DBMS - Mini Project
Title of the Project

Car Rental Management System

Submitted By:

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Section: C

Short Description and Scope of the Project

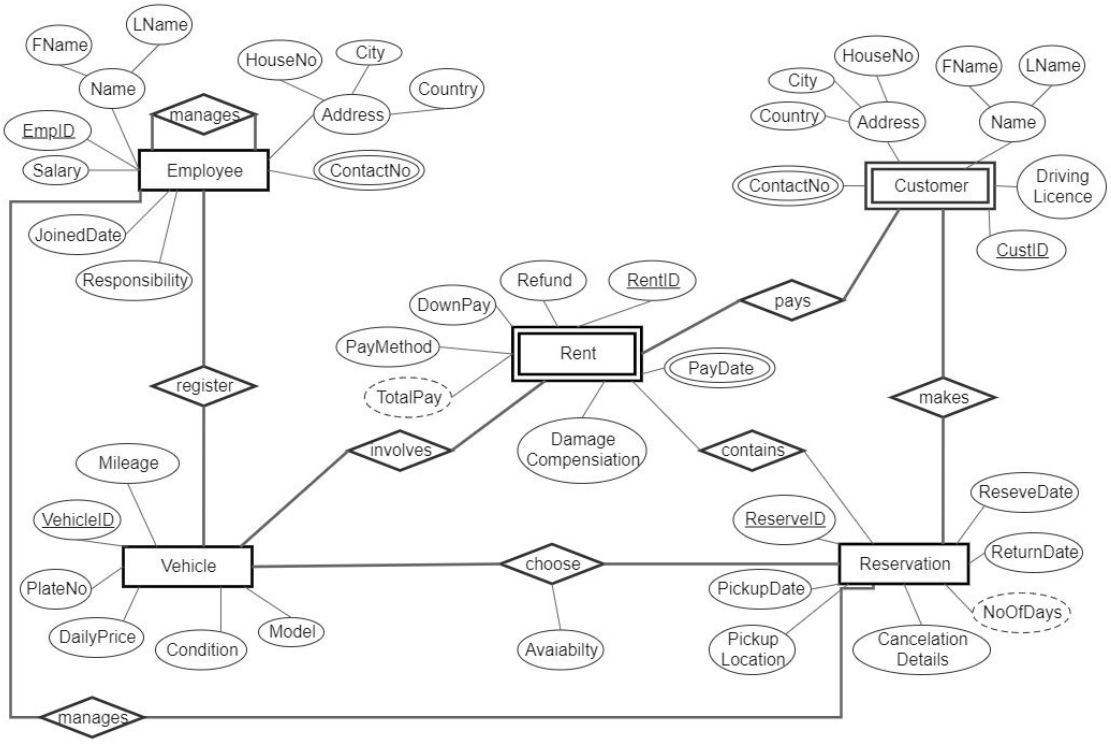
Keeping track of your fleet is no simple task. However, car rental management systems help you oversee vehicles and drivers while improving your online reservation experience. With point-and-click tools, you can quickly assign vehicles or record damage using an intuitive dashboard.

This system uses MySQL connected to a localhost using XAMPP This data can only be accessed by respective users i.e admins have the highest privilege and can have access to all the data and users have only select data and functionalities.

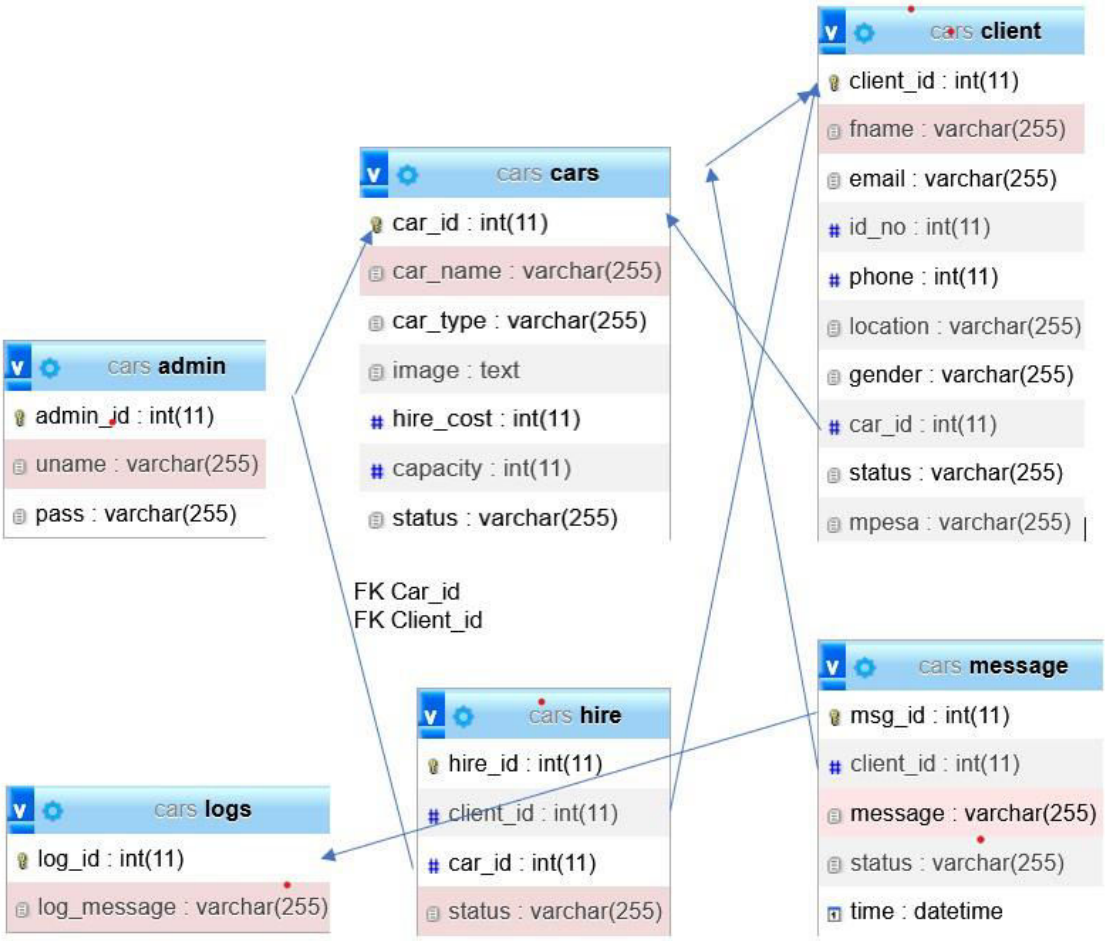
Features:

- Admin
- Customer
- Dealer
- Accountant

ER Diagram


FName
LName
Name
HouseNo
City
Country
Address
manages
EmpID
Salary
Employee
ContactNo
JoinedDate
Responsibility
register
HouseNo
City
Country
Address
FName
LName
Name
ContactNo
Customer
Driving Licence
CustID
pays
Refund
RentID
DownPay
PayMethod
Rent
PayDate
TotalPay
Damage Compensiation
involves
contains
makes
Mileage
VehicleID
Vehicle
PlateNo
DailyPrice
Condition
Model
choose
Avaiabilty
ReserveID
ReseveDate
Reservation
ReturnDate
PickupDate
NoOfDays
Pickup Location
Cancelation Details
manages

