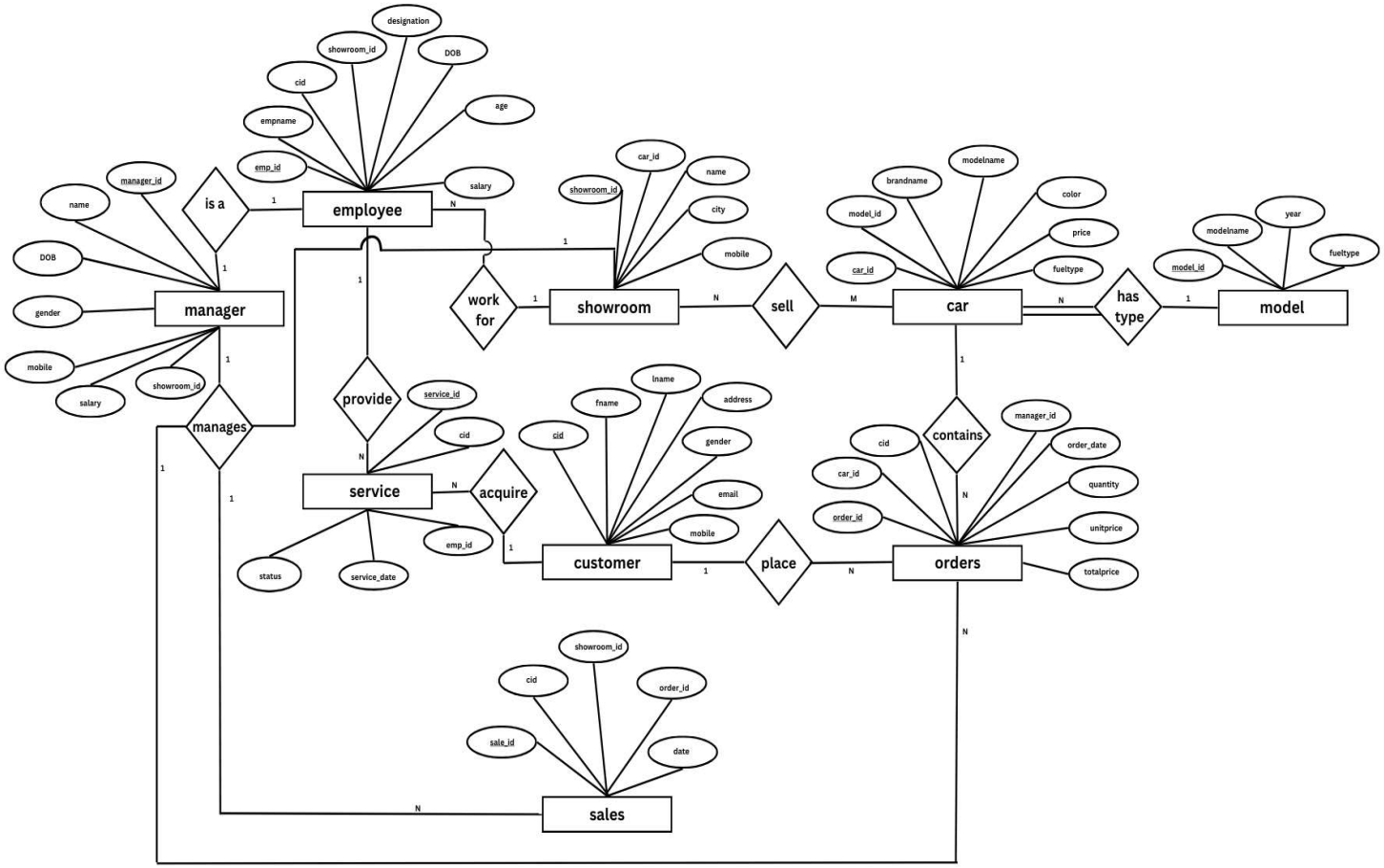
