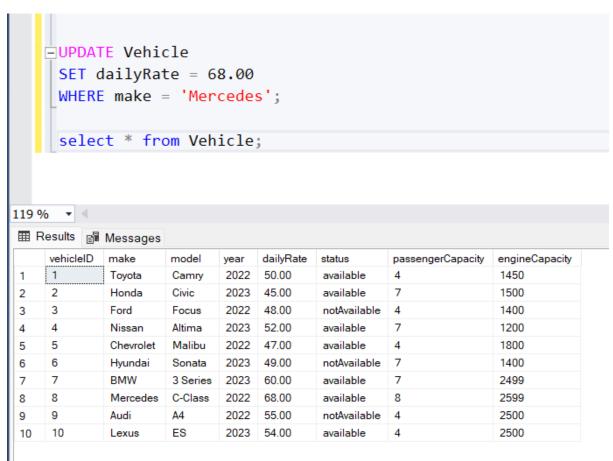
## Coding challenge – Car Rental System – Sarthak Londhey

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



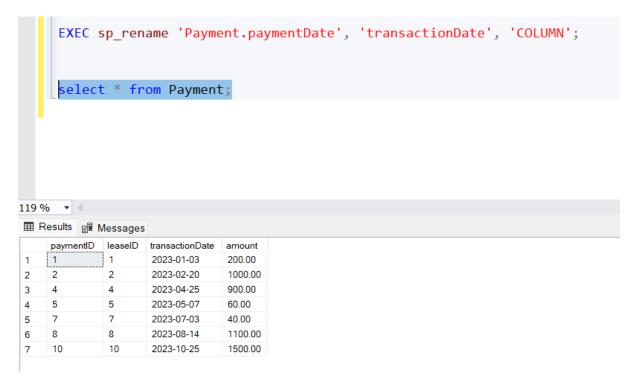
2. Delete a specific customer and all associated leases and payments.

```
DELETE FROM Payment
     WHERE leaseID IN (SELECT leaseID FROM Lease WHERE customerID = 3);
   ⊟DELETE FROM Lease
     WHERE customerID = 3;

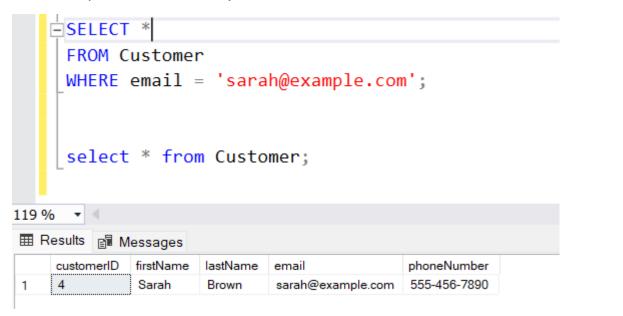
    □DELETE FROM Customer

     WHERE customerID = 3;
     select * from Payment;
119 % ▼ 4
paymentID leaseID paymentDate amount
                   2023-01-03
                             200.00
                             1000.00
2
                   2023-02-20
3
    4
                   2023-04-25
                             900.00
                   2023-05-07 60.00
4
    5
             5
               2023-07-03 40.00
5
             7
            7 2023-07-05
8 2023-08-14 1100.00
10 2023-10-25 1500.00
6
    10
            10
```

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



4. Find a specific customer by email.



5. Get active leases for a specific customer.

```
DECLARE @customerID INT = 5;

SELECT DISTINCT C.customerID, C.firstName, C.lastName, C.email, C.phoneNumber FROM Lease L
JOIN Customer C ON L.customerID = C.customerID

WHERE C.customerID=@customerID;

Results Messages

customerID firstName lastName email phoneNumber
David Lee david@example.com 555-987-6543
```

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

```
DECLARE @phoneNumber NVARCHAR(20) = '555-456-7890';

SELECT P.paymentID, P.leaseID, P.transactionDate, P.amount
FROM Payment P
JOIN Lease L ON P.leaseID = L.leaseID
JOIN Customer C ON L.customerID = C.customerID
WHERE C.phoneNumber = @phoneNumber;

100 %

Results Messages

paymentID leaseID transactionDate amount
1 4 2023-04-25 900.00
```

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

```
SELECT AVG(dailyRate) AS averageDailyRate
FROM Vehicle
WHERE status = 'available';

100 %
Results Messages

averageDailyRate
1 53.714285
```