Relational Schema



DDL statements - Building the database

```
CREATE TABLE `admin` (
  `admin_id` int(11) NOT NULL,
  `uname` varchar(255) NOT NULL,
  `pass` varchar(255) NOT NULL
) ;


CREATE TABLE `cars` (
  `car_id` int(11) NOT NULL,
  `car_name` varchar(255) NOT NULL,
  `car_type` varchar(255) NOT NULL,
  `image` text NOT NULL,
  `hire_cost` int(11) NOT NULL,
  `capacity` int(11) NOT NULL,
  `status` varchar(255) NOT NULL
);



CREATE TABLE `client` (
  `client_id` int(11) NOT NULL,
  `fname` varchar(255) NOT NULL,
  `email` varchar(255) NOT NULL,
  `id_no` int(11) NOT NULL,
  `phone` int(11) NOT NULL,
  `location` varchar(255) NOT NULL,
  `gender` varchar(255) NOT NULL,
  `car_id` int(11) NOT NULL,
  `status` varchar(255) NOT NULL,
  `mpesa` varchar(255) NOT NULL
);



CREATE TABLE `hire` (
  `hire_id` int(11) NOT NULL,
  `client_id` int(11) NOT NULL,
  `car_id` int(11) NOT NULL,
  `status` varchar(255) NOT NULL
);
```

```
CREATE TABLE `message` (
  `msg_id` int(11) NOT NULL,
  `client_id` int(11) NOT NULL,
  `message` varchar(255) NOT NULL,
  `status` varchar(255) NOT NULL,
  `time` datetime NOT NULL
);
```

Populating the Database

```
INSERT INTO `admin` (`admin_id`, `uname`, `pass`) VALUES
(1, 'admin', 'admin');

INSERT INTO `cars` (`car_id`, `car_name`, `car_type`, `image`, `hire_cost`,
`capacity`, `status`) VALUES
(1, 'Mercedes BenzZ', 'Mercedes BenzZ', 'car1.jpg', 20000, 5, 'Available'),
(2, 'Range Rover', 'LandRover', 'car2.jpg', 30000, 6, 'Available'),
(3, 'Harrier', 'Toyota', 'car3.jpg', 20000, 6, 'Available'),
(5, 'LandCruiser V8', 'LandCruiser ', 'images (2).jpg', 20000, 5, 'Available'),
(6, 'Security Vehicles', 'Hammar Cars', 'sonkort2.png', 30000, 8, 'Available'),
(7, 'Wedding Limousine', 'Wedding Limousine', 'images (3).jpg', 50000, 10,
'Available');


INSERT INTO `client` (`client_id`, `fname`, `email`, `id_no`, `phone`,
`location`, `gender`, `car_id`, `status`, `mpesa`) VALUES
(2, 'felix kiamba', 'kiambafelix@yahoo.com', 30073147, 705053484, 'nairobi',
'Male', 1, 'Approved', '30073147'),
(3, 'concepter', 'concybogita@gmail.com', 27695131, 707403614, 'kisii',
'Female', 2, 'Approved', 'DJFL870FDK9'),
(4, 'enock bosire', 'enock@gmail.com', 1234567, 717056766, 'narok', 'Male',
2, 'Approved', 'HJHK678X'),
(5, 'John', 'h@game', 123, 0, 'lol', 'Male', 1, 'Approved', '30073147'),
(6, 'test', 'h@game', 3306, 1234567890, 'test', 'Male', 0, 'Available', ''),
(7, 'TestName', 'h@game', 30073147, 1234567890, 'lol', 'Male', 2,
'Approved', ''),
(8, 'fa', 'h@game', 123, 1234567890, 'lol', 'Female', 1, 'Pending', '');


INSERT INTO `message` (`msg_id`, `client_id`, `message`, `status`, `time`)
VALUES
(3, 0, 'Thanks for that..OK?', 'Unread', '0000-00-00 00:00:00'),
(5, 0, 'I love this. It worked the way i want...', 'Unread', '2015-08-04
21:45:33'),
(6, 0, 'jhbhjhj', 'Unread', '2022-10-18 19:43:45');
```

Join Queries

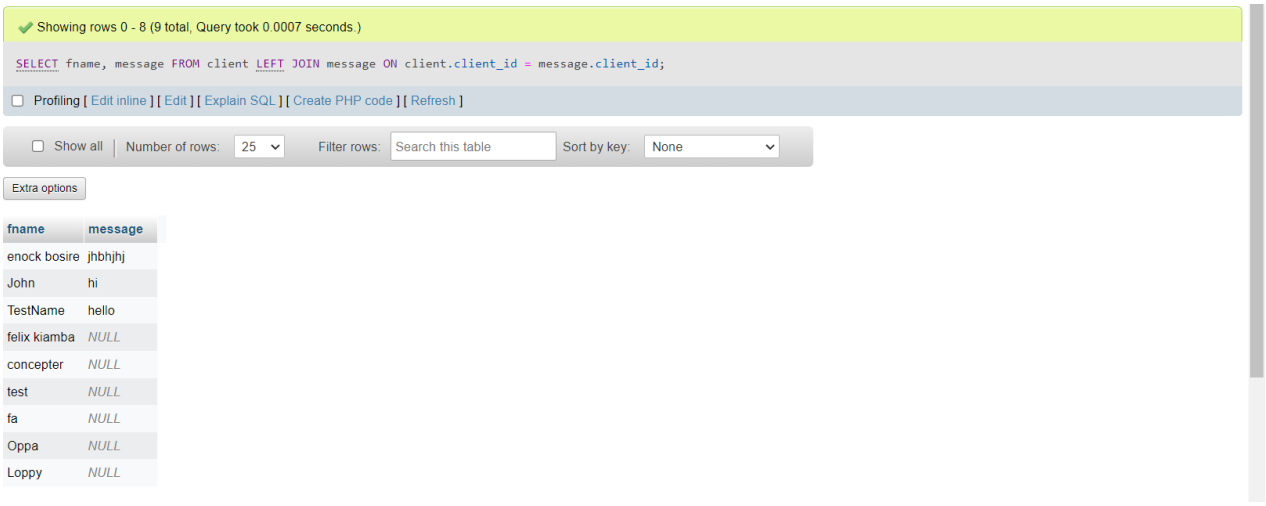
Showcase at least 4 join queries
Write the query in English Language, Show the equivalent SQL statement and also a screenshot of the query and the results

1. INNER JOIN

```
SELECT fname FROM client INNER JOIN message ON client.client_id = message.client_id;
```

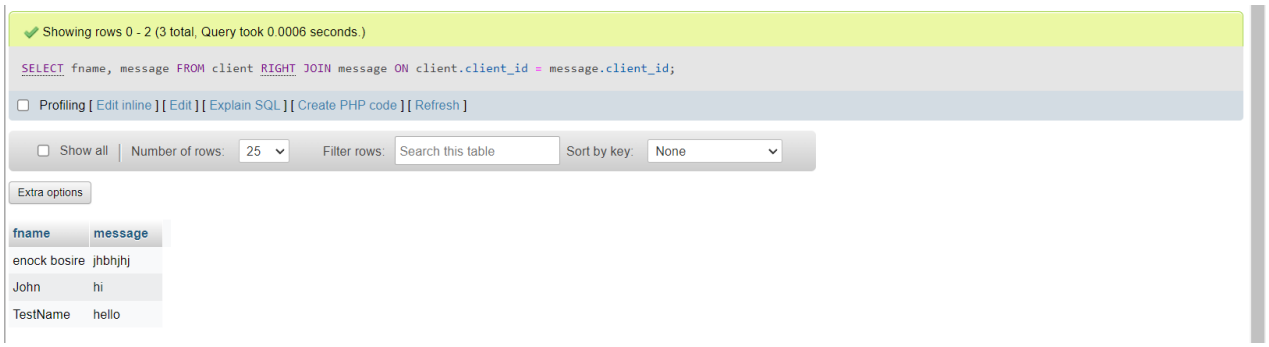
2. LEFT JOIN

```
SELECT fname, message FROM client LEFT JOIN message ON client.client_id = message.client_id;
```