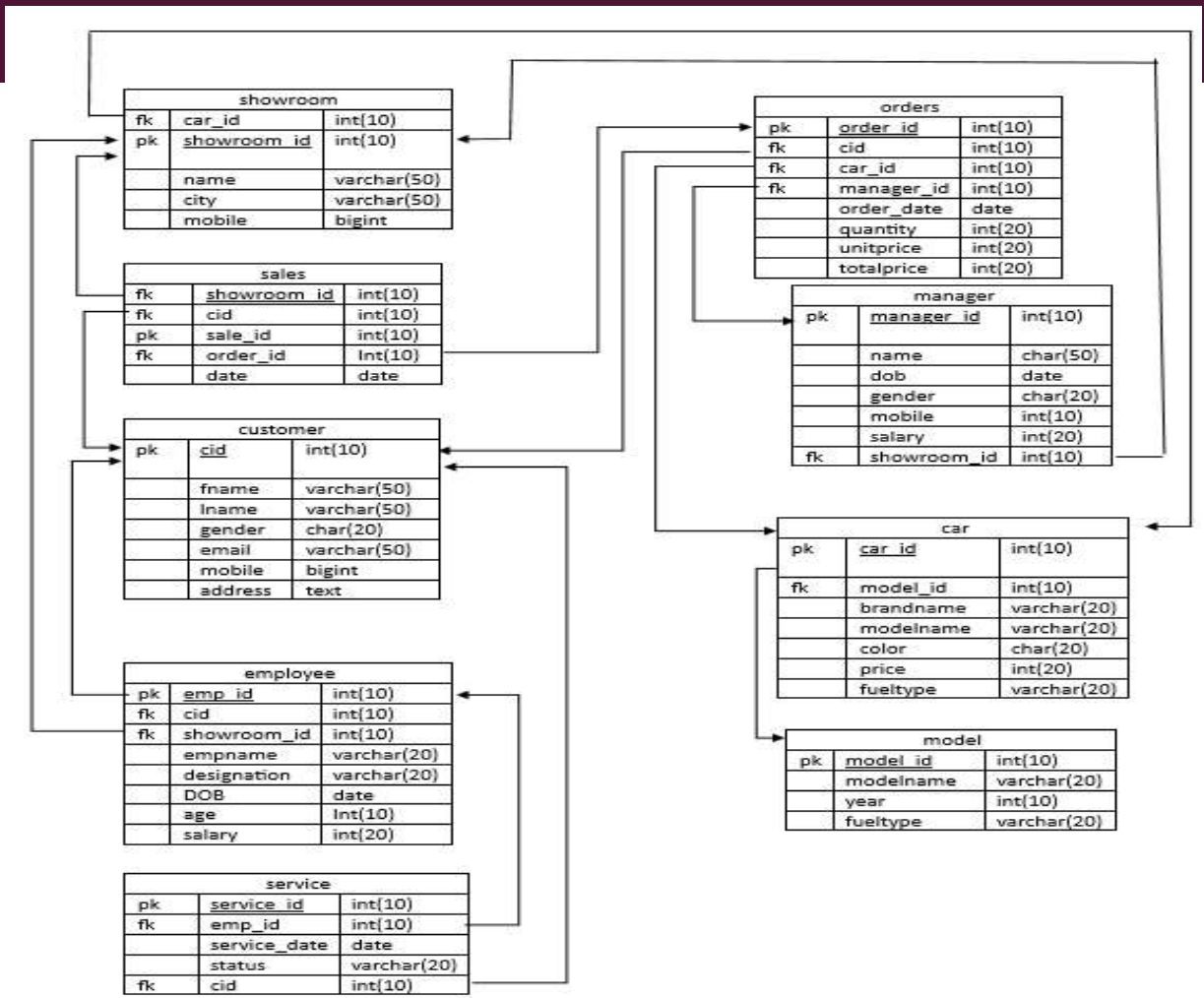
INTRODUCTION

