Hexaware Foundation Training 2025

Project Case Study - Car Rental System

Riya Salesia P

29/04/2025

Database Schema

Database Creation

```
CREATE DATABASE CarRentalSystem;
USE CarRentalSystem;
```

Tables and Schema

Customer Table - Stores customer details.

```
CREATE TABLE Customer (
    customerID INT PRIMARY KEY AUTO_INCREMENT,
    firstName VARCHAR(50) NOT NULL,
    lastName VARCHAR(50) NOT NULL,
    email VARCHAR(100) UNIQUE NOT NULL,
    phoneNumber VARCHAR(15) UNIQUE NOT NULL);
```

Vehicle Table - Stores vehicle details.

```
CREATE TABLE Vehicle (
    vehicleID INT PRIMARY KEY AUTO_INCREMENT,
    make VARCHAR(50) NOT NULL,
    model VARCHAR(50) NOT NULL,
    year INT NOT NULL,
    availabilityStatus ENUM('available', 'rented') DEFAULT 'available');
```

Lease Table - Tracks vehicle leases.

```
CREATE TABLE Lease (
    leaseID INT PRIMARY KEY AUTO_INCREMENT,
    vehicleID INT,
    customerID INT,
```

startDate DATE NOT NULL,

endDate DATE NOT NULL,

type ENUM('daily', 'weekly', 'monthly') NOT NULL,

FOREIGN KEY (vehicleID) REFERENCES Vehicle(vehicleID) ON DELETE CASCADE,

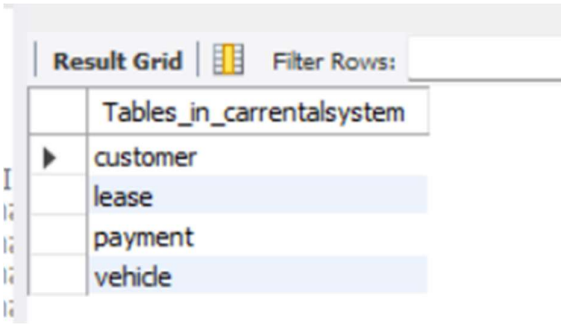
FOREIGN KEY (customerID) REFERENCES Customer(customerID) ON DELETE CASCADE);

Payment Table - Manages payment records**.**

```
CREATE TABLE Payment (
    paymentID INT AUTO_INCREMENT PRIMARY KEY,
    leaseID INT,
    amount DECIMAL(10,2),
    paymentDate DATE,
    paymentMethod ENUM('credit card', 'debit card', 'cash', 'online'),
    FOREIGN KEY (leaseID) REFERENCES Lease(leaseID) ON DELETE CASCADE);
```

Show tables;

- This shows the number of tables present in the database



Inserting Sample data to all the tables.

```
INSERT INTO Customer (firstName, lastName, email, phoneNumber) VALUES
('Riya', 'Salesia', 'riyasalesia@gmail.com', '7974568721'),
('Jane', 'Smith', 'jane.smith@gmail.com', '9123456789'),
('Alia', 'Bhatt', 'aliabhatt@outlook.com', '9125476234'),
('Maya', 'Kapoor', 'maya.kapoor@yahoo.com', '9098765432'),
('Akshay', 'Khanna', 'akshaykhanna@outlook.com', '6759284567'),
```