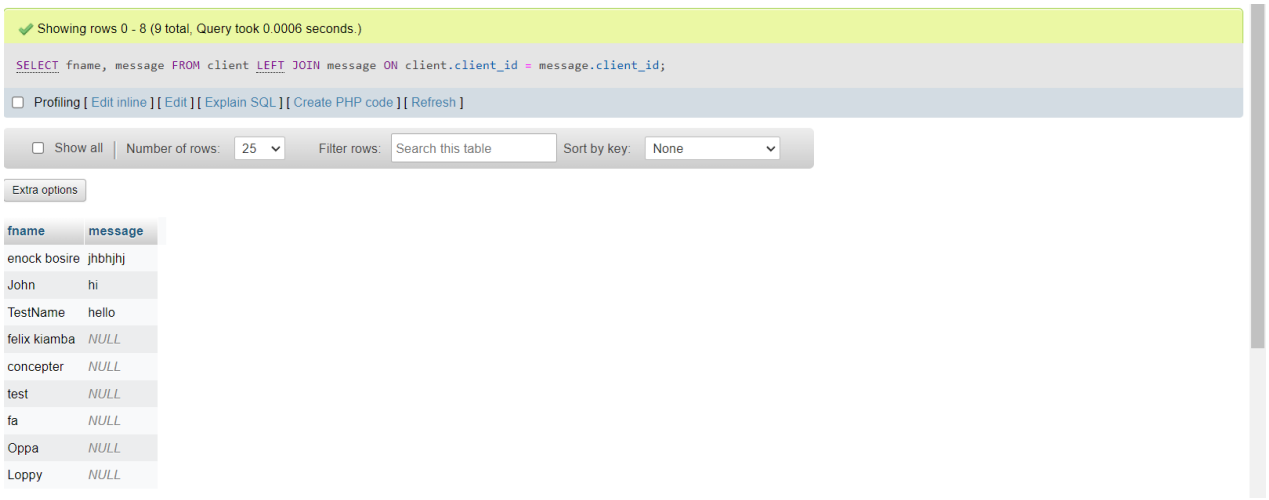
3. RIGHT JOIN

```
SELECT fname, message FROM client RIGHT JOIN message ON client.client_id = message.client_id;
```



4. LEFT JOIN

```
SELECT fname, message FROM client LEFT JOIN message ON client.client_id = message.client_id;
```

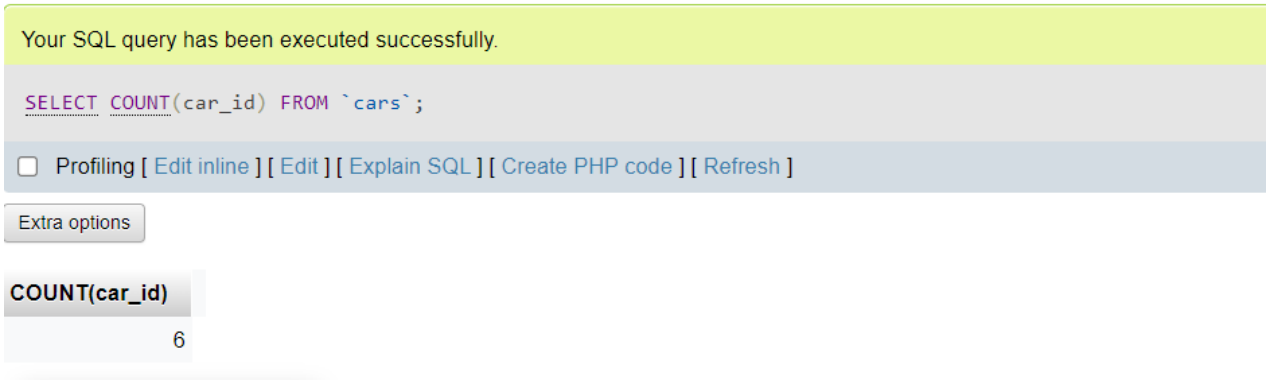


Aggregate Functions

Showcase at least 4 Aggregate function queries
Write the query in English Language, Show the equivalent SQL statement and also a screenshot of the query and the results

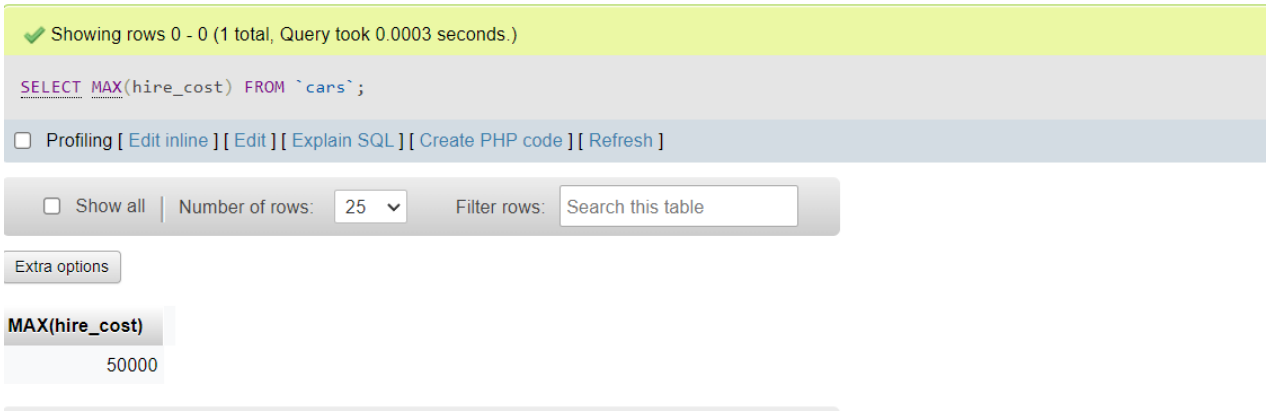
1. COUNT()

```
SELECT COUNT(car_id) FROM `cars`;
```



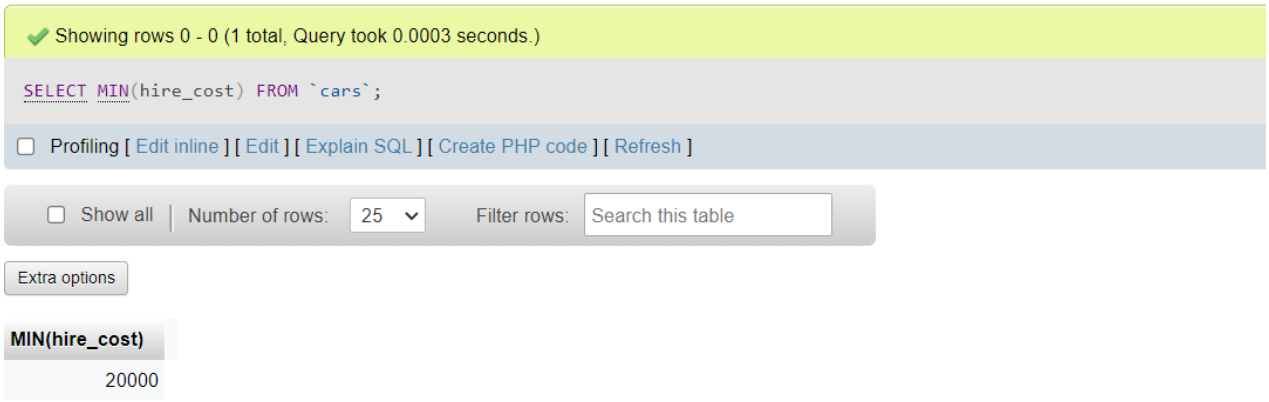
2. MAX()

```
SELECT MAX(hire_cost) FROM `cars`;
```



