# Coding Challenge – Car Rental System – SQL

**Submitted By-**

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**Creating Database named Car Rental System:**

```
Create Database Car_Rental_System;

Use Car_Rental_System;
```

00 %

Messages

```
Commands completed successfully.

Completion time: 2024-09-23T17:17:20.6950307+05:30
```

**Creating Tables:**

**Vehicle Table:**

```
Create Table Vehicle(
    vehicleID INT Primary Key,
    make varchar(255),
    model varchar(255),
    year Int,
    dailyRate Decimal(10,2),
    status varchar(20),
    passengerCapacity Int,
    engineCapacity Int
);
```

**Customer Table:**

```
Create Table Customer(
    customerID Int primary key,
    firstName varchar(255),
    lastName varchar(255),
    email varchar(255),
    phoneNumber varchar(20)
);
```

**Lease Table:**

```
Create Table Lease(
    leaseID Int primary key,
    vehicleID Int,
    customerID Int,
    startDate Date,
    endDate Date,
    type varchar(25),
    Foreign Key (vehicleID) References Vehicle (vehicleID),
    Foreign Key (customerID) References Customer (customerID)
);
```

**Payment Table:**

```
Create Table Payment(
    paymentID Int Primary Key,
    leaseID Int,
    paymentDate Date,
    amount Decimal(10,2),
    Foreign Key (leaseID) References Lease (leaseID)
);
```

```
Messages
Commands completed successfully.

Completion time: 2024-09-23T19:45:54.8315854+05:30
```

**Inserting records into each tables Vehicle and Customer Table:**

```
Insert into Vehicle(vehicleID, make, model, year, dailyRate, status, passengerCapacity, engineCapacity)
Values
(1, 'Toyota', 'Camry', 2022, 50.00, 'available', 4, 1450),
(2, 'Honda', 'Civic', 2023, 45.00, 'available', 7, 1500),
(3, 'Ford', 'Focus', 2022, 48.00, 'notavailable', 4, 1400),
(4, 'Nissan', 'Altima', 2023, 52.00, 'available', 7, 1200),
(5, 'Chevrolet', 'Malibu', 2022, 47.00, 'available', 4, 1800),
(6, 'Hyundai', 'Sonata', 2023, 49.00, 'notavailable', 7, 1400),
(7, 'BMW', '3 Series', 2023, 60.00, 'available', 7, 2499),
(8, 'Mercedes', 'C-Class', 2022, 58.00, 'available', 8, 2599),
(9, 'Audi', 'A4', 2022, 55.00, 'notavailable', 4, 2500),
(10, 'Lexus', 'ES', 2023, 54.00, 'available', 4, 2500);
```

```
100 %
Messages

(10 rows affected)

Completion time: 2024-09-23T22:56:58.4286750+05:30
```

```
select * from Vehicle;
```

100 %

Results | Messages

| | vehicleID | make | model | year | dailyRate | status | passengerCapacity | engineCapacity |
|---|---|---|---|---|---|---|---|---|
| 1 | 1 | Toyota | Camry | 2022 | 50.00 | available | 4 | 1450 |
| 2 | 2 | Honda | Civic | 2023 | 45.00 | available | 7 | 1500 |
| 3 | 3 | Ford | Focus | 2022 | 48.00 | notavailable | 4 | 1400 |
| 4 | 4 | Nissan | Altima | 2023 | 52.00 | available | 7 | 1200 |
| 5 | 5 | Chevrolet | Malibu | 2022 | 47.00 | available | 4 | 1800 |
| 6 | 6 | Hyundai | Sonata | 2023 | 49.00 | notavailable | 7 | 1400 |
| 7 | 7 | BMW | 3 Series | 2023 | 60.00 | available | 7 | 2499 |
| 8 | 8 | Mercedes | C-Class | 2022 | 58.00 | available | 8 | 2599 |
| 9 | 9 | Audi | A4 | 2022 | 55.00 | notavailable | 4 | 2500 |
| 10 | 10 | Lexus | ES | 2023 | 54.00 | available | 4 | 2500 |

```
Insert into Customer(customerID, firstName, lastName, email, phoneNumber)
Values
(1, 'John', 'Doe', 'johndoe@example.com', '555-555-5555'),
(2, 'Jane', 'Smith', 'janesmith@example.com', '555-123-4567'),
(3, 'Robert', 'Johnson', 'robert@example.com', '555-789-1234'),
(4, 'Sarah', 'Brown', 'sarah@example.com', '555-456-7890'),
(5, 'David', 'Lee', 'david@example.com', '555-987-6543'),
(6, 'Laura', 'Hall', 'laura@example.com', '555-234-5678'),
(7, 'Michael', 'Davis', 'michael@example.com', '555-876-5432'),
(8, 'Emma', 'Wilson', 'emma@example.com', '555-432-1098'),
(9, 'William', 'Taylor', 'william@example.com', '555-321-6547'),
(10, 'Olivia', 'Adams', 'olivia@example.com', '555-765-4321');
```