('Emma', 'Watson', 'emma.watson@gmail.com', '9657893456'),

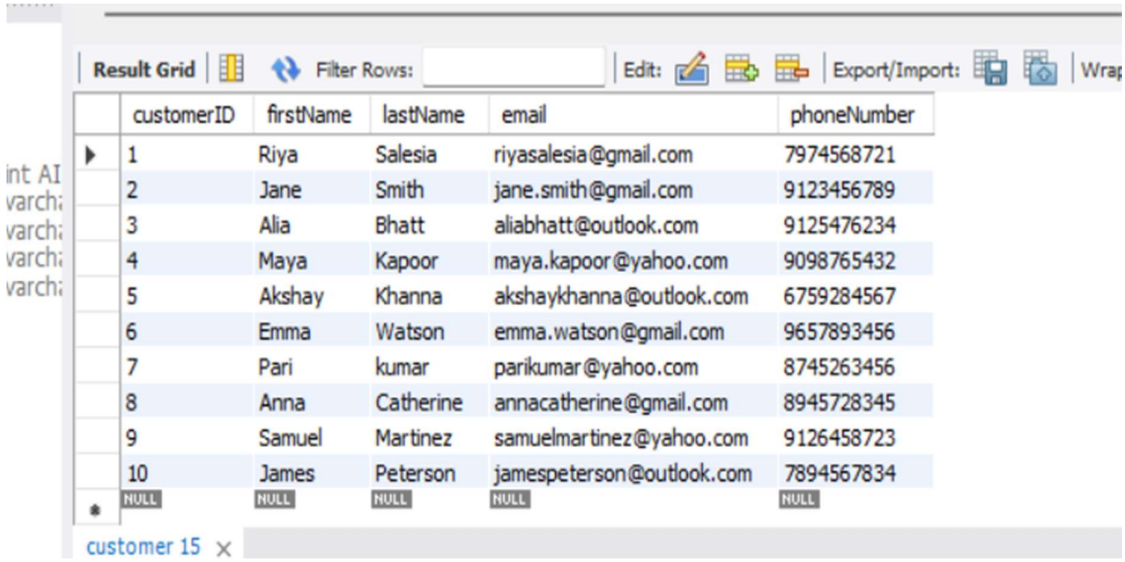
('Pari', 'kumar', 'parikumar@yahoo.com', '8745263456'),

('Anna', 'Catherine', 'annacatherine@gmail.com', '8945728345'),

('Samuel', 'Martinez', 'samuelmartinez@yahoo.com', '9126458723'),

('James', 'Peterson', 'jamespeterson@outlook.com', '7894567834');

To show the entire table for customers: select *from customers;



customerID	firstName	lastName	email	phoneNumber
1	Riya	Salesia	riyasalesia@gmail.com	7974568721
2	Jane	Smith	jane.smith@gmail.com	9123456789
3	Alia	Bhatt	aliabhatt@outlook.com	9125476234
4	Maya	Kapoor	maya.kapoor@yahoo.com	9098765432
5	Akshay	Khanna	akshaykhanna@outlook.com	6759284567
6	Emma	Watson	emma.watson@gmail.com	9657893456
7	Pari	kumar	parikumar@yahoo.com	8745263456
8	Anna	Catherine	annacatherine@gmail.com	8945728345
9	Samuel	Martinez	samuelmartinez@yahoo.com	9126458723
10	James	Peterson	jamespeterson@outlook.com	7894567834
NULL	NULL	NULL	NULL	NULL