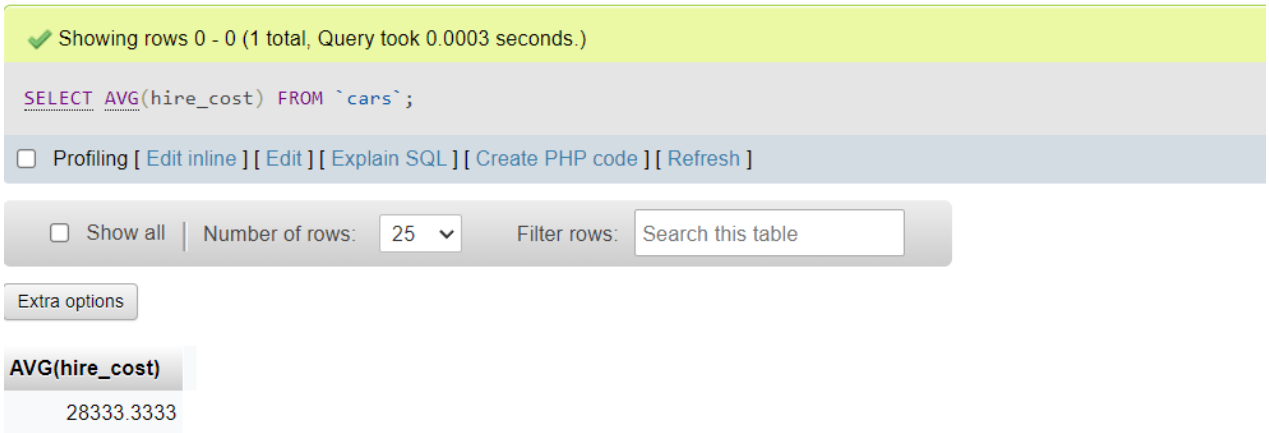
3. MIN()

```
SELECT MIN(hire_cost) FROM `cars`;
```



4. AVG()

```
SELECT AVG(hire_cost) FROM `cars`;
```



5. SUM()

```
SELECT SUM(hire_cost) FROM `cars`;
```

Showing rows 0 - 0 (1 total, Query took 0.0003 seconds.)

```
SELECT SUM(hire_cost) FROM `cars`;
```

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 Filter rows: Search this table

Extra options

SUM(hire_cost)
170000

Set Operations

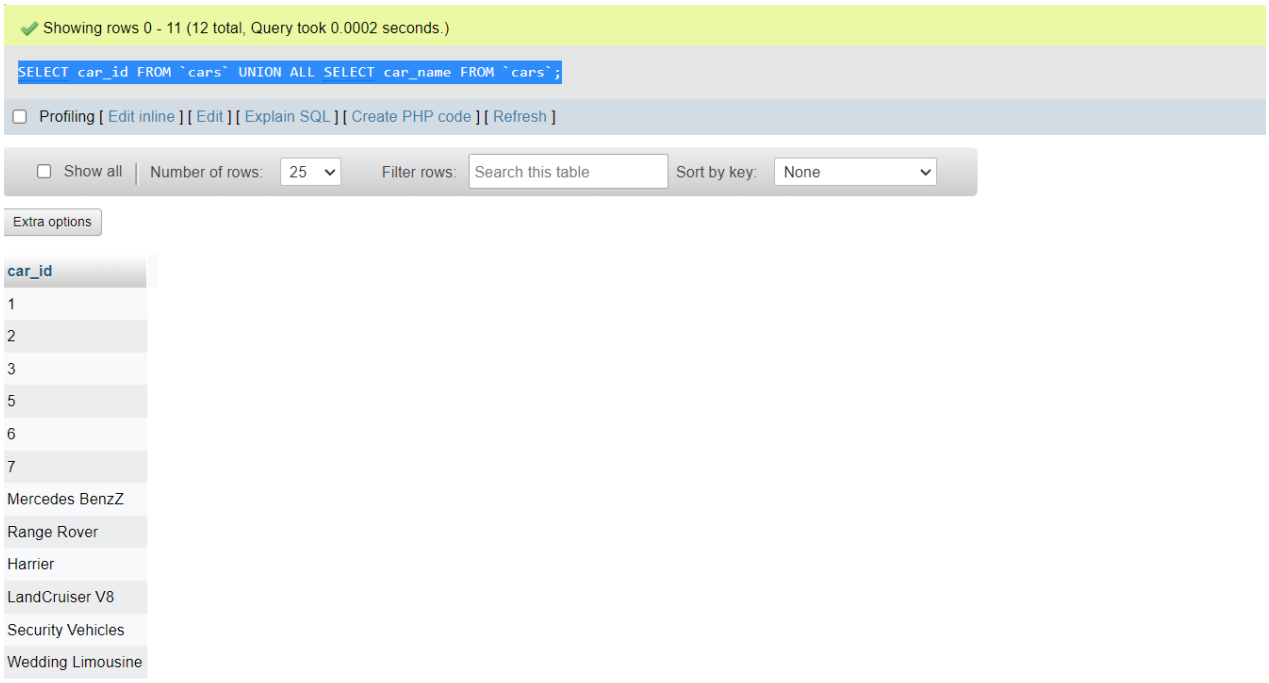
Showcase at least 4 Set Operations queries
Write the query in English Language, Show the equivalent SQL statement and also a screenshot of the query and the results

1. UNION

```
SELECT car_id FROM `cars` UNION SELECT car_name FROM `cars`;
```

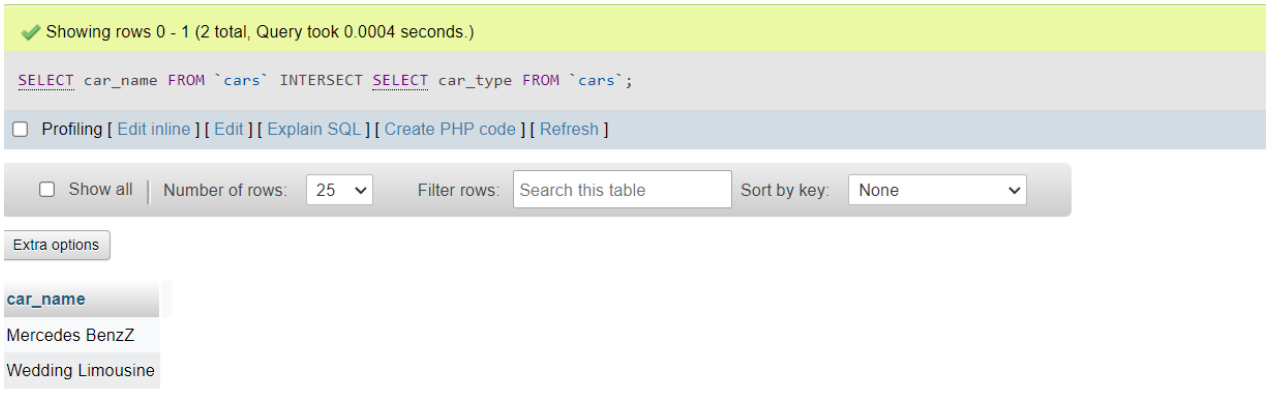
2. UNION ALL

```
SELECT car_id FROM `cars` UNION ALL SELECT car_name FROM `cars`;
```



3. INTERSECT

```
SELECT car_name FROM `cars` INTERSECT SELECT car_type FROM `cars`;
```



4. EXCEPT

```
SELECT * FROM `cars` EXCEPT SELECT * FROM `cars`;
```

MySQL returned an empty result set (i.e. zero rows). (Query took 0.0028 seconds.)

```
SELECT * FROM `cars` EXCEPT SELECT * FROM `cars`;
```