100 %

Messages

```
(10 rows affected)

Completion time: 2024-09-23T23:53:23.3698278+05:30
```

```
select * from Customer;
```

100 %

Results | Messages

| | customerID | firstName | lastName | email | phoneNumber |
|---|---|---|---|---|---|
| 1 | 1 | John | Doe | johndoe@example.com | 555-555-5555 |
| 2 | 2 | Jane | Smith | janesmith@example.com | 555-123-4567 |
| 3 | 3 | Robert | Johnson | robert@example.com | 555-789-1234 |
| 4 | 4 | Sarah | Brown | sarah@example.com | 555-456-7890 |
| 5 | 5 | David | Lee | david@example.com | 555-987-6543 |
| 6 | 6 | Laura | Hall | laura@example.com | 555-234-5678 |
| 7 | 7 | Michael | Davis | michael@example.com | 555-876-5432 |
| 8 | 8 | Emma | Wilson | emma@example.com | 555-432-1098 |
| 9 | 9 | William | Taylor | william@example.com | 555-321-6547 |
| 10 | 10 | Olivia | Adams | olivia@example.com | 555-765-4321 |

**Inserting into Lease table:**

```
Insert Into Lease(leaseID, vehicleID, customerID, startDate, endDate, type)
Values
(1, 1, 1, '2023-01-01', '2023-01-05', 'Daily'),
(2, 2, 2, '2023-02-15', '2023-02-28', 'Monthly'),
(3, 3, 3, '2023-03-10', '2023-03-15', 'Daily'),
(4, 4, 4, '2023-04-20', '2023-04-30', 'Monthly'),
(5, 5, 5, '2023-05-05', '2023-05-10', 'Daily'),
(6, 4, 3, '2023-06-15', '2023-06-30', 'Monthly'),
(7, 7, 7, '2023-07-01', '2023-07-10', 'Daily'),
(8, 8, 8, '2023-08-12', '2023-08-15', 'Monthly'),
(9, 3, 3, '2023-09-07', '2023-09-10', 'Daily'),
(10, 10, 10, '2023-10-10', '2023-10-31', 'Monthly');
```

100 %

Messages

```
(10 rows affected)

Completion time: 2024-09-24T11:08:12.8286712+05:30
```

```
select * from Lease;
```

100 %

Results | Messages

| | leaseID | vehicleID | customerID | startDate | endDate | type |
|---|---|---|---|---|---|---|
| 1 | 1 | 1 | 1 | 2023-01-01 | 2023-01-05 | Daily |
| 2 | 2 | 2 | 2 | 2023-02-15 | 2023-02-28 | Monthly |
| 3 | 3 | 3 | 3 | 2023-03-10 | 2023-03-15 | Daily |
| 4 | 4 | 4 | 4 | 2023-04-20 | 2023-04-30 | Monthly |
| 5 | 5 | 5 | 5 | 2023-05-05 | 2023-05-10 | Daily |
| 6 | 6 | 4 | 3 | 2023-06-15 | 2023-06-30 | Monthly |
| 7 | 7 | 7 | 7 | 2023-07-01 | 2023-07-10 | Daily |
| 8 | 8 | 8 | 8 | 2023-08-12 | 2023-08-15 | Monthly |
| 9 | 9 | 3 | 3 | 2023-09-07 | 2023-09-10 | Daily |
| 10 | 10 | 10 | 10 | 2023-10-10 | 2023-10-31 | Monthly |

