SQL Coding Challenge – 3

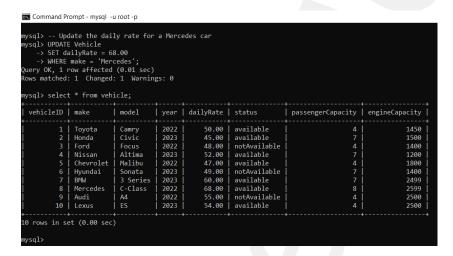
1. Update the daily rate for a Mercedes car to 68.

Ans. -- Update the daily rate for a Mercedes car

UPDATE Vehicle

SET dailyRate = 68.00

WHERE make = 'Mercedes';



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

Ans. -- Delete associated payments

DELETE FROM Payment