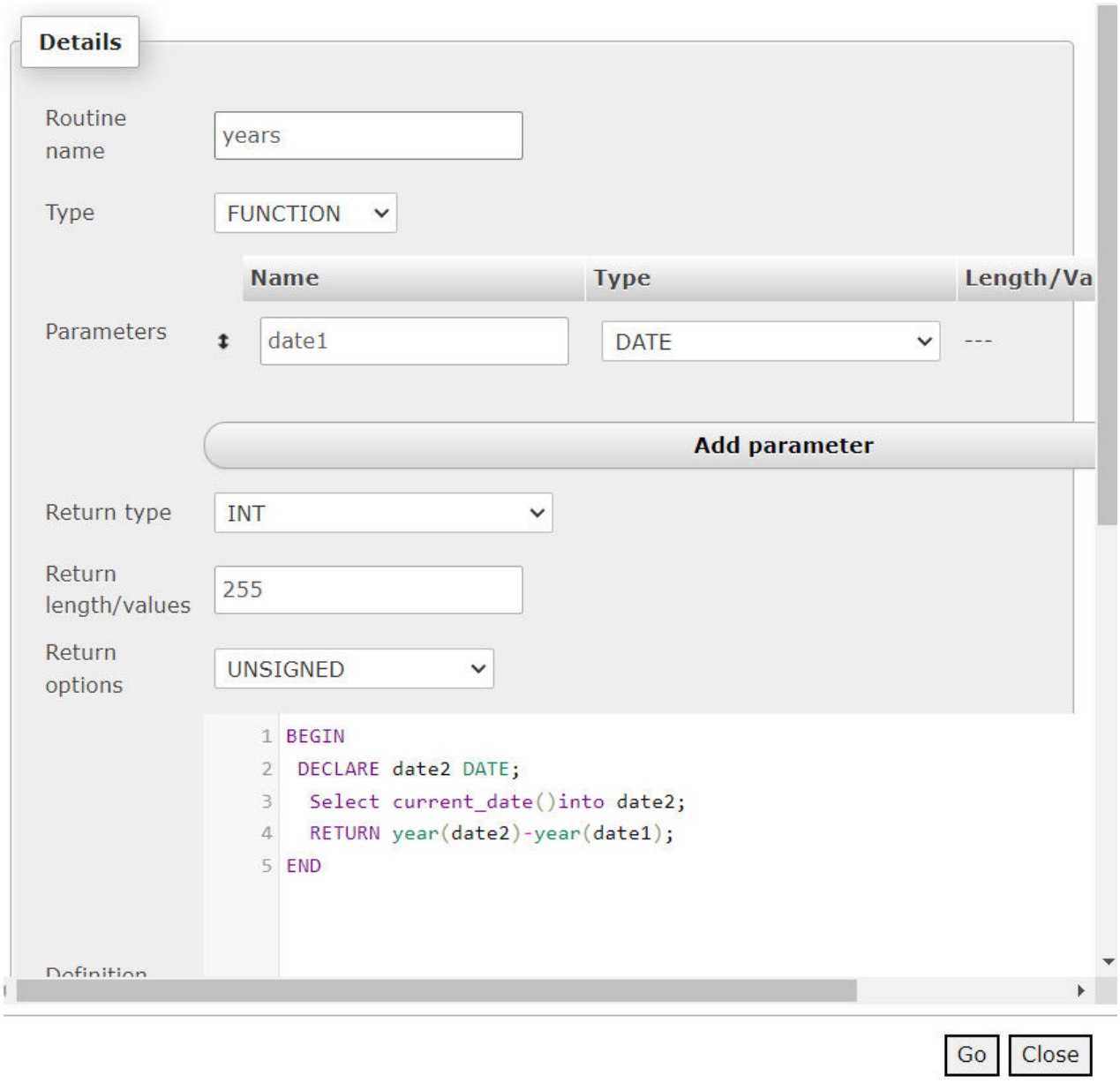
Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

car_id	car_name	car_type	image	hire_cost	capacity	status

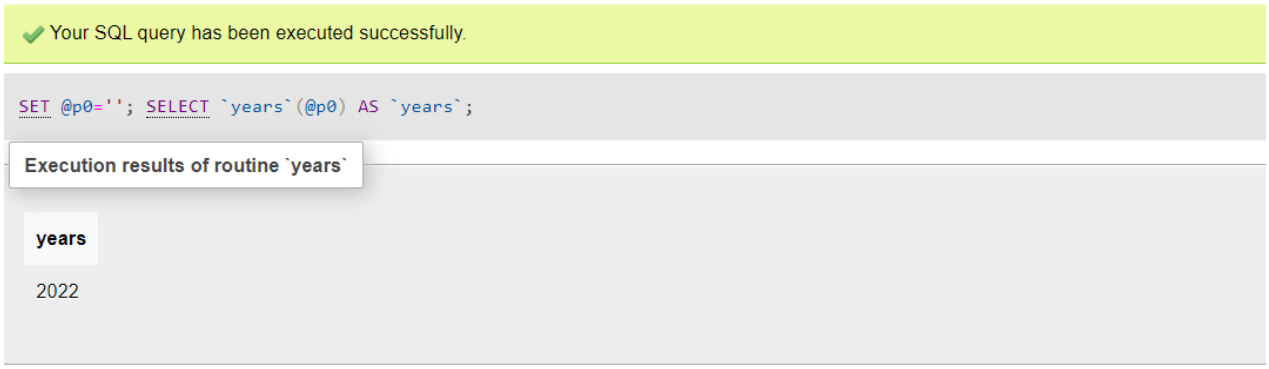
Functions and Procedures

Create a Function and Procedure. State the objective of the function / Procedure. Run and display the results.