INSERT INTO Vehicle (make, model, year, availabilityStatus) VALUES

('Toyota', 'Corolla', 2021, 'available'),

('Honda', 'Civic', 2020, 'available'),

('Ford', 'Focus', 2019, 'available'),

('Nissan', 'Altima', 2022, 'available'),

('BMW', 'X5', 2023, 'available'),

('Audi', 'A4', 2021, 'available'),

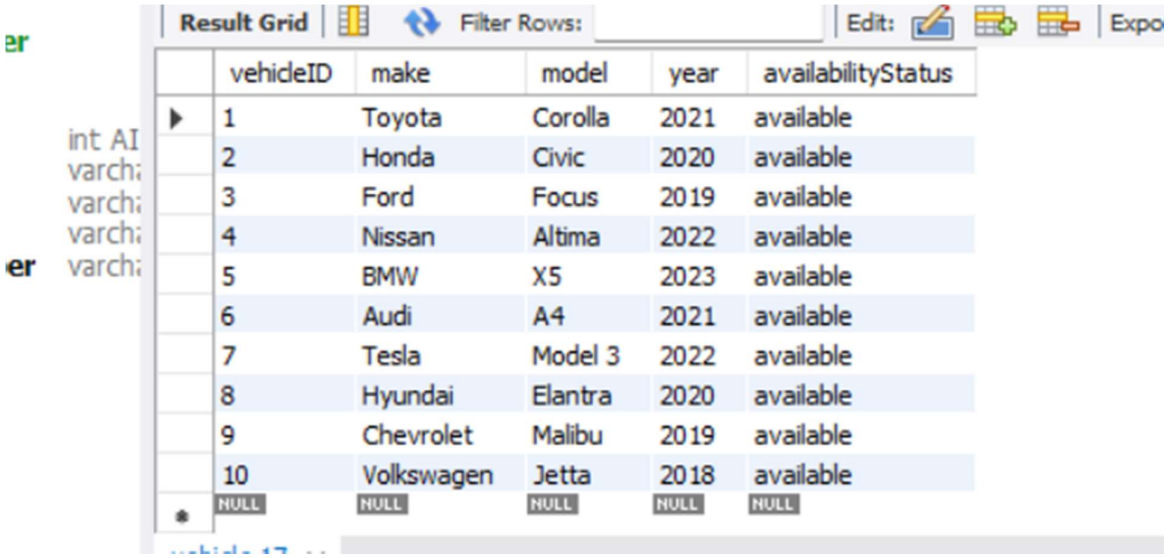
('Tesla', 'Model 3', 2022, 'available'),

('Hyundai', 'Elantra', 2020, 'available'),

('Chevrolet', 'Malibu', 2019, 'available'),

('Volkswagen', 'Jetta', 2018, 'available');

To show the entire table for vehicles: select *from vehicles;



vehicleID	make	model	year	availabilityStatus
1	Toyota	Corolla	2021	available
2	Honda	Civic	2020	available
3	Ford	Focus	2019	available
4	Nissan	Altima	2022	available
5	BMW	X5	2023	available
6	Audi	A4	2021	available
7	Tesla	Model 3	2022	available
8	Hyundai	Elantra	2020	available
9	Chevrolet	Malibu	2019	available
10	Volkswagen	Jetta	2018	available

INSERT INTO Lease (vehicleID, customerID, startDate, endDate, type) VALUES

(1, 1, '2024-03-15', '2024-03-25', 'weekly'),

(2, 2, '2024-03-16', '2024-03-22', 'daily'),

(3, 3, '2024-03-17', '2024-03-27', 'monthly'),

(4, 4, '2024-03-18', '2024-03-28', 'weekly'),

(5, 5, '2024-03-19', '2024-03-29', 'daily'),

(6, 6, '2024-03-20', '2024-03-30', 'monthly'),

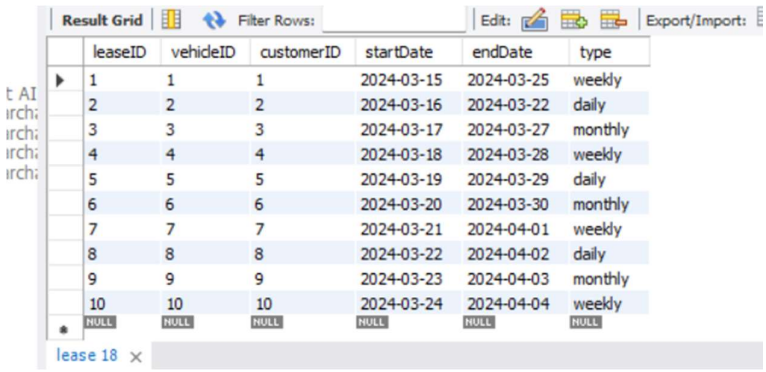
(7, 7, '2024-03-21', '2024-04-01', 'weekly'),

(8, 8, '2024-03-22', '2024-04-02', 'daily'),

(9, 9, '2024-03-23', '2024-04-03', 'monthly'),

(10, 10, '2024-03-24', '2024-04-04', 'weekly');