**Inserting into Payment table:**

```
Insert Into Payment(paymentID, leaseID, paymentDate, amount)
Values
(1, 1, '2023-01-03', 200.00),
(2, 2, '2023-02-20', 1000.00),
(3, 3, '2023-03-12', 75.00),
(4, 4, '2023-04-25', 900.00),
(5, 5, '2023-05-07', 60.00),
(6, 6, '2023-06-18', 1200.00),
(7, 7, '2023-07-03', 40.00),
(8, 8, '2023-08-14', 1100.00),
(9, 9, '2023-09-09', 80.00),
(10, 10, '2023-10-25', 1500.00);
```

100 %

Messages

```
(10 rows affected)

Completion time: 2024-09-24T11:11:03.7611082+05:30
```

```
select*from Payment;
```

100 %

Results | Messages

| | paymentID | leaseID | paymentDate | amount |
|---|---|---|---|---|
| 1 | 1 | 1 | 2023-01-03 | 200.00 |
| 2 | 2 | 2 | 2023-02-20 | 1000.00 |
| 3 | 3 | 3 | 2023-03-12 | 75.00 |
| 4 | 4 | 4 | 2023-04-25 | 900.00 |
| 5 | 5 | 5 | 2023-05-07 | 60.00 |
| 6 | 6 | 6 | 2023-06-18 | 1200.00 |
| 7 | 7 | 7 | 2023-07-03 | 40.00 |
| 8 | 8 | 8 | 2023-08-14 | 1100.00 |
| 9 | 9 | 9 | 2023-09-09 | 80.00 |
| 10 | 10 | 10 | 2023-10-25 | 1500.00 |

**1. Update the daily rate for a Mercedes car to 68.**

Before updating:

```
--1
select * from Vehicle;
```

100 %

Results | Messages

| | vehicleID | make | model | year | dailyRate | status | passengerCapacity | engineCapacity |
|---|---|---|---|---|---|---|---|---|
| 1 | 1 | Toyota | Camry | 2022 | 50.00 | available | 4 | 1450 |
| 2 | 2 | Honda | Civic | 2023 | 45.00 | available | 7 | 1500 |
| 3 | 3 | Ford | Focus | 2022 | 48.00 | notavailable | 4 | 1400 |
| 4 | 4 | Nissan | Altima | 2023 | 52.00 | available | 7 | 1200 |
| 5 | 5 | Chevrolet | Malibu | 2022 | 47.00 | available | 4 | 1800 |
| 6 | 6 | Hyundai | Sonata | 2023 | 49.00 | notavailable | 7 | 1400 |
| 7 | 7 | BMW | 3 Series | 2023 | 60.00 | available | 7 | 2499 |
| 8 | 8 | Mercedes | C-Class | 2022 | 58.00 | available | 8 | 2599 |
| 9 | 9 | Audi | A4 | 2022 | 55.00 | notavailable | 4 | 2500 |
| 10 | 10 | Lexus | ES | 2023 | 54.00 | available | 4 | 2500 |

After updating:

```
UPDATE Vehicle SET dailyRate=68 where make='Mercedes';
select * from Vehicle;
```

100 %

Results | Messages

| | vehicleID | make | model | year | dailyRate | status | passengerCapacity | engineCapacity |
|---|---|---|---|---|---|---|---|---|
| 1 | 1 | Toyota | Camry | 2022 | 50.00 | available | 4 | 1450 |
| 2 | 2 | Honda | Civic | 2023 | 45.00 | available | 7 | 1500 |
| 3 | 3 | Ford | Focus | 2022 | 48.00 | notavailable | 4 | 1400 |
| 4 | 4 | Nissan | Altima | 2023 | 52.00 | available | 7 | 1200 |
| 5 | 5 | Chevrolet | Malibu | 2022 | 47.00 | available | 4 | 1800 |
| 6 | 6 | Hyundai | Sonata | 2023 | 49.00 | notavailable | 7 | 1400 |
| 7 | 7 | BMW | 3 Series | 2023 | 60.00 | available | 7 | 2499 |
| 8 | 8 | Mercedes | C-Class | 2022 | 68.00 | available | 8 | 2599 |
| 9 | 9 | Audi | A4 | 2022 | 55.00 | notavailable | 4 | 2500 |
| 10 | 10 | Lexus | ES | 2023 | 54.00 | available | 4 | 2500 |

**2. Delete a specific customer and all associated leases and payments.**

```
--2
DELETE From Payment where leaseID in
(Select leaseID from Lease where customerID=3);
```