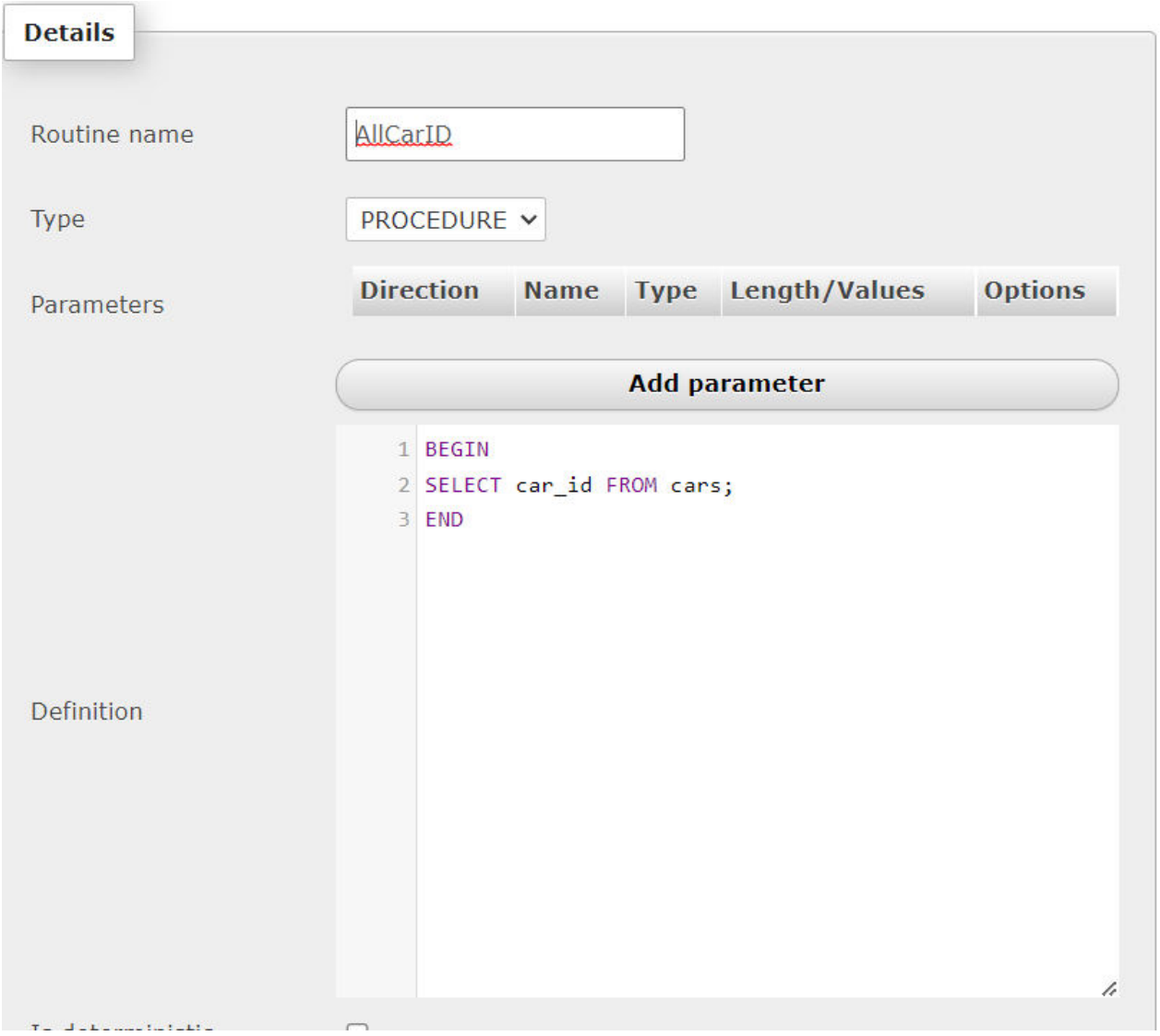
1. FUNCTION



OUTPUT



2. PROCEDURE



OUTPUT

```
CALL `AllCarID`();
```

Execution results of routine `AllCarID`

car_id
1
2
3
5
6
7

Routines

Check all | Export | Drop

	Name	Type	Returns				
☐	**AllCarID**	PROCEDURE		Edit	Execute	Export	Drop
☐	**years**	FUNCTION	int(255) unsigned	Edit	Execute	Export	Drop

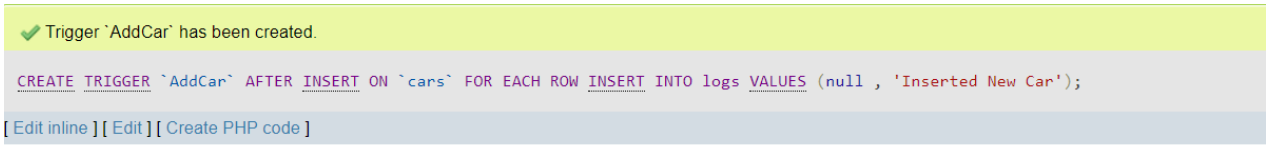
Triggers and Cursors

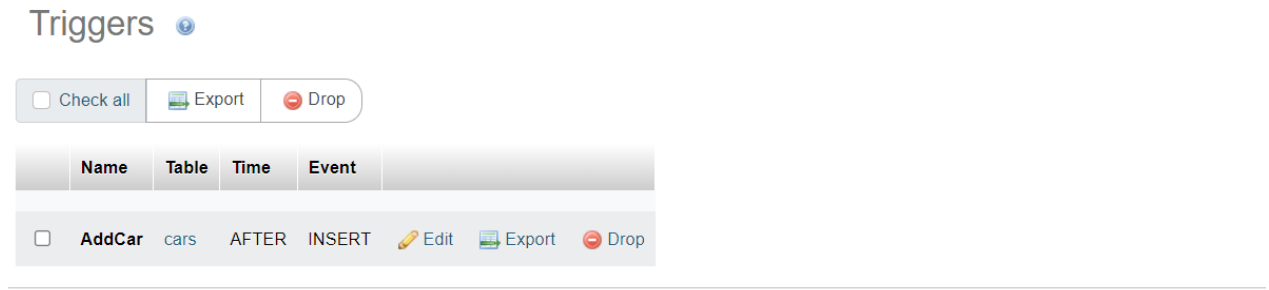
Create a Trigger and a Cursor. State the objective. Run and display the results.

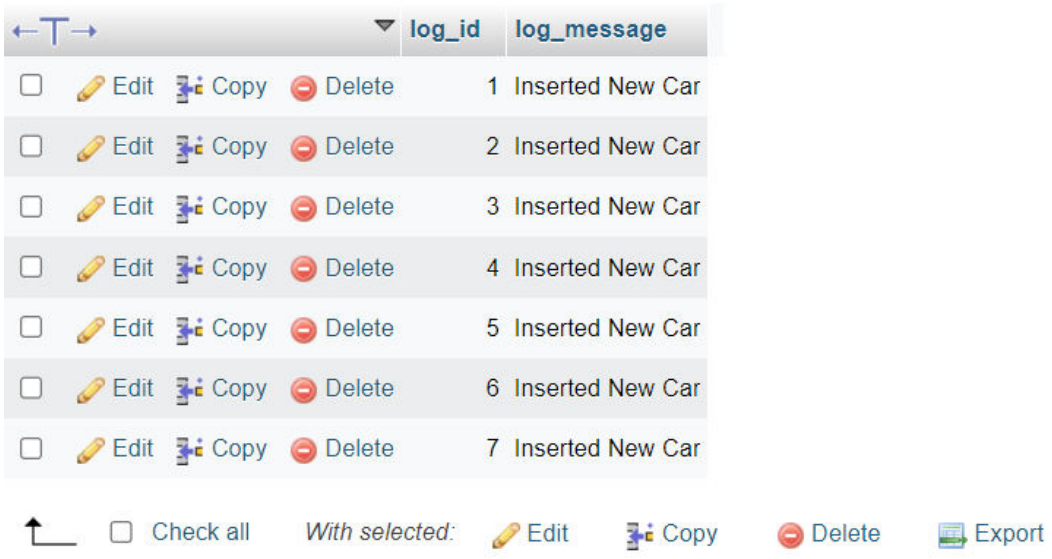
1. TRIGGER

Objective: This trigger adds a log file when a new car has been added to the database

```
CREATE TRIGGER `AddCar` AFTER INSERT ON `cars` FOR EACH ROW INSERT INTO logs V
ALUES (null , 'Inserted New Car');
```

