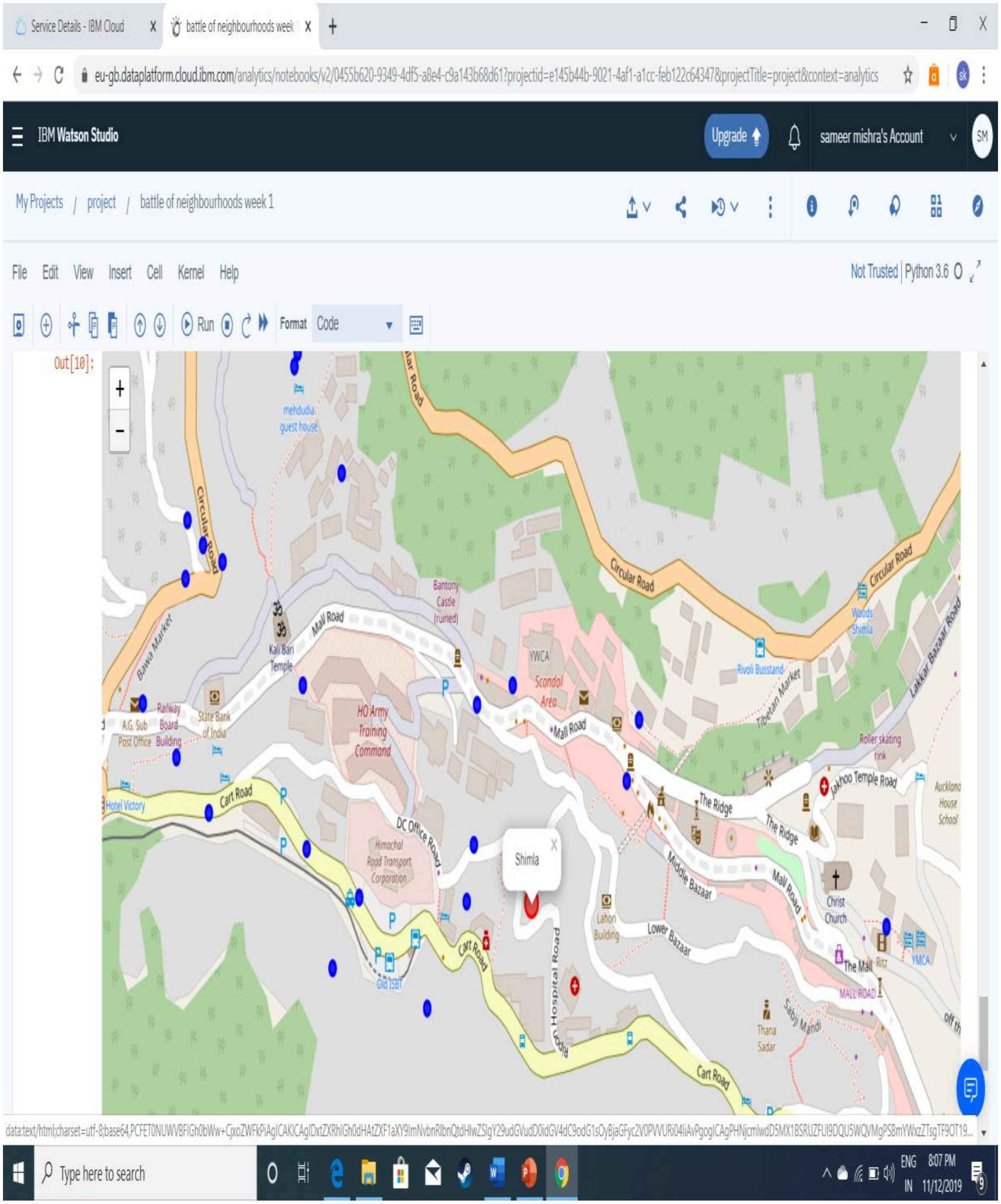
3. METHDOLOGY

METHDOLOGY IS A SECTION IS USED TO REPRESENT THE IMPORTANT PART OF MAIN COMPONENT OF THE PROJECT REPORT WITH EXPLORATORY DATA ANALYSIS AND INFERIAL STASTICAL ANALYSIS .

THE DATA CONSIST OF HOTELS AND RESTURANT IN SHIMLA WITHIN 1000M BY USING THE FOURSQUARE API WILL GATHER THE DATA FOR THE TOP MOST VENEUS OF DATA IN SHIMLA NEIGHBOURHOOD.

- CREATED THE DATASETS FOR THE HOTELS PRESENT IN SHIMLA
- APPEEND THE DATA WITH THE LATITUDE AND LONGITUTDE VALUES RETRIVE FROM GEOCODER
- USE THE FOURSQUARE APP TO RETRIVE THE VENUES OF ALL THE HOTELS PRESENT IN 100M
- APPLY ONE HOT ENCODING AND NORMALIZED OF DATA THE VENUES
- APPLIED K MEANS CLUSTERING ALGORTHIM
- EXAMINED THE MAP AND DATA GENERATED WITH CLUSTER LABELS

4. RESULTS


Service Details - IBM Cloud
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eu-gb.dataplatform.cloud.ibm.com/analytics/notebooks/v2/0455b620-9349-4df5-a8e4-c9a143b68d61?projectid=e145b44b-9021-4af1-a1cc-feb122c64347&projectTitle=project&context=analytics
IBM Watson Studio
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Run
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Code
Out[10]:
mehdudia guest house
Circular Road
Bawa Market
Mall Road
Kali Bari Temple
Bantony Castle (ruined)
YWCA
Scandal Area
HQ Army Training Command
Railway Board Building
A.G. Sub Post Office
State Bank of India
Hotel Victory
Cart Road
DC Office Road
Himachal Road Transport Corporation
Shimla
Rivoli Busstand
Tibetan Market
Woods Shimla
Lakkar Bazaar Road
Roller skating rink
Jakhoo Temple Road
Auckland House School
The Ridge
Middle Bazaar
Lower Bazaar
Lahori Building
Christ Church
The Mall
Ritz
YMCA
MALL ROAD
Thana Sadar
Sabji Mandi
Old ISBT
Hospital Road
Type here to search
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AS YOU SEEN IN THE FIG THE RED DOT REPRESENT SHIMLA AND BLUE DOT REPRESENT HOTEL NEAR 1 KM

5. CONCLUSION

PURPOSE OF THE PROJECT IS TO COMPARE THE HOTELS OF THE SHIMLA AND DETERMINE WHICH IS HOTEL BEST TO CHOOSE FOR HAVING ALL FACILITES AND CLOSER TO THE ALL THE PLACES IN SHIMLA IT WOULD BE BENEFICAL FOR THE TOURIST .