100 %

Messages

```
(3 rows affected)

Completion time: 2024-09-24T11:34:50.4179340+05:30
```

Deleting customer details from payment table based on their customer and lease ID.

```
select * from Payment;
```

100 %

Results Messages

| | paymentID | leaseID | paymentDate | amount |
|---|---|---|---|---|
| 1 | 1 | 1 | 2023-01-03 | 200.00 |
| 2 | 2 | 2 | 2023-02-20 | 1000.00 |
| 3 | 4 | 4 | 2023-04-25 | 900.00 |
| 4 | 5 | 5 | 2023-05-07 | 60.00 |
| 5 | 7 | 7 | 2023-07-03 | 40.00 |
| 6 | 8 | 8 | 2023-08-14 | 1100.00 |
| 7 | 10 | 10 | 2023-10-25 | 1500.00 |

Deleting the customer from the lease table based on a specific customer:

```
DELETE From Lease where customerID=3;
select * from Lease;
```

100 %

Results Messages

| | leaseID | vehicleID | customerID | startDate | endDate | type |
|---|---|---|---|---|---|---|
| 1 | 1 | 1 | 1 | 2023-01-01 | 2023-01-05 | Daily |
| 2 | 2 | 2 | 2 | 2023-02-15 | 2023-02-28 | Monthly |
| 3 | 4 | 4 | 4 | 2023-04-20 | 2023-04-30 | Monthly |
| 4 | 5 | 5 | 5 | 2023-05-05 | 2023-05-10 | Daily |
| 5 | 7 | 7 | 7 | 2023-07-01 | 2023-07-10 | Daily |
| 6 | 8 | 8 | 8 | 2023-08-12 | 2023-08-15 | Monthly |
| 7 | 10 | 10 | 10 | 2023-10-10 | 2023-10-31 | Monthly |

Deleting the customer from the customer table based on customer id:

```
DELETE From Customer where customerID=3;
select * from Customer;
```

100 %

Results | Messages

| | customerID | firstName | lastName | email | phoneNumber |
|---|---|---|---|---|---|
| 1 | 1 | John | Doe | johndoe@example.com | 555-555-5555 |
| 2 | 2 | Jane | Smith | janesmith@example.com | 555-123-4567 |
| 3 | 4 | Sarah | Brown | sarah@example.com | 555-456-7890 |
| 4 | 5 | David | Lee | david@example.com | 555-987-6543 |
| 5 | 6 | Laura | Hall | laura@example.com | 555-234-5678 |
| 6 | 7 | Michael | Davis | michael@example.com | 555-876-5432 |
| 7 | 8 | Emma | Wilson | emma@example.com | 555-432-1098 |
| 8 | 9 | William | Taylor | william@example.com | 555-321-6547 |
| 9 | 10 | Olivia | Adams | olivia@example.com | 555-765-4321 |

**3. Rename the "paymentDate" column in the Payment table to "transactionDate".**

```
--3
EXEC sp_rename 'Payment.paymentDate', 'transactionDate', 'COLUMN';
```

100 %

Messages

```
Caution: Changing any part of an object name could break scripts and stored procedures.

Completion time: 2024-09-24T11:59:48.6583736+05:30
```

```
Select * from Payment;
```

100 %

Results | Messages

| | paymentID | leaseID | transactionDate | amount |
|---|---|---|---|---|
| 1 | 1 | 1 | 2023-01-03 | 200.00 |
| 2 | 2 | 2 | 2023-02-20 | 1000.00 |
| 3 | 4 | 4 | 2023-04-25 | 900.00 |
| 4 | 5 | 5 | 2023-05-07 | 60.00 |
| 5 | 7 | 7 | 2023-07-03 | 40.00 |
| 6 | 8 | 8 | 2023-08-14 | 1100.00 |
| 7 | 10 | 10 | 2023-10-25 | 1500.00 |

**4. Find a specific customer by email.**

```
--4
Select * from Customer where email = 'emma@example.com';
```

100 %

Results | Messages

| | customerID | firstName | lastName | email | phoneNumber |
|---|---|---|---|---|---|
| 1 | 8 | Emma | Wilson | emma@example.com | 555-432-1098 |