In the realm of automotive retail, effective management of car showrooms is crucial for optimizing sales and enhancing customer satisfaction. This project endeavors to provide a practical demonstration of leveraging a Database Management System (DBMS) to streamline and automate various aspects of showroom operations. This project aims to centralize and organize data related to car models, customer information, sales transactions and service records.

ENTITY-RELATIONSHIP DIAGRAM



SCHEMA-DIAGRAM



TABLES

Model

model_id	modelname	year	fueltype
101	Camry	2002	Petrol
102	Glanza	2019	Petrol
103	Hilux	2022	Diesel
104	Alphard	2023	Petrol
105	Fortuner	2009	Diesel

Car

car_id	model_id	brandname	modelname	color	price	fueltype
200	101	Toyota Camry	Camry	Silver	4500000	Petrol
211	102	Toyota Glanza	Glanza	Red	1000000	Petrol
222	103	Toyota Hilux	CNG	Brown	900000	Diesel
233	103	Toyota Hilux	AMT	Red	1300000	Diesel
244	104	Toyota Alphard	DTC	White	1100000	Petrol

Showroom

showroom_id	car_id	name	city	mobile
1	200	Bharath	Mangalore	9156437829
2	211	Renault	Mysore	9164743489
3	233	Bharath	Kerala	9154643499
4	233	Prestige	Mangalore	9158967423
5	244	Renault	Mangalore	9158963421

Manager

manager_id	name	DOB	gender	mobile	salary	showroom_id
1111	Bharath	1999-05-09	Male	985645248	30000	1
2222	Ramya	1989-02-12	Female	945544558	32000	2
3333	Deepak	1996-11-12	Male	945641958	30000	2
4444	Dhanya	1998-08-01	Female	945685651	34000	3
5555	Rajesh	1992-03-11	Male	945895751	33000	4

Customer

cid	fname	lname	gender	email	mobile	address
911	Kiran	Raj	Male	kiranraj@gmail.com	9564237841	Mangalore
912	Kavya	S	Female	kavyas@gmail.com	9567856231	Mysore
913	Ramesh	Rao	Male	ramesh@gmail.com	9567856874	Kerala
914	Akash	Kumar	Male	akashk@gmail.com	9568574174	Udupi
915	Shreyas	KR	Male	shreyas@gmail.com	9568574982	Putthur

Employee

emp_id	cid	showroom_id	empname	designation	DOB	age	salary
551	911	1	Srujan	Service technician	1999-02-06	29	20000
552	913	1	Pranam	Finance Manager	1995-02-12	32	30000
553	912	1	Sharath	Administrative staff	1998-08-02	30	25000
554	914	1	Karan	Service technician	1998-11-05	37	35000
555	915	1	Charan	Service technician	1994-08-12	31	33000
556	914	3	Ganesh	Service technician	1994-12-12	31	28000

Service

service_id	cid	emp_id	service_date	status
1	911	551	2024-02-09	Done
2	912	551	2024-12-09	Pending
3	913	552	2024-09-09	Pending
4	914	553	2024-05-11	Done
5	915	554	2023-12-11	Done

Order

order_id	cid	car_id	manager_id	order_date	quantity	unitprice	totalprice
1100	911	200	1111	2023-03-11	1	4500000	4500000
1200	912	211	1111	2023-03-01	1	2000000	2000000
1300	912	222	1111	2023-12-09	1	3000000	3000000

Sales

sales_id	showroom_id	cid	order_id	date
202	1	911	1100	2023-09-04
303	1	912	1200	2024-12-01
404	1	913	1300	2024-01-11

❖ Display the car information based on the price in ascending order.

Select *from car ORDER BY price;

```
MariaDB [showroom1]> select *from car ORDER BY price;
+--------+----------+----------------+-----------+--------+---------+----------+
| car_id | model_id | brandname      | modelname | color  | price   | fueltype |
+--------+----------+----------------+-----------+--------+---------+----------+
|    222 |      103 | Toyota Hilux   | CNG       | Brown  |  900000 | Diesel   |
|    211 |      102 | Toyota Glanza  | Glanza    | Red    | 1000000 | Petrol   |
|    244 |      104 | Toyota Alphard | DTC       | White  | 1100000 | Petrol   |
|    233 |      103 | Toyota Hilux   | AMT       | Red    | 1300000 | Diesel   |
|    200 |      101 | Toyota Camry   | Camry     | Silver | 4500000 | Petrol   |
+--------+----------+----------------+-----------+--------+---------+----------+
```

❖ Find all employees who are working for one specific showroom.

Select *from employee where showroom_id='1';

```
MariaDB [showroom1]> select *from employee where showroom_id='1';
+--------+------+-------------+---------+---------------------+------------+------+--------+
| emp_id | cid  | showroom_id | empname | designation         | DOB        | age  | salary |
+--------+------+-------------+---------+---------------------+------------+------+--------+
|    551 |  911 |           1 | Srujan  | Service technician  | 1999-02-06 |   29 |  20000 |
|    552 |  913 |           1 | Pranam  | Finance  Manager    | 1995-02-12 |   32 |  30000 |
|    553 |  912 |           1 | Sharath | Administrative staff| 1998-08-02 |   30 |  25000 |
|    554 |  914 |           1 | Karan   | Service technician  | 1998-11-05 |   37 |  35000 |
|    555 |  915 |           1 | Charan  | Service technician  | 1994-08-12 |   31 |  33000 |
+--------+------+-------------+---------+---------------------+------------+------+--------+
5 rows in set (0.024 sec)

MariaDB [showroom1]> select *from employee where showroom_id='3';
+--------+------+-------------+---------+-------------------+------------+------+--------+
| emp_id | cid  | showroom_id | empname | designation       | DOB        | age  | salary |
+--------+------+-------------+---------+-------------------+------------+------+--------+
|    556 |  914 |           3 | Ganesh  | Service technician| 1994-12-12 |   31 |  28000 |
+--------+------+-------------+---------+-------------------+------------+------+--------+
```

❖ Count the total number of orders made by the customers.

