SQL CODE:

--- DDL of Fact and Dimension tables.

CREATE TABLE IF NOT EXISTS `CAR\_SALE\_DETAILS` (

vin VARCHAR(20) PRIMARY KEY,

back\_legroom VARCHAR(12),

body\_type CHAR(1) ,

city VARCHAR(30),

daysonmarket INT,

dealer\_zip bigINT,

engine\_displacement FLOAT,

engine\_type char(3),

exterior\_color varchar(200),

fleet varchar(5),

frame\_damaged varchar(5),

franchise\_dealer BOOL,

franchise\_make VARCHAR(20),

front\_legroom float ,

fuel\_tank\_volume FLOAT,

fuel\_type CHAR(1),

has\_accidents varchar(5),

height float ,

highway\_fuel\_economy FLOAT,

horsepower FLOAT,

interior\_color CHAR(2),

isCab varchar(5),

is\_certified BOOL,

is\_cpo varchar(5) ,

is\_new BOOL,

is\_oemcpo varchar(5) ,

latitude FLOAT,

length varchar(10) ,

listed\_date DATE,

listing\_color char(2),

listing\_id VARCHAR(20),

longitude FLOAT,

make\_name VARCHAR(20),

maximum\_seating BIGINT,

mileage BIGINT default null,

model\_name VARCHAR(50),

owner\_count INT,

price FLOAT,

salvage varchar(5),

savings\_amount FLOAT default NULL,

seller\_rating FLOAT,

sp\_id CHAR(10),

theft\_title varchar(5),

transmission CHAR(1),

transmission\_display VARCHAR(100),

trimId VARCHAR(10),

vehicle\_damage\_category INT,

wheel\_system CHAR(3),

wheelbase float,

width float,

year int,

CONSTRAINT car\_listing\_key1 FOREIGN KEY (listing\_color) REFERENCES Listing\_color (Lcolor\_code),

CONSTRAINT car\_interior\_key1 FOREIGN KEY (interior\_color) REFERENCES Interior\_color (Icolor\_code),

CONSTRAINT car\_trimId\_key1 FOREIGN KEY (trimId) REFERENCES Trim\_table (Trim\_id),

CONSTRAINT car\_fuel\_key1 FOREIGN KEY (fuel\_type) REFERENCES Fuel\_Table (fuel\_type),

CONSTRAINT car\_body\_key1 FOREIGN KEY (body\_type) REFERENCES Car\_body (body\_type),

CONSTRAINT car\_sp\_key1 FOREIGN KEY (sp\_id) REFERENCES SP\_Table (sp\_id),

CONSTRAINT car\_location\_key1 FOREIGN KEY (city, dealer\_zip) REFERENCES location (city, zip)

);

Create table listing\_color (

listing\_color\_code char(2) PRIMARY KEY,

listing\_color varchar(40)

);

Create table Interior\_color (

Icolor\_code char(2) PRIMARY KEY,

Icolor\_desc varchar(40)

);

Create table Trim\_table (

Trim\_id char(6) PRIMARY KEY,

Trim\_desc varchar(100)

);

CREATE TABLE Fuel\_Table (

fuel\_type char(1) Primary key,

Fuel\_desc varchar(25)

);

CREATE TABLE Car\_body (

body\_type char(1) PRIMARY KEY,

body\_desc varchar(20)

);

CREATE TABLE SP\_Table (

sp\_id char(20) PRIMARY KEY,

sp\_name varchar(100)

);

create table Location (

city varchar(50),

state\_id varchar(4),

state\_name varchar(70),

county\_name varchar(70),

zip bigint,

PRIMARY KEY(city, zip)

);

---- Validation checks -----

select sp\_id,count(\*) from CAR\_SALE\_DETAILS t1

where not exists (select 1 from SP\_Table t2

where t1.sp\_id = t2.sp\_id

)

group by 1

select body\_type,count(\*) from CAR\_SALE\_DETAILS t1

where not exists (select 1 from Car\_body t2

where t1.body\_type = t2.body\_type

)

group by 1

select fuel\_type,count(\*) from CAR\_SALE\_DETAILS t1

where not exists (select 1 from Fuel\_Table t2

where t1.fuel\_type = t2.fuel\_type

)

group by 1

select trimId,count(\*) from CAR\_SALE\_DETAILS t1

where not exists (select 1 from Trim\_table t2

where t1.trimId = t2.Trim\_id

)

group by 1

select count(\*) from Trim\_table

select interior\_color,count(\*) from CAR\_SALE\_DETAILS t1

where not exists (select 1 from Interior\_color t2

where t1.interior\_color = t2.Icolor\_code

)

group by 1

select Listing\_color,count(\*) from CAR\_SALE\_DETAILS t1

where not exists (select 1 from Listing\_color t2

where t1.listing\_color = t2.Lcolor\_code

)

group by 1

select count(\*) from Listing\_color where Lcolor\_code is null;

select city,dealer\_zip from CAR\_SALE\_DETAILS t1

where exists (select 1 from

location t2

where t1.city = t2.city

and t1.dealer\_zip = t2.zip)

group by 1,2

select distinct exterior\_color,listing\_color,count(\*) from CAR\_SALE\_DETAILS

where listing\_color = 'UNKNOWN'

group by 1,2

order by 1,2;