**5. Get active leases for a specific customer.**

```
--5
Select l.leaseID, v.vehicleID, v.make, v.model, v.year, l.startDate,
l.endDate, l.type From Lease l JOIN Vehicle v ON l.vehicleID=v.vehicleID
Where l.customerID=5 AND v.status='Available';
```

100 %

Results | Messages

| | leaseID | vehicleID | make | model | year | startDate | endDate | type |
|---|---|---|---|---|---|---|---|---|
| 1 | 5 | 5 | Chevrolet | Malibu | 2022 | 2023-05-05 | 2023-05-10 | Daily |

**6. Find all payments made by a customer with a specific phone number.**

```
--6
Select c.customerID, l.leaseID, p.* From Lease l
JOIN Customer c ON l.customerID=c.customerID
JOIN Payment p ON l.leaseID=p.leaseID
where c.phoneNumber = '555-555-5555';
```

100 %

Results | Messages

| | customerID | leaseID | paymentID | leaseID | transactionDate | amount |
|---|---|---|---|---|---|---|
| 1 | 1 | 1 | 1 | 1 | 2023-01-03 | 200.00 |

**7. Calculate the average daily rate of all available cars.**

```
--7
Select AVG(dailyRate) AS Avg_daily_rate_for_avl_cars
From Vehicle where status='available';
```

100 %

Results | Messages

| | Avg_daily_rate_for_avl_cars |
|---|---|
| 1 | 53.714285 |

**8. Find the car with the highest daily rate.**

```
--8
select TOP 1 *from Vehicle order by dailyRate DESC;
```

100 %

Results | Messages

| | vehicleID | make | model | year | dailyRate | status | passengerCapacity | engineCapacity |
|---|---|---|---|---|---|---|---|---|
| 1 | 8 | Mercedes | C-Class | 2022 | 68.00 | available | 8 | 2599 |

**9. Retrieve all cars leased by a specific customer.**

```
--9
Select *from Vehicle where vehicleID IN
(Select vehicleID from Lease where customerID=
(select customerID from Customer where firstName='David'));
```

100 %

Results | Messages

| | vehicleID | make | model | year | dailyRate | status | passengerCapacity | engineCapacity |
|---|---|---|---|---|---|---|---|---|
| 1 | 5 | Chevrolet | Malibu | 2022 | 47.00 | available | 4 | 1800 |

**10. Find the details of the most recent lease.**

```
--10
Select TOP 1 c.firstName, v.make, l.* from Customer c
JOIN Lease l ON l.customerID=c.customerID
JOIN Vehicle v ON l.vehicleID=v.vehicleID where
startDate<GETDATE() Order By startDate DESC;
```

100 %

Results | Messages

| | firstName | make | leaseID | vehicleID | customerID | startDate | endDate | type |
|---|---|---|---|---|---|---|---|---|
| 1 | Olivia | Lexus | 10 | 10 | 10 | 2023-10-10 | 2023-10-31 | Monthly |

**11. List all payments made in the year 2023.**

```
--11
Select paymentID, leaseID, amount, YEAR(transactionDate)
AS Current_Year From Payment WHERE YEAR(transactionDate) = 2023;
```

100 %

Results | Messages

| | paymentID | leaseID | amount | Current_Year |
|---|---|---|---|---|
| 1 | 1 | 1 | 200.00 | 2023 |
| 2 | 2 | 2 | 1000.00 | 2023 |
| 3 | 4 | 4 | 900.00 | 2023 |
| 4 | 5 | 5 | 60.00 | 2023 |
| 5 | 7 | 7 | 40.00 | 2023 |
| 6 | 8 | 8 | 1100.00 | 2023 |
| 7 | 10 | 10 | 1500.00 | 2023 |

**12. Retrieve customers who have not made any payments.**

```
--12
select c.* from Customer c JOIN Lease l ON l.customerID=c.customerID
where leaseID NOT IN(Select leaseID from Payment);
```

100 %

Results | Messages

| customerID | firstName | lastName | email | phoneNumber |
|---|---|---|---|---|

The result is an empty set because every customer had made the payment of their lease, we can see the following tables:

```
select * from Lease;
```