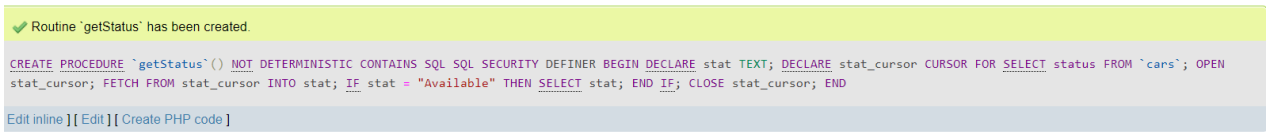


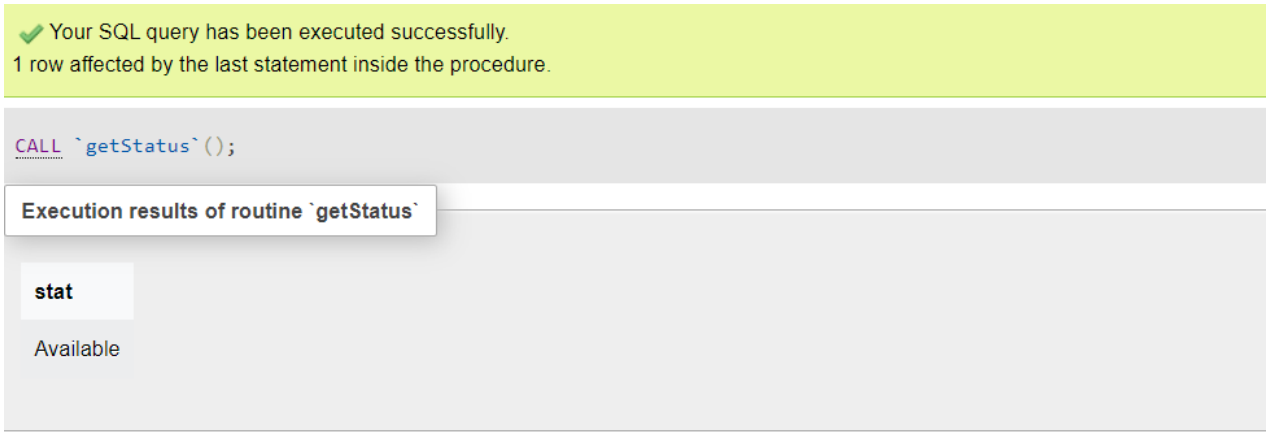




2. CURSOR

Objective: When the car has a status of available, it shows the availability in the database



