**SQL Queries used to generate required results**

1. CREATE TABLE carRental\_Customer(

Customer\_id int,

CustomerName varchar (255),

PhoneNumber varchar(15),

Address varchar (255),

Birthday varchar (8),

Occupation varchar(20),

Gender char (1) enum(‘M’, ‘F’),

) (Example of using SQL queries to create table)

1. INSERT INTO carrental.carRental\_car(MakeName, Model, Series, SeriesYear, PriceNew, EngineSize, FuelSystem, TankPacity,Power, SeatingCapacity, StandardTransmission, BodyType, Drive, WheelBase) VALUES(‘LAND ROVER’, ‘4\*4’, ‘SWB’, ‘1978’, ‘54204’, ’4.0L’, ‘MULTI POINT F/INJ’, ‘150KW’, ‘7’, ‘4A’, ‘4D WAGON’, ‘4WD’, ‘2800mm’); (Insert value into car table with values. \*this is for company management to insert values to Car table)
2. INSERT INTO carrental.carRental\_order(Order\_ID, Order\_CreateDate, Order\_PickupDate, Order\_PickupStore, Order\_ReturnDate, Order\_ReturnStore) VALUES (‘3’, ‘20050703’, ‘3’, ‘20050711’, ‘16’) (Insert value into order table with values. \*this is for company management to insert values to Order table)
3. INSERT INTO carrental.carRental\_customer(Customer\_id, CustomerName, PhoneNumber, Address, Birthday, Occupation, Gender) VALUES (‘11014’, ‘Sydney B’, ‘431-432-133’, ’20 Armentieres Street’, ‘08/05/1980’, ‘Labour’, ‘M’).( Insert value into Customer table with values. \*this is for company management to insert values to Customer table)
4. SELECT COUNT(Car\_ID), Return\_Store\_City FROM carrental.carRental\_order WHERE Order\_ReturnDate > 20050700 and Order\_ReturnDate < 20050800 and Return\_Store\_City = “Sydney” group by Return\_Store\_City Order by COUNT(Car \_ID) asc; (Count how many order returned to specific store monthly. \*this is for company management to get monthly report based on which store)
5. SELECT COUNT(Order\_ID), Pickup\_Store\_City FROM carrental.carRental\_order WHERE Order\_PickupDate > 20050700 and Order\_ PickupDate < 20050800 and Pickup\_Store\_City = “Sydney” group by Pickup \_Store\_City Order by COUNT(Order\_ID) asc; (Count how many order picked up from specific store monthly. \*this is for company management to get monthly report based on which store)
6. SELECT COUNT(Order\_ID), Order\_PickupStore FROM carrental.carRental\_order GROUP By Order\_PickupStore order by COUNT(Order\_ID) asc; (Check how many record picked up in each store in total and order by ascending sequence. \*this is for company management to know which store has more customer to pick up the car)
7. SELECT \* FROM carrental.carRental\_car WHERE WheelBase >2800 and SeatingCapacity >5; (Get car information which has more space and more seat. \*this is for customer who want more space and more people to use)
8. SELECT COUNT(Car\_BodyType), Order\_PickupStore, FROM carrental.carRental\_order WHERE Order\_PickupStore = “Sydney” and Order\_PickupDate > 20050700 and Order\_ PickupDate < 20050800 GROUP By Order\_PickupStore order by COUNT(Car\_BodyType) asc;( \*this is for customer recommend service enables to recommend customer which car type is most popular in which store monthly)
9. SELECT DISTINCT \* FROM carrental.carRental\_car; (Used DISTINCT to eliminate duplicates records in the data. \*this is for company management to eliminate invalid data record)
10. SELECT \* FROM carrental.carRental\_order WHERE Order\_PickupStore = 1 (Check the record of pick up store. \*this is for company management to check data based on which store);