100 %

Results | Messages

| | leaseID | vehicleID | customerID | startDate | endDate | type |
|---|---|---|---|---|---|---|
| 1 | 1 | 1 | 1 | 2023-01-01 | 2023-01-05 | Daily |
| 2 | 2 | 2 | 2 | 2023-02-15 | 2023-02-28 | Monthly |
| 3 | 4 | 4 | 4 | 2023-04-20 | 2023-04-30 | Monthly |
| 4 | 5 | 5 | 5 | 2023-05-05 | 2023-05-10 | Daily |
| 5 | 7 | 7 | 7 | 2023-07-01 | 2023-07-10 | Daily |
| 6 | 8 | 8 | 8 | 2023-08-12 | 2023-08-15 | Monthly |
| 7 | 10 | 10 | 10 | 2023-10-10 | 2023-10-31 | Monthly |

```
select * from Payment;
```

100 %

Results | Messages

| | paymentID | leaseID | transactionDate | amount |
|---|---|---|---|---|
| 1 | 1 | 1 | 2023-01-03 | 200.00 |
| 2 | 2 | 2 | 2023-02-20 | 1000.00 |
| 3 | 4 | 4 | 2023-04-25 | 900.00 |
| 4 | 5 | 5 | 2023-05-07 | 60.00 |
| 5 | 7 | 7 | 2023-07-03 | 40.00 |
| 6 | 8 | 8 | 2023-08-14 | 1100.00 |
| 7 | 10 | 10 | 2023-10-25 | 1500.00 |

## 13. Retrieve Car Details and Their Total Payments.

```
--13
Select v.*, SUM(p.amount) AS TotalPayment From Vehicle v
LEFT JOIN Lease l on v.vehicleID=l.vehicleID LEFT JOIN
Payment p ON l.leaseID=p.leaseID Group By v.vehicleID, v.make, v.model,
v.year, v.dailyRate, v.status, v.passengerCapacity, v.engineCapacity;
```

100 %

Results | Messages

| | vehicleID | make | model | year | dailyRate | status | passengerCapacity | engineCapacity | TotalPayment |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | Toyota | Camry | 2022 | 50.00 | available | 4 | 1450 | 200.00 |
| 2 | 2 | Honda | Civic | 2023 | 45.00 | available | 7 | 1500 | 1000.00 |
| 3 | 3 | Ford | Focus | 2022 | 48.00 | notavailable | 4 | 1400 | NULL |
| 4 | 4 | Nissan | Altima | 2023 | 52.00 | available | 7 | 1200 | 900.00 |
| 5 | 5 | Chevrolet | Malibu | 2022 | 47.00 | available | 4 | 1800 | 60.00 |
| 6 | 6 | Hyundai | Sonata | 2023 | 49.00 | notavailable | 7 | 1400 | NULL |
| 7 | 7 | BMW | 3 Series | 2023 | 60.00 | available | 7 | 2499 | 40.00 |
| 8 | 8 | Mercedes | C-Class | 2022 | 68.00 | available | 8 | 2599 | 1100.00 |
| 9 | 9 | Audi | A4 | 2022 | 55.00 | notavailable | 4 | 2500 | NULL |
| 10 | 10 | Lexus | ES | 2023 | 54.00 | available | 4 | 2500 | 1500.00 |

## 14. Calculate Total Payments for Each Customer.

```
--14
Select c.customerID, c.firstName, SUM(p.amount) As Total_Payments From Customer c
LEFT JOIN Lease l ON c.customerID=l.customerID LEFT JOIN
Payment p ON l.leaseID=p.leaseID Group By c.customerID, c.firstName;
```

100 %

Results | Messages

| | customerID | firstName | Total_Payments |
|---|---|---|---|
| 1 | 1 | John | 200.00 |
| 2 | 2 | Jane | 1000.00 |
| 3 | 4 | Sarah | 900.00 |
| 4 | 5 | David | 60.00 |
| 5 | 6 | Laura | NULL |
| 6 | 7 | Michael | 40.00 |
| 7 | 8 | Emma | 1100.00 |
| 8 | 9 | William | NULL |
| 9 | 10 | Olivia | 1500.00 |

### 15. List Car Details for Each Lease.

```
--15
Select v.vehicleID, v.make, v.model, v.dailyRate, v.passengerCapacity,
l.leaseID, l.startDate, l.endDate, l.Type From Lease l
LEFT JOIN Vehicle v ON l.vehicleID=v.vehicleID;
```

