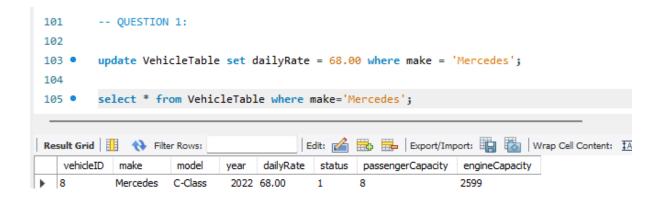
DATE: 05-03-2024

JAVA TECHNICAL FOUNDATION - BATCH 4

CODING CHALLENGE - MYSQL

Database Name: Car Rental System

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



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

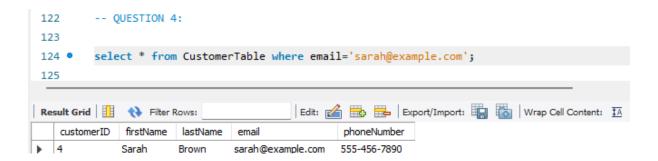
```
106
        -- QUESTION 2:
107 •
        set @CustomerID = 1;
108
109 •
        delete from PaymentTable where leaseID in(select leaseID from LeaseTable where customerID=@CustomerID);
111 • delete from LeaseTable where customerID = @CustomerID;
112
113 • delete from CustomerTable where customerID = @CustomerID;
115 • select * from CustomerTable;
| Edit: 🚄 🖶 🖶 | Export/Import: 🏭 🐻 | Wrap Cell Content: 🖽
   customerID firstName lastName email
                                                 phoneNumber
                              janesmith@example.com 555-123-4567
  2
            Jane
                     Smith
  3
            Robert Johnson robert@example.com 555-789-1234
                              sarah@example.com
                                                 555-456-7890
                     Brown
                   Lee david@example.com 555-987-6543
  5
            David
            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
            William Taylor william@example.com 555-321-6547
  10
            Olivia
                     Adams
                             olivia@example.com
                                                555-765-4321
```

```
106
        -- QUESTION 2:
107 • set @CustomerID = 1;
108
109 •
       delete from PaymentTable where leaseID in(select leaseID from LeaseTable where customerID=@CustomerID);
110
111 • delete from LeaseTable where customerID = @CustomerID;
112
113 • delete from CustomerTable where customerID = @CustomerID;
114
        select * from LeaseTable;
115 •
                                      | Edit: 🚄 🖶 🖶 | Export/Import: 🏣 🐻 | Wrap Cell Content: 🟗
leaseID vehicleID customerID startDate
                            2023-02-15 2023-02-28
  2
                                               Monthly
                        2023-03-10 2023-03-15 Daily
                           2023-04-20 2023-04-30 Monthly
                        2023-05-05 2023-05-10 Daily
  5
         5
                 5
                           2023-06-15 2023-06-30 Monthly
  6
                  3
  7 7 7 2023-07-01 2023-07-10 Daily
                            2023-08-12 2023-08-15 Monthly
  8
         8
                  8
                         2023-09-07 2023-09-10 Daily
  9
         3
                 3
                           2023-10-10 2023-10-31 Monthly
  10
                 10
         10
106
        -- QUESTION 2:
107 • set @CustomerID = 1;
108
       delete from PaymentTable where leaseID in(select leaseID from LeaseTable where customerID=@CustomerID);
109 •
110
111 •
       delete from LeaseTable where customerID = @CustomerID;
112
       delete from CustomerTable where customerID = @CustomerID;
113 •
114
115 •
        select * from PaymentTable;
| Edit: 🚄 🖶 | Export/Import: 🏣 🐻 | Wrap Cell Content: 🔣
   paymentID leaseID transactionDate amount
  2
            2
                   2023-02-20
                                1000.00
  3
            3
                  2023-03-12
                               75.00
            4
                   2023-04-25
                                900.00
          5 2023-05-07 60.00
  5
                                1200.00
  6
                   2023-06-18
   7
           7
                  2023-07-03
                                40.00
  8
                   2023-08-14
                                1100.00
            8
   9
            9
                 2023-09-09 80.00
  10
            10
                   2023-10-25
                               1500.00
```