To show the entire table for lease: select *from lease;



leaseID	vehicleID	customerID	startDate	endDate	type
1	1	1	2024-03-15	2024-03-25	weekly
2	2	2	2024-03-16	2024-03-22	daily
3	3	3	2024-03-17	2024-03-27	monthly
4	4	4	2024-03-18	2024-03-28	weekly
5	5	5	2024-03-19	2024-03-29	daily
6	6	6	2024-03-20	2024-03-30	monthly
7	7	7	2024-03-21	2024-04-01	weekly
8	8	8	2024-03-22	2024-04-02	daily
9	9	9	2024-03-23	2024-04-03	monthly
10	10	10	2024-03-24	2024-04-04	weekly

INSERT INTO Payment (leaseID, amount, paymentDate, paymentMethod) VALUES

(1, 250.00, '2024-03-15', 'credit card'),

(2, 40.00, '2024-03-16', 'debit card'),

(3, 800.00, '2024-03-17', 'online'),

(4, 200.00, '2024-03-18', 'cash'),

(5, 50.00, '2024-03-19', 'credit card'),

(6, 900.00, '2024-03-20', 'debit card'),

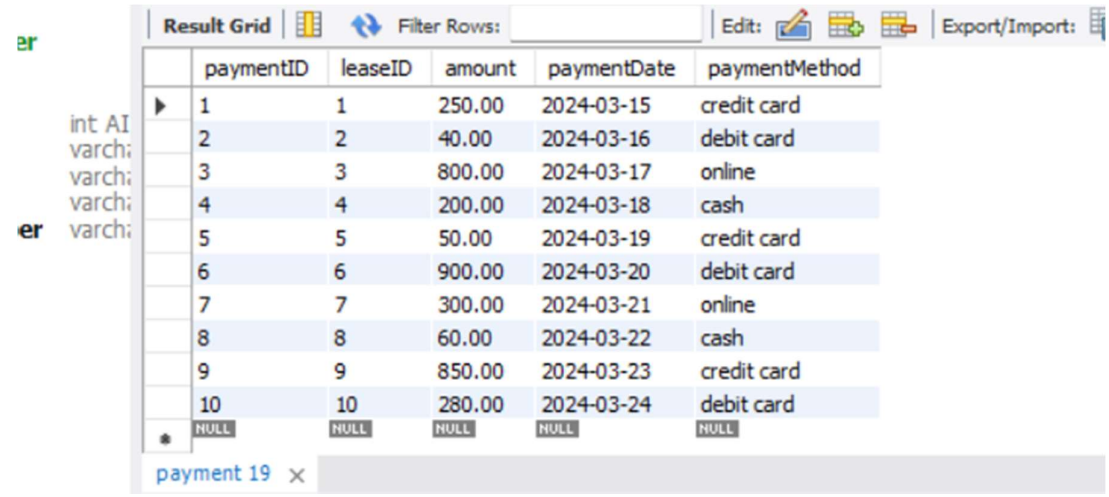
(7, 300.00, '2024-03-21', 'online'),

(8, 60.00, '2024-03-22', 'cash'),

(9, 850.00, '2024-03-23', 'credit card'),

(10, 280.00, '2024-03-24', 'debit card');

To show the entire table for payment: select *from payment;



paymentID	leaseID	amount	paymentDate	paymentMethod
1	1	250.00	2024-03-15	credit card
2	2	40.00	2024-03-16	debit card
3	3	800.00	2024-03-17	online
4	4	200.00	2024-03-18	cash
5	5	50.00	2024-03-19	credit card
6	6	900.00	2024-03-20	debit card
7	7	300.00	2024-03-21	online
8	8	60.00	2024-03-22	cash
9	9	850.00	2024-03-23	credit card
10	10	280.00	2024-03-24	debit card
NULL	NULL	NULL	NULL	NULL