Select cid, COUNT(order_id) as total_orders FROM orders GROUP BY cid;

```
MariaDB [showroom1]> select cid,COUNT(order_id) as total_orders FROM orders GROUP BY cid;
+------+--------------+
| cid  | total_orders |
+------+--------------+
|  911 |            1 |
|  912 |            2 |
+------+--------------+
```

- Display the customer details and their corresponding total spent amount, where the total spent amount for each customer is greater than 2500000.

Select cid, SUM(totalprice) AS total_spent FROM orders GROUP BY cid HAVING SUM(total_price)>2500000;

```
MariaDB [showroom1]> select cid,SUM(totalprice) AS total_spent FROM orders GROUP BY cid HAVING SUM(totalprice)>2500000;
+------+-------------+
| cid  | total_spent |
+------+-------------+
|  911 |     4500000 |
|  912 |     5000000 |
+------+-------------+
```

❖ Retrieve the order id, order date and customer first and last name who have placed orders.

Select o.order_id, o.order_date, c.fname, c.lname FROM orders o JOIN customer c ON o.cid=c.cid;

```
MariaDB [showroom1]> select o.order_id, o.order_date,c.fname,c.lname FROM orders o JOIN customer c ON o.cid=c.cid;
+----------+------------+-------+-------+
| order_id | order_date | fname | lname |
+----------+------------+-------+-------+
|     1100 | 2023-03-11 | Kiran | Raj   |
|     1200 | 2023-03-01 | Kavya | S     |
|     1300 | 2023-12-09 | Kavya | S     |
+----------+------------+-------+-------+
```

❖ Display the customer details who acquired the services from the showroom.

Select cid, fname, lname from customer where cid IN(select distinct cid from service where service_date NOT IN(select service_date from service where status='Pending'));

```
MariaDB [showroom1]> select cid,fname,lname from customer where cid IN(select distinct cid from service where service_date NOT IN(select service_date from
service where status='Pending'));
+-----+--------+-------+
| cid | fname  | lname |
+-----+--------+-------+
| 911 | Kiran  | Raj   |
| 914 | Akash  | Kumar |
| 915 | Shreyas | KR   |
+-----+--------+-------+
```

❖ List the details of car with their average price.

SELECT car_id, brandname, modelname, AVG(price) from car GROUP BY car_id;

```
MariaDB [showroom1]> SELECT car_id,brandname,modelname, AVG(price) from car GROUP BY car_id;
+--------+---------------+-----------+--------------+
| car_id | brandname     | modelname | AVG(price)   |
+--------+---------------+-----------+--------------+
|    200 | Toyota Camry  | Camry     | 4500000.0000 |
|    211 | Toyota Glanza | Glanza    | 1000000.0000 |
|    222 | Toyota Hilux  | CNG       |  900000.0000 |
|    233 | Toyota Hilux  | AMT       | 1300000.0000 |
|    244 | Toyota Alphard| DTC       | 1100000.0000 |
+--------+---------------+-----------+--------------+
```

❖ Set the Before Trigger to calculate the total price of the car.

```
DELIMITER //
CREATE TRIGGER calculate_order_total BEFORE INSERT ON orders FOR EACH ROW
BEGIN
SET NEW.totalprice = NEW.quantity * NEW.unitprice;
END;
//
```