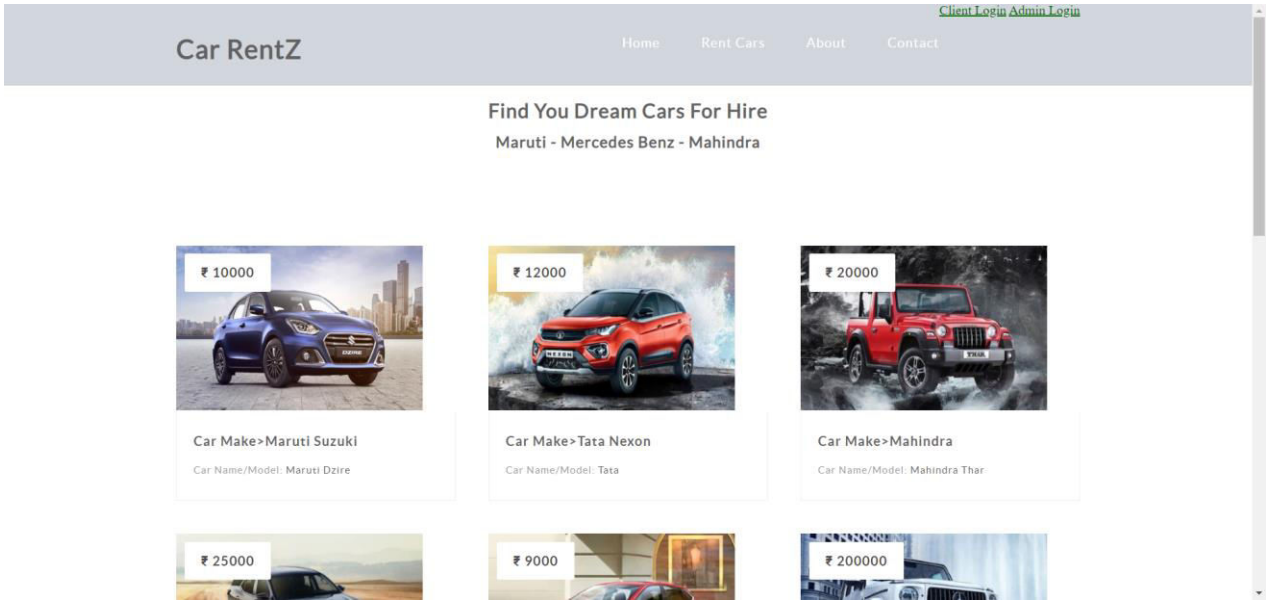


Developing a Frontend

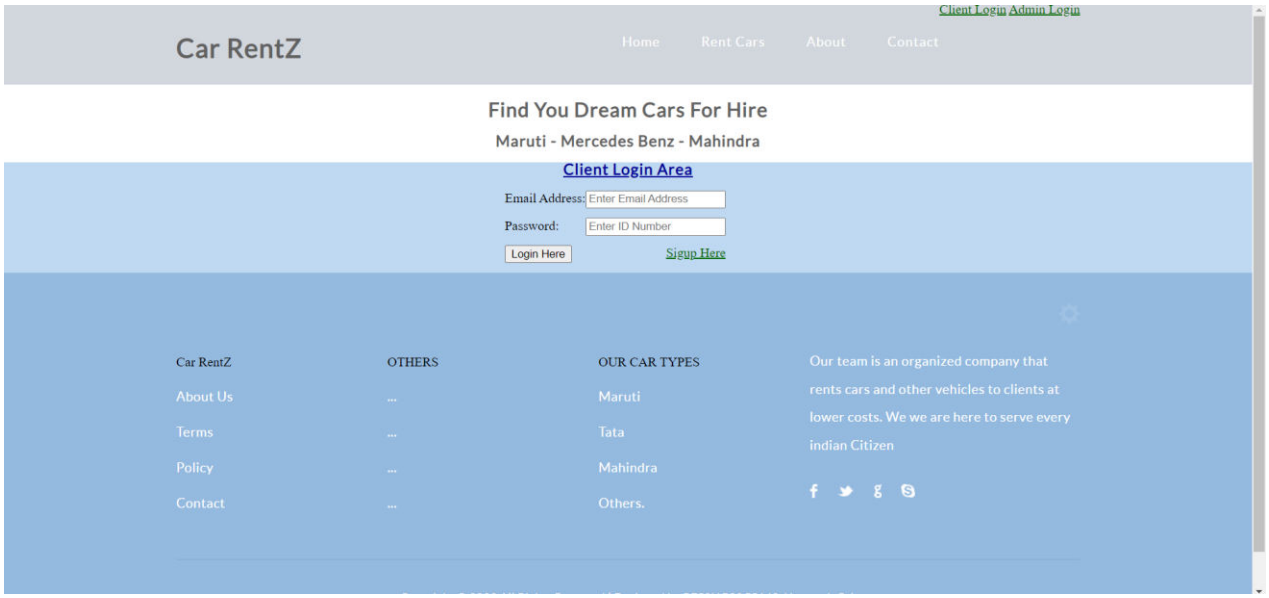
The frontend should support

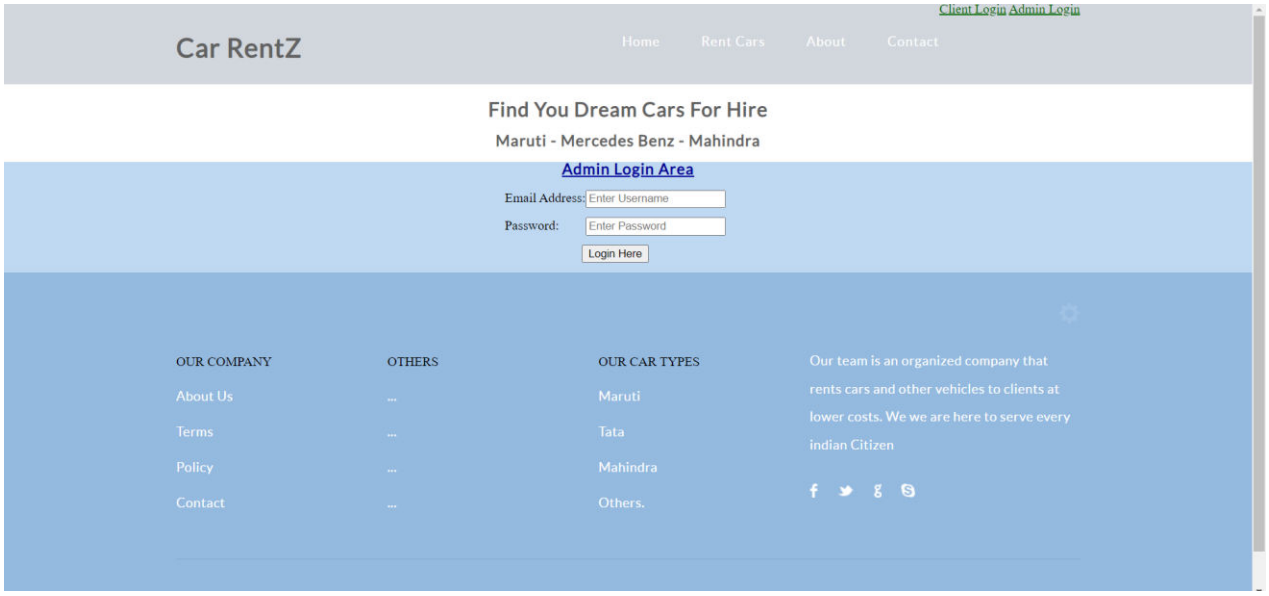
1. Addition, Modification and Deletion of records from any chosen table
2. There should be an window to accept and run any SQL statement and display the result

HOMEPAGE

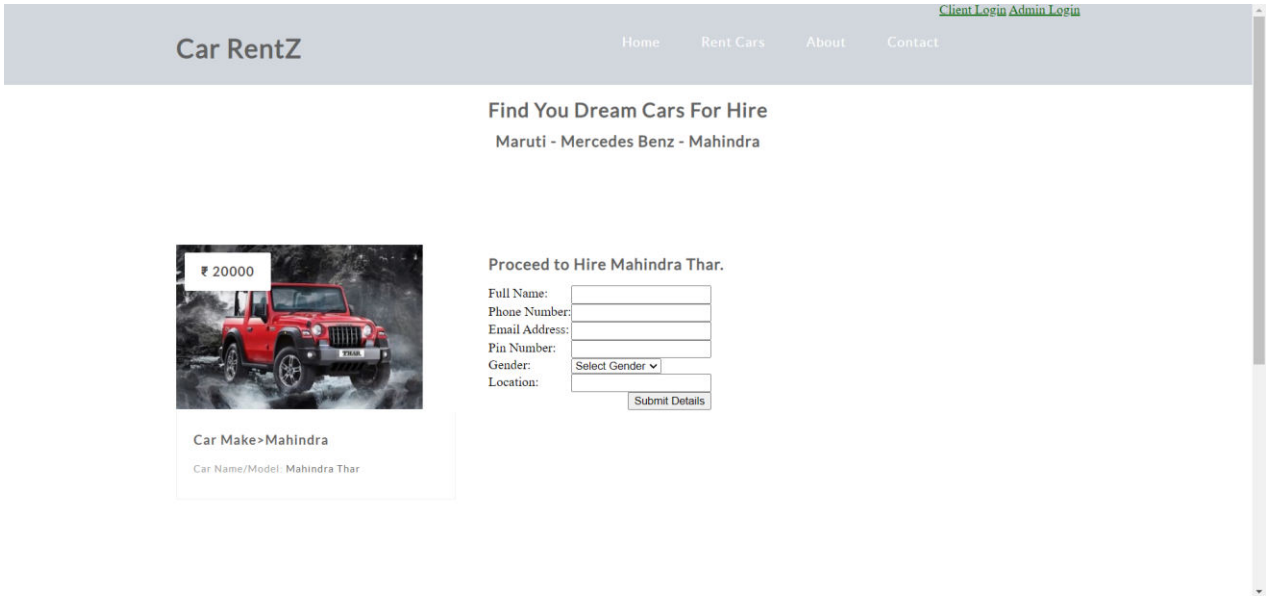


LOGIN PAGES

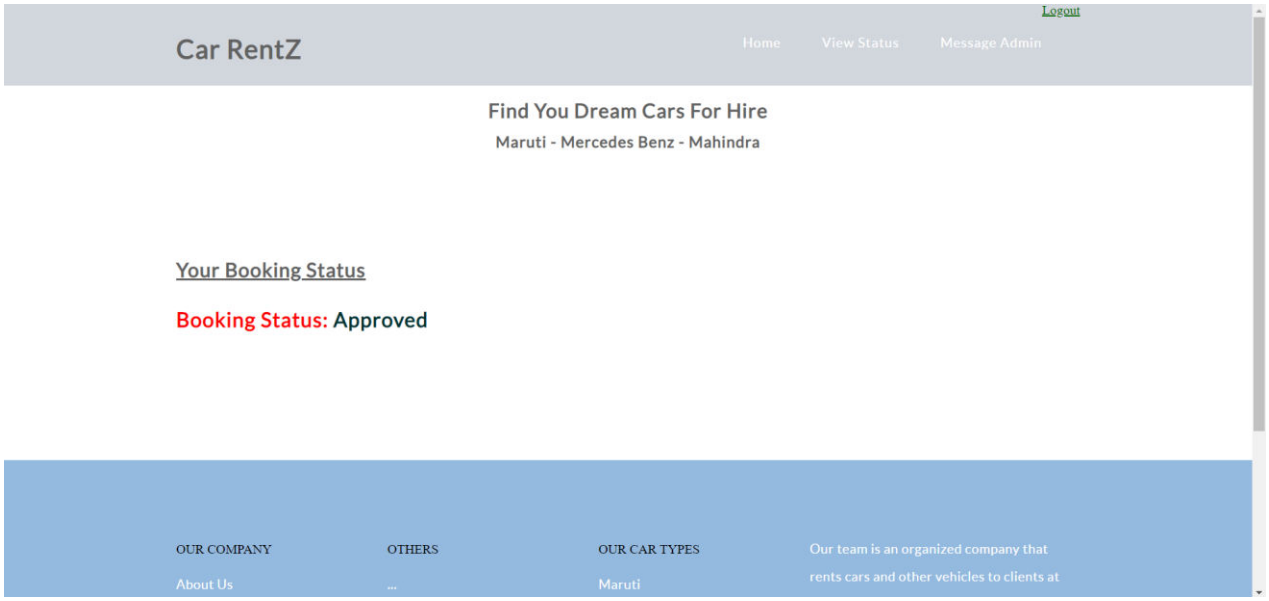

Client Login Admin Login
Car RentZ
Home
Rent Cars
About
Contact
Find You Dream Cars For Hire
Maruti - Mercedes Benz - Mahindra
Client Login Area
Email Address:
Enter Email Address
Password:
Enter ID Number
Login Here
Signup Here
Car RentZ
About Us
Terms
Policy
Contact
OTHERS
...
...
...
...
OUR CAR TYPES
Maruti
Tata
Mahindra
Others.
Our team is an organized company that rents cars and other vehicles to clients at lower costs. We we are here to serve every indian Citizen


Client Login Admin Login
Car RentZ
Home
Rent Cars
About
Contact
Find You Dream Cars For Hire
Maruti - Mercedes Benz - Mahindra
Admin Login Area
Email Address:
Enter Username
Password:
Enter Password
Login Here
OUR COMPANY
About Us
Terms
Policy
Contact
OTHERS
...
...
...
...
OUR CAR TYPES
Maruti
Tata
Mahindra
Others.
Our team is an organized company that rents cars and other vehicles to clients at lower costs. We we are here to serve every indian Citizen

RENTING A CAR



BOOKING STATUS



ADMIN INTERFACE