

**1) To separate useful data**

```
select * except(latitude, longitude, location, location_description, x_coordinate,  
y_coordinate, description) from `73.raw_acd` where council_district_code is not null and  
clearance_status is not null
```

**2) Make binary column for clearance\_status**

```
update `73.u_acd` set status_int=0 where clearance_status like 'Not%'
```

**3) To simplify the large variety of type of crime (for one-hot encoding)**

```
update `73.u_acd` set primary_type='Theft' where primary_type like '%Theft%'
```

Note: Same query for all the distinct primary\_type attributes

**4) One-hot encode primary\_type column for regression**

```
update `73.u_acd` set theft_int=1 where primary_type='Theft'
```

Note: Same query for all the distinct primary\_type attributes

**5) Get data for regression**

```
select * except(unique_key, address, clearance_date, zipcode, clearance_status, district,  
census_tract, primary_type) from `73.u_acd`
```

**6) Regression using BigQuery ML**

```
CREATE OR REPLACE MODEL `73.acdmodel` OPTIONS(  
model_type='logistic_reg', input_label_cols=['status_int']) AS
```

```
SELECT * except(year), status_int as si FROM `73.ml_acd` where year!=2016
```

**7) Prediction results**

```
SELECT * FROM ML.PREDICT(MODEL `73.acdmodel`, (select *, status_int as si from  
`73.ml_acd`))
```