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

```
-- QUESTION 3:
116
117
        alter table PaymentTable change column paymentDate transactionDate date;
118 •
        select * from PaymentTable;
119 •
                                        | Edit: 🚄 🖶 | Export/Import: 🏣 🐻 | Wrap Cell Content: 🖽
paymentID
             leaseID transactionDate amount
             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
                                 1200.00
  6
            6
                    2023-06-18
                                40.00
  7
            7
                  2023-07-03
  8
            8
                    2023-08-14
                                  1100.00
  9
            9
                   2023-0 2023-08-14 .00
                    2023-10-25
                                  1500.00
```

4. Find a specific customer by email.

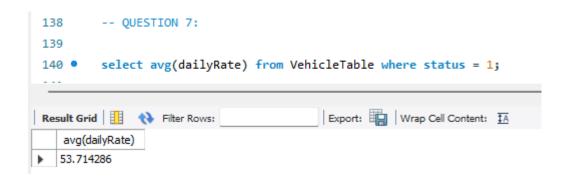


5. Get active leases for a specific customer.

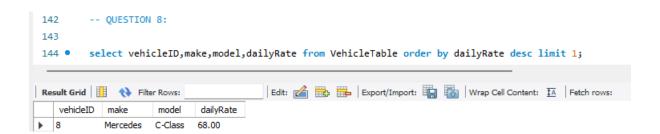


6. Find all payments made by a customer with a specific phone number.

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



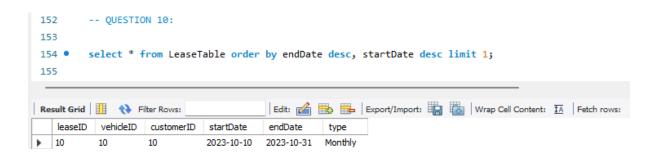
8. Find the car with the highest daily rate.



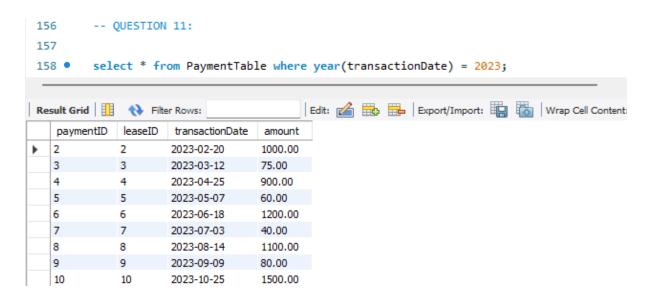
9. Retrieve all cars leased by a specific customer.

```
146
        -- QUESTION 9:
147
       select distinct c.customerID,c.firstName,c.lastName,v.vehicleID,v.make,v.model from CustomerTable c join
148 •
149
        LeaseTable 1 on c.customerID = l.customerID join VehicleTable v on
        1.vehicleID = v.vehicleID where c.customerID = 3;
Export: Wrap Cell Content: 🚻
  customerID firstName lastName vehicleID make
 3
            Robert
                    Johnson
                                     Ford
                                           Focus
            Robert Johnson 4
                                   Nissan Altima
```

10. Find the details of the most recent lease.



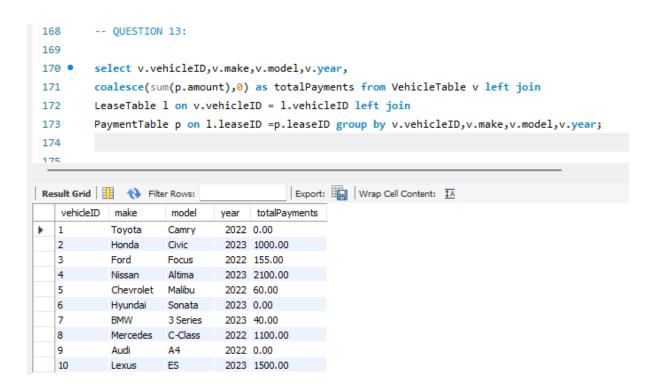
11. List all payments made in the year 2023.



