**MySQL Lab Material**

Tesla is a car manufacturing company. They mainly produce 3 car models (Model S, Model X & Model 3) and they have different dealers selling their cars throughout USA. Customers can visit their site and order any model from a dealer. A database named “TeslaDB” is created to store all of this information.

It will have the following tables

* Models
* Dealers
* LookupStates
* Customers
* Orders

Every table should have a Primary Key defined and it should be an identity column. Following is the schema for the database.



The following script will create a new database called “TeslaDB”, create tables without foreign key with the above schema, then by using alter command add foreign key based on requirement and then inserts some sample data.

This is given to be able to practice SQL Queries but please do practice how database, tables and inserts scripts will be created as well once you are comfortable with SQL Queries.

Find “Tesla.sql” file for sample data.

Your Task is to write SQL queries for the following requirements

1. Add foreign key constraint to every table where it is suitable using alter command.
2. List All Customers
3. List all customers whose First Name starts with “J”.
4. List all customers whose Last Name Contains “UL” and doesn’t have a middle name.
5. List All Customers With “First Name”, State Full Name. (This list should also display customers who doesn’t have state. You can just display null in that case.)
6. List All Customers from the state of California. Use state full name like “California” in the filter condition after joining with lookupstates. Don’t find stateId manually and add stateId in filter. Same goes for the next ones also.
7. List All State Names that tesla customers and Dealers are in.
8. List all the orders placed in the month of February 2016 and got a Discount.
9. List All Orders sorted by order date.
10. List All Orders sorted by Total Amount, Order Date, Customer Name and Dealer Name.
11. List Names of all customers that have an order with “Brroklyn Tesla” Dealer.
12. List all customers with these columns CustId, FullName (First Name MiddleName Last Name)
13. List all order with OrderId, Customer Full Name, Model Name, Total Amount for each order
14. List all customers with FirstName, LastName and TotalAmount from all models and Orders.
15. List all the dealers with their total amount of order in the year 2016
16. List all the dealers with their Total Amount of order in the year 2016 and Final Total Amount is greater than 100000
17. Show Total Amount Of All Orders in the year 2016
18. List all customers who placed more than 2 orders
19. List all dealers who doesn’t have any order placed
20. List Top 2 Customers based on TotalAmount of Orders.
21. Find Top 1 customer for each dealer based on total amount of order placed by customer.

**Inserts/Updates**

1. Create a New Customer with the following details
   1. Id – 150
   2. First Name – Cathi
   3. Middle Name – NULL
   4. Last Name – Triana
   5. Street Name – 200 East Monroe St
   6. City – Harrisburg
   7. State – Pennsylvania
2. One of the customer moved to new address. Update the address of the customer as follows
   1. Id – 5
   2. Street Name - 2579 Wabash Ave
   3. City – Springfield
   4. State – Illinois
3. One customer placed a new order. Insert a new order with the following details
   1. Customer Full Name – Reed Hastings
   2. Model Ordered – Model 3
   3. Quantity – 2
   4. Discount – None
   5. Total Amount – 70,000
   6. Order Date - 05/12/2016

**Function**

Create a Function that takes first name, middle name and last name and returns the full name. The format of full name should be First Name First Letter of Middle Name Last Name.

For Example: John Marian Scully should be shown as John M Scully. If any of first, middle or last name is null then it should just be empty. Like if there is no middle name in the previous one it should just be John Scully.

**Stored Procedure**

Create a Stored Procedure that takes 2 parameters Start Date and End Date and returns Order Placed with Order Date between Start Date and End Date. Display the following columns

* Customer Full Name (use function from above)
* Customer Address
* Dealer Name
* Dealer State Name
* Order Date
* Is Discount Received (Yes/No depending on whether value exists or not)
* Total Amount

**Views**

Create a View to get Top 2 Customers by total amount of orders in the month of the current day.