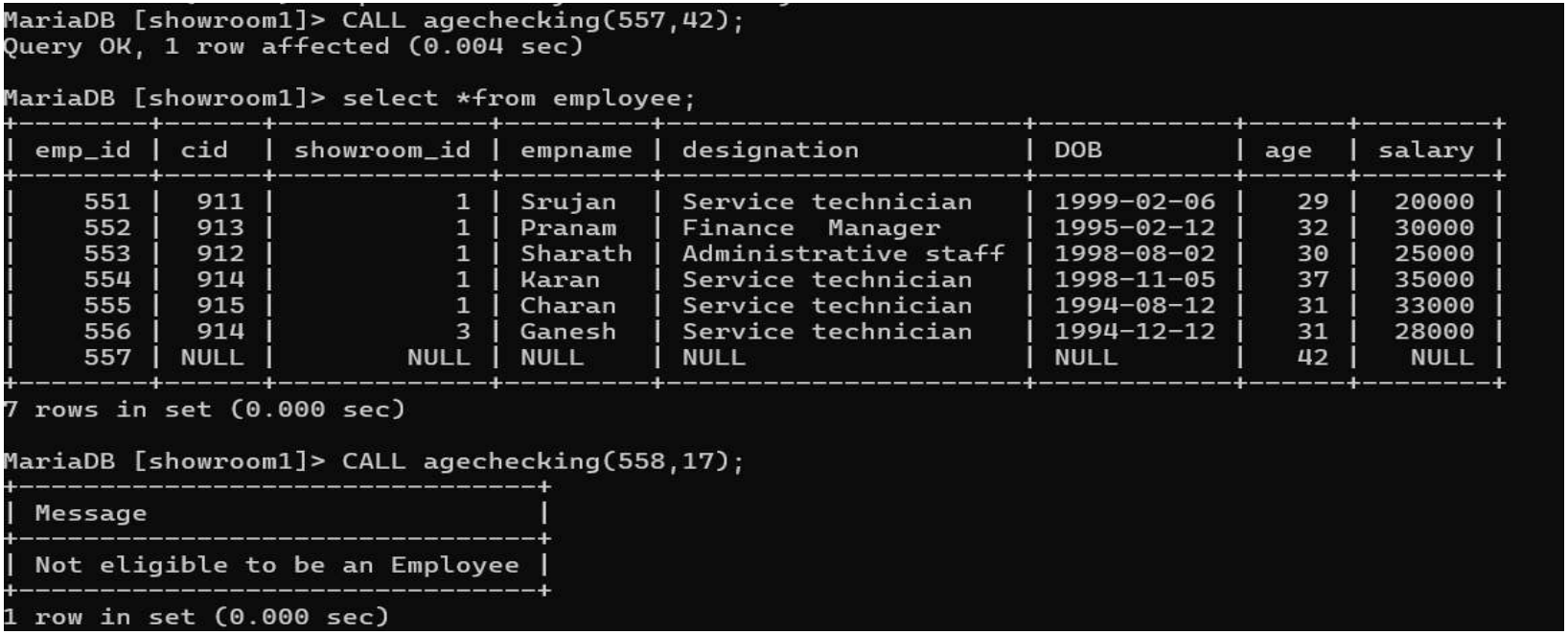
```
MariaDB [showroom1]> insert into orders values(1400,913,233,1111,'2024-09-04',2,1000000,1000000);
Query OK, 1 row affected (0.022 sec)

MariaDB [showroom1]> select *from orders;
+----------+------+--------+------------+------------+----------+-----------+------------+
| order_id | cid  | car_id | manager_id | order_date | quantity | unitprice | totalprice |
+----------+------+--------+------------+------------+----------+-----------+------------+
|     1100 |  911 |    200 |       1111 | 2023-03-11 |        1 |   4500000 |    4500000 |
|     1200 |  912 |    211 |       1111 | 2023-03-01 |        1 |   2000000 |    2000000 |
|     1300 |  912 |    222 |       1111 | 2023-12-09 |        1 |   3000000 |    3000000 |
|     1400 |  913 |    233 |       1111 | 2024-09-04 |        2 |   1000000 |    2000000 |
+----------+------+--------+------------+------------+----------+-----------+------------+
```