12. Retrieve customers who have not made any payments.

```
160
         -- QUESTION 12:
161
        select c.* from CustomerTable c left join
162 •
163
        LeaseTable 1 on c.customerID = 1.customerID left join
        PaymentTable p on l.leaseID = p.leaseID
164
        where p.leaseID is null;
165
                                         Export: Wrap Cell Content: IA
customerID
             firstName
                      lastName
                                                 phoneNumber
                      Hall
                               laura@example.com
                                                 555-234-5678
  6
             Laura
  9
             William
                               william@example.com
                                                 555-321-6547
                      Taylor
```

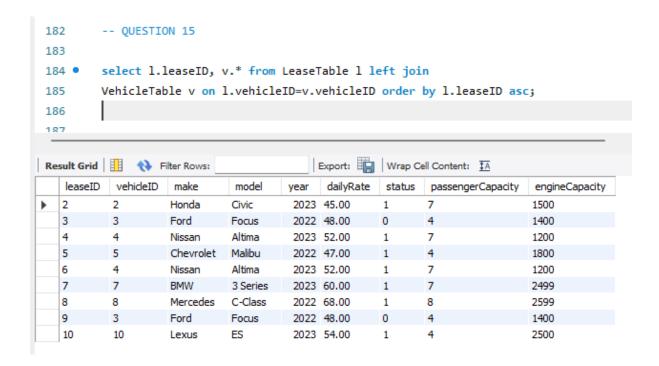
13. Retrieve Car Details and Their Total Payments.



14. Calculate Total Payments for Each Customer.

```
176
          -- QUESTION 14:
177
178 •
          select coalesce(sum(p.amount),0) as TotalPayments,c.* from CustomerTable c left join
          LeaseTable 1 on c.customerID = 1.customerID left join
179
          PaymentTable p on 1.leaseID = p.leaseID group by c.customerID,c.firstName,c.lastName;
180
121
Result Grid
               Filter Rows:
                                              Export: Wrap Cell Content: IA
   TotalPayments
                  customerID
                              firstName
                                        lastName
                                                  email
                                                                        phoneNumber
   1000.00
                 2
                             Jane
                                       Smith
                                                 janesmith@example.com
                                                                        555-123-4567
   1355.00
                 3
                             Robert
                                       Johnson robert@example.com
                                                                        555-789-1234
   900.00
                 4
                             Sarah
                                                 sarah@example.com
                                                                        555-456-7890
                                       Brown
   60.00
                 5
                             David
                                                 david@example.com
                                       Lee
                                                                        555-987-6543
   0.00
                 6
                                       Hall
                                                  laura@example.com
                                                                        555-234-5678
                             Laura
                 7
                                                 michael@example.com
   40.00
                             Michael
                                                                        555-876-5432
                                       Davis
   1100.00
                 8
                             Emma
                                       Wilson
                                                  emma@example.com
                                                                        555-432-1098
                 9
                             William
  0.00
                                       Taylor
                                                 william@example.com
                                                                        555-321-6547
   1500.00
                 10
                             Olivia
                                       Adams
                                                 olivia@example.com
                                                                        555-765-4321
```

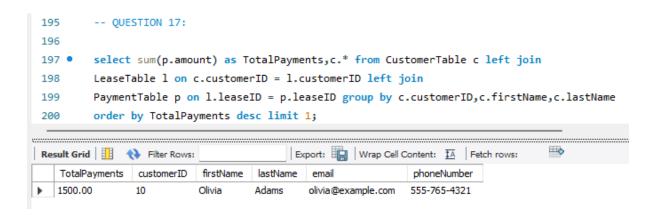
15. List Car Details for Each Lease.



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



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



18. List All Cars with Their Current Lease Information.

```
203
        -- QUESTION 18:
204
        select v.vehicleID,v.make,v.model,v.year,l.startDate,l.endDate,c.customerID from
205 •
        VehicleTable v join LeaseTable l on v.vehicleID = l.vehicleID join
206
207
        CustomerTable c on l.customerID = c.customerID
        where 1.startDate <= CURDATE() and 1.endDate >= CURDATE();
208
209
210
        -- The output is empty as there are no leases currently active.
Result Grid Filter Rows:
                                         Export: Wrap Cell Content: IA
   vehideID make model year startDate endDate customerID
```