100 %

Results | Messages

| | vehicleID | make | model | dailyRate | passengerCapacity | leaseID | startDate | endDate | Type |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | Toyota | Camry | 50.00 | 4 | 1 | 2023-01-01 | 2023-01-05 | Daily |
| 2 | 2 | Honda | Civic | 45.00 | 7 | 2 | 2023-02-15 | 2023-02-28 | Monthly |
| 3 | 4 | Nissan | Altima | 52.00 | 7 | 4 | 2023-04-20 | 2023-04-30 | Monthly |
| 4 | 5 | Chevrolet | Malibu | 47.00 | 4 | 5 | 2023-05-05 | 2023-05-10 | Daily |
| 5 | 7 | BMW | 3 Series | 60.00 | 7 | 7 | 2023-07-01 | 2023-07-10 | Daily |
| 6 | 8 | Mercedes | C-Class | 68.00 | 8 | 8 | 2023-08-12 | 2023-08-15 | Monthly |
| 7 | 10 | Lexus | ES | 54.00 | 4 | 10 | 2023-10-10 | 2023-10-31 | Monthly |

### 16. Retrieve Details of Active Leases with Customer and Car Information.

```
--16
Select l.leaseID, l.type, c.firstName, v.make, v.model, v.status
From Lease l JOIN Customer c ON l.customerID=c.customerID
JOIN Vehicle v ON l.vehicleID=v.vehicleID where v.status='available';
```

100 %

Results | Messages

| | leaseID | type | firstName | make | model | status |
|---|---|---|---|---|---|---|
| 1 | 1 | Daily | John | Toyota | Camry | available |
| 2 | 2 | Monthly | Jane | Honda | Civic | available |
| 3 | 4 | Monthly | Sarah | Nissan | Altima | available |
| 4 | 5 | Daily | David | Chevrolet | Malibu | available |
| 5 | 7 | Daily | Michael | BMW | 3 Series | available |
| 6 | 8 | Monthly | Emma | Mercedes | C-Class | available |
| 7 | 10 | Monthly | Olivia | Lexus | ES | available |

### 17. Find the Customer Who Has Spent the Most on Leases.

```
--17
select TOP 1 c.customerID, c.firstName, c.email, SUM(p.amount) AS Total_Payment
From Customer c JOIN Lease l on c.customerID=l.customerID
JOIN Payment p on l.leaseID=p.leaseID Group by c.customerID,
c.firstName, c.email Order By Total_Payment DESC;
```

100 %

Results | Messages

| | customerID | firstName | email | Total_Payment |
|---|---|---|---|---|
| 1 | 10 | Olivia | olivia@example.com | 1500.00 |

**18. List All Cars with Their Current Lease Information.**

```
--18
Select v.vehicleID, v.make, v.model, v.dailyRate, l.*
from Vehicle v LEFT JOIN Lease l on v.vehicleID=l.vehicleID;
```

100 %

Results | Messages

| | vehicleID | make | model | dailyRate | leaseID | vehicleID | customerID | startDate | endDate | type |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | Toyota | Camry | 50.00 | 1 | 1 | 1 | 2023-01-01 | 2023-01-05 | Daily |
| 2 | 2 | Honda | Civic | 45.00 | 2 | 2 | 2 | 2023-02-15 | 2023-02-28 | Monthly |
| 3 | 3 | Ford | Focus | 48.00 | NULL | NULL | NULL | NULL | NULL | NULL |
| 4 | 4 | Nissan | Altima | 52.00 | 4 | 4 | 4 | 2023-04-20 | 2023-04-30 | Monthly |
| 5 | 5 | Chevrolet | Malibu | 47.00 | 5 | 5 | 5 | 2023-05-05 | 2023-05-10 | Daily |
| 6 | 6 | Hyundai | Sonata | 49.00 | NULL | NULL | NULL | NULL | NULL | NULL |
| 7 | 7 | BMW | 3 Series | 60.00 | 7 | 7 | 7 | 2023-07-01 | 2023-07-10 | Daily |
| 8 | 8 | Mercedes | C-Class | 68.00 | 8 | 8 | 8 | 2023-08-12 | 2023-08-15 | Monthly |
| 9 | 9 | Audi | A4 | 55.00 | NULL | NULL | NULL | NULL | NULL | NULL |
| 10 | 10 | Lexus | ES | 54.00 | 10 | 10 | 10 | 2023-10-10 | 2023-10-31 | Monthly |