- Create a stored procedure to insert a tuple into the employee table by checking the employee age. If employees age is less than 18 then display a message 'Not eligible to be an employee'.

```
DELIMITER //
CREATE PROCEDURE agechecking(IN id int,IN age int)
  -> BEGIN
  -> IF age>=18 THEN
  -> INSERT INTO employee(emp_id,age)VALUES(id,age);
  -> ELSE
  -> SELECT 'Not eligible to be an Employee' As Message;
  -> END IF;
  -> END //
```

```
MariaDB [showroom1]> select *from employee;
+--------+------+-------------+---------+----------------------+------------+------+--------+
| emp_id | cid  | showroom_id | empname | designation          | DOB        | age  | salary |
+--------+------+-------------+---------+----------------------+------------+------+--------+
|    551 |  911 |           1 | Srujan  | Service technician   | 1999-02-06 |   29 |  20000 |
|    552 |  913 |           1 | Pranam  | Finance  Manager     | 1995-02-12 |   32 |  30000 |
|    553 |  912 |           1 | Sharath | Administrative staff | 1998-08-02 |   30 |  25000 |
|    554 |  914 |           1 | Karan   | Service technician   | 1998-11-05 |   37 |  35000 |
|    555 |  915 |           1 | Charan  | Service technician   | 1994-08-12 |   31 |  33000 |
|    556 |  914 |           3 | Ganesh  | Service technician   | 1994-12-12 |   31 |  28000 |
+--------+------+-------------+---------+----------------------+------------+------+--------+
```



```
MariaDB [showroom1]> CALL agechecking(557,42);
Query OK, 1 row affected (0.004 sec)

MariaDB [showroom1]> select *from employee;
+--------+------+-------------+---------+---------------------+------------+------+--------+
| emp_id | cid  | showroom_id | empname | designation         | DOB        | age  | salary |
+--------+------+-------------+---------+---------------------+------------+------+--------+
|    551 |  911 |           1 | Srujan  | Service technician  | 1999-02-06 |   29 |  20000 |
|    552 |  913 |           1 | Pranam  | Finance  Manager    | 1995-02-12 |   32 |  30000 |
|    553 |  912 |           1 | Sharath | Administrative staff | 1998-08-02 |   30 |  25000 |
|    554 |  914 |           1 | Karan   | Service technician  | 1998-11-05 |   37 |  35000 |
|    555 |  915 |           1 | Charan  | Service technician  | 1994-08-12 |   31 |  33000 |
|    556 |  914 |           3 | Ganesh  | Service technician  | 1994-12-12 |   31 |  28000 |
|    557 | NULL |        NULL | NULL    | NULL                | NULL       |   42 |   NULL |
+--------+------+-------------+---------+---------------------+------------+------+--------+
7 rows in set (0.000 sec)

MariaDB [showroom1]> CALL agechecking(558,17);
+-------------------------------+
| Message                       |
+-------------------------------+
| Not eligible to be an Employee |
+-------------------------------+
1 row in set (0.000 sec)
```

❖ Create a view to display the car_inventory information.

CREATE VIEW car_inventory AS SELECT s.showroom_id, c.car_id, c.brandname, c.modelname, m.year, c.color, c.price, s.city FROM showroom s, car c, model m;

```
MariaDB [showroom1]> CREATE VIEW car_inventory AS SELECT s.showroom_id,c.car_id,c.brandname,c.modelname,m.year,c.color,c.price,s.city FROM showroom s,car c,
model m;
Query OK, 0 rows affected (0.019 sec)

MariaDB [showroom1]> select *from car_inventory;
+-------------+--------+---------------+-----------+------+--------+---------+-----------+
| showroom_id | car_id | brandname     | modelname | year | color  | price   | city      |
+-------------+--------+---------------+-----------+------+--------+---------+-----------+
|           1 |    200 | Toyota Camry  | Camry     | 2002 | Silver | 4500000 | Mangalore |
|           2 |    200 | Toyota Camry  | Camry     | 2002 | Silver | 4500000 | Mysore    |
|           3 |    200 | Toyota Camry  | Camry     | 2002 | Silver | 4500000 | Kerala    |
|           4 |    200 | Toyota Camry  | Camry     | 2002 | Silver | 4500000 | Mangalore |
|           5 |    200 | Toyota Camry  | Camry     | 2002 | Silver | 4500000 | Mangalore |
|           1 |    211 | Toyota Glanza | Glanza    | 2002 | Red    | 1000000 | Mangalore |
|           2 |    211 | Toyota Glanza | Glanza    | 2002 | Red    | 1000000 | Mysore    |
|           3 |    211 | Toyota Glanza | Glanza    | 2002 | Red    | 1000000 | Kerala    |
|           4 |    211 | Toyota Glanza | Glanza    | 2002 | Red    | 1000000 | Mangalore |
|           5 |    211 | Toyota Glanza | Glanza    | 2002 | Red    | 1000000 | Mangalore |
|           1 |    222 | Toyota Hilux  | CNG       | 2002 | Brown  |  900000 | Mangalore |
|           2 |    222 | Toyota Hilux  | CNG       | 2002 | Brown  |  900000 | Mysore    |
|           3 |    222 | Toyota Hilux  | CNG       | 2002 | Brown  |  900000 | Kerala    |
```