ANALYTICS CODE -

Tasks done so-far:

- Creation of a database table in Impala
- Querying the tables to understand useful patterns from selected columns

DATASET 1 : Fire Department Calls for Service

PART A) Creation of database and viewing of the stored data

1. Creation table1 in Impala :

```
create external table Fire_Calls_Service (sno int, call_number int, unit_id string, incident_number int, call_type string, call_date string, watch_date string, received_dttm string, dispatch_dttm string, on_scene_dttm string, call_final_disposition string, address string, zipcode_of_incident int, priority string, ALS_unit boolean, call_type_group  string, unit_type string, supervisor_district string, neighborhood_analysis_boundaries string, rowID string, latitude float, longitude float, year string) row format delimited fields terminated by '$' location '/user/sg5783/project/data/';
```

2. describe Fire_Calls_Service ;

3. select * from Fire_Calls_Service limit 50;

PART B) Studying the column values and extracting information from data

4. select distinct Call_Type from Fire_Calls_Service;

Output: // displays all the distinct values of Call_Type column (that contains the reasons of call to the fire department)

- *Administrative*
- *Aircraft Emergency*
- *Alarms*
- *Assist Police*
- *Citizen Assist / Service Call*

- *Confined Space / Structure Collapse*
- *Electrical Hazard*
- *Elevator / Escalator Rescue*
- *Explosion*
- *Extrication / Entrapped (Machinery, Vehicle)*
- *Fuel Spill*
- *Gas Leak (Natural and LP Gases)*
- *HazMat*
- *High Angle Rescue*
- *Industrial Accidents*
- *Lightning Strike (Investigation)*
- *Marine Fire*
- *Medical Incident*
- *Mutual Aid / Assist Outside Agency*
- *Odor (Strange / Unknown)*
- *Oil Spill*
- *Other*
- *Outside Fire*
- *Smoke Investigation (Outside)*
- *Structure Fire*
- *Suspicious Package*
- *Traffic Collision*
- *Train / Rail Fire*
- *Train / Rail Incident*
- *Transfer*

- *Vehicle Fire*
- *Water Rescue*
- *Watercraft in Distress*

5.

select count(*) from Fire_Calls_Service Group BY Call_Type; // getting the number of different types of calls for fire service

6.

select count(*) from Fire_Calls_Service Group BY Zipcode_of_Incident; //getting an idea of the frequency of fire accidents in an area

7.

select * from Fire_Calls_Service where Call_Type= ”Water rescue” AND Call_Type_Group= “Potentially Life-Threatening”

8.

select * from Fire_Calls_Service where Loc = “(37.7234296370586, -122.453582402345)”; // the same location in terms of latitude and longitude is taken to query the second dataset

9.

Select count(*) from (select * from Fire_Calls_Service where Received_DtTm LIKE “%AM%”) ; // finding the number of fire service requests received in the morning or after midnight

10.

Select count(*) from (select * from Fire_Calls_Service where Received_DtTm LIKE “%PM%”) ; // finding the number of fire service requests received in the afternoon or evening before midnight

DATASET 2 :Notices of Violation Issued by the Department of Building Inspection

1. Create table:

Create external table building_violations(sno int,complaint_no string, item_sequence_number int, date_filed string, block string, lot string, street_no int, street_name string, street_suffix string, receiving_division string,assigned_division string, NOV_category_description string, neighbourhoods_analysis_boundaries string, supervisor_district float, zipcode int, latitude float, longitude float, year string) row format delimited fields terminated by '$' location '/user/sg5783/project/data2/';

2. select count(*) from building_violations GroupBy ZipCode;

3. select * from building_violations where NOVCategoryDescription = ”fire section”

4. select * from building_violations where Loc = “(37.7234296370586, -122.453582402345)”;

DATASET 3 : Fire-Incidents Table:

Create external table fire_incidents (ssn int, incident_no int, call_number int, fire_fatalities int, fire_injuries int, civilian_fatalities int, civilian_injuries int, primary_situation string) row format delimited fields terminated by '$' location '/user/pa1373/project/Incidents';