8. Find the car with the highest daily rate.

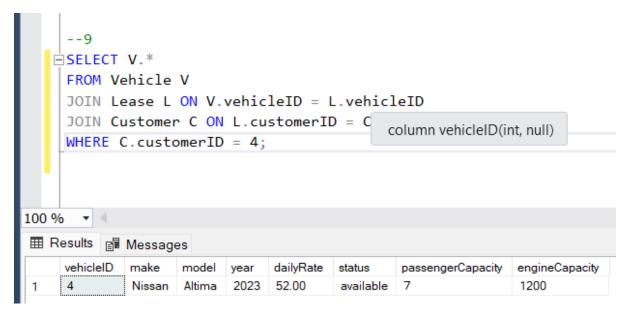
```
SELECT TOP 1 *
FROM Vehicle
ORDER BY dailyRate DESC;

100 % 

Results Messages

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

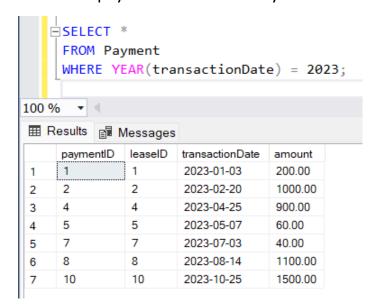
9. Retrieve all cars leased by a specific customer.



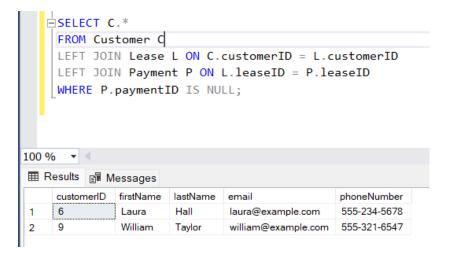
10. Find the details of the most recent lease.



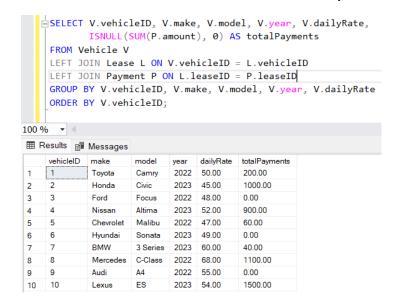
11. List all payments made in the year 2023.



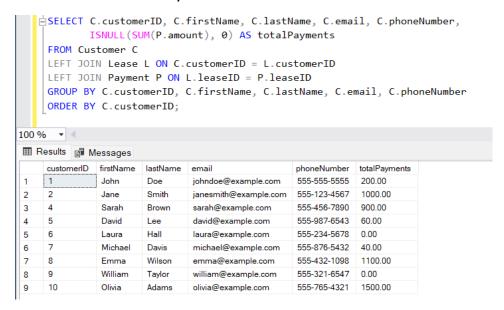
12. Retrieve customers who have not made any payments.



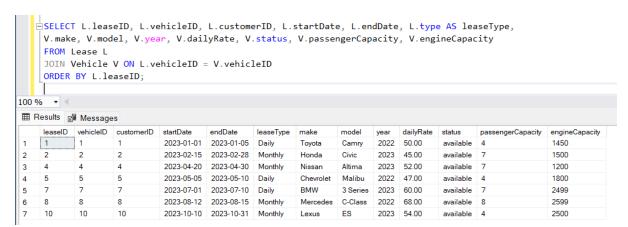
13. Retrieve Car Details and Their Total Payments.



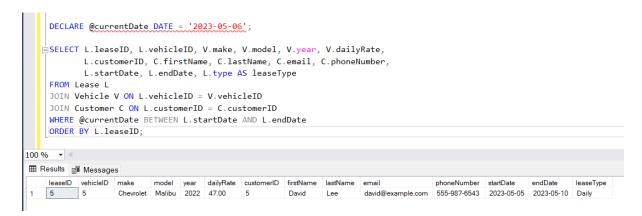
## 14. Calculate Total Payments for Each Customer.



## 15. List Car Details for Each Lease.



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



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

```
SELECT TOP 1
         C.customerID,
         C.firstName,
         C.lastName,
         C.email,
         C.phoneNumber,
         SUM(P.amount) AS totalSpent
    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.lastName, C.email, C.phoneNumber
    ORDER BY totalSpent DESC;
100 %
      ▼ 4
customerID
              firstName
                     lastName
                                             phoneNumber
                                                        totalSpent
     10
              Olivia
                      Adams
                              olivia@example.com
                                             555-765-4321
                                                        1500.00
```

18. List All Cars with Their Current Lease Information.