**SQL queries to Test Data**

1. INSERT INTO carrental.carRental\_car(MakeName, Model, Series, SeriesYear, PriceNew, EngineSize, FuelSystem, TankPacity,Power, SeatingCapacity, StandardTransmission, BodyType, Drive, WheelBase) VALUES(‘LAND ROVER’, ‘4\*4’, ‘SWB’, ‘1978’, ‘54204’, ’4.0L’, ‘MULTI POINT F/INJ’, ‘150KW’, ‘7’, ‘4A’, ‘4D WAGON’, ‘4WD’, ‘2800mm’); (Test if all correct value can be insert to table or not)
2. INSERT INTO carrental.carRental\_car(MakeName, Model, Series, SeriesYear, PriceNew, EngineSize, FuelSystem, TankPacity,Power, SeatingCapacity, StandardTransmission, BodyType, Drive, WheelBase) VALUES(‘@#$$’, ‘4\*4’, ‘NULL’, ‘1978’, ‘54204’, ’4.0L’, ‘MULTI POINT F/INJ’, ‘150’, ‘7’, ‘4A’, ‘4D WAGON’, ‘4WD’, ‘2800mm’); (Test if some incorrect value can be insert to table or not).
3. INSERT INTO carrental.carRental\_car(MakeName, Model, Series, SeriesYear, PriceNew, EngineSize, FuelSystem, TankPacity,Power, SeatingCapacity, StandardTransmission, BodyType, Drive, WheelBase) VALUES(‘LAND ROVER’, ‘ ‘ , ‘SWB’, ‘1978’, ‘54204’, ’4.0L’, ‘MULTI POINT F/INJ’, ‘150KW’, ‘7’, ‘4A’, ‘ ’, ‘ ‘, ‘ ’); (Check if empty value can be set to ‘NULL’ automatically in the table or not)
4. INSERT INTO carrental.carRental\_car(MakeName, Model, Series, SeriesYear, PriceNew, EngineSize, FuelSystem, TankPacity,Power, SeatingCapacity, StandardTransmission, BodyType, Drive, WheelBase) VALUES(‘&\*(#’, ‘$$@S’, ‘!@#’, ‘1978’, ‘54204’, ’4.0L’, ‘MULTI POINT F/INJ’, ‘150KW’, ‘#$@’, ‘4A’, ‘4D WAGON’, ‘4WD’, ‘2800mm’); (Test if some incorrect value can be insert into table or not).
5. INSERT INTO carrental.carRental\_order(Order\_ID, Order\_CreateDate, Order\_PickupDate, Order\_PickupStore, Order\_ReturnDate, Order\_ReturnStore) VALUES (‘3’, ‘20050703’, ‘3’, ‘20050711’, ‘16’) (Test if all correct value can be insert into table or not)
6. INSERT INTO carrental.carRental\_order(Order\_ID, Order\_CreateDate, Order\_PickupDate, Order\_PickupStore, Order\_ReturnDate, Order\_ReturnStore) VALUES (‘ ’, ‘20050703’, ‘3’, ‘ ‘, ‘16’)(Test if empty value can be set to ‘NULL’ automatically into the table or not)
7. INSERT INTO carrental.carRental\_order(Order\_ID, Order\_CreateDate, Order\_PickupDate, Order\_PickupStore, Order\_ReturnDate, Order\_ReturnStore) VALUES (‘@@#$’, ‘@$#@@, ‘3’, ‘, ‘16’) (Test if some incorrect value can be insert into table or not).
8. INSERT INTO carrental.carRental\_order(Order\_ID, Order\_CreateDate, Order\_PickupDate, Order\_PickupStore, Order\_ReturnDate, Order\_ReturnStore) VALUES (‘ABC’, ‘20050703’, ‘3’, ‘20050711’, ‘16’) (Test if incorrect integer value can be insert into table or not).
9. INSERT INTO carrental.carRental\_customer(Customer\_id, CustomerName, PhoneNumber, Address, Birthday, Occupation, Gender) VALUES (‘11014’, ‘Sydney B’, ‘431-432-133’, ’20 Armentieres Street’, ‘08/05/1980’, ‘Labour’, ‘M’).(Test if all correct value can be insert into table or not)
10. INSERT INTO carrental.carRental\_customer(Customer\_id, CustomerName, PhoneNumber, Address, Birthday, Occupation, Gender) VALUES (‘#$#@’, ‘Sydney B’, ‘@#)\*UI’, ’20 Armentieres Street’, ‘19850830’, ‘Labour’, ‘M’).(Test if some incorrect value can be insert into table or not)
11. INSERT INTO carrental.carRental\_customer(Customer\_id, CustomerName, PhoneNumber, Address, Birthday, Occupation, Gender) VALUES (‘’, ‘Sydney B’, ‘431-432-133’, ’20 Armentieres Street’, ‘19850830’, ‘Labour’, ‘M’).(Test if Customer\_id can be generated automatically or not)
12. INSERT INTO carrental.carRental\_customer(Customer\_id, CustomerName, PhoneNumber, Address, Birthday, Occupation, Gender) VALUES (‘’, ‘ ’, ‘ ’, ’ ’, ‘19850830’, ‘Labour’, ‘M’).(Test if empty value can be set to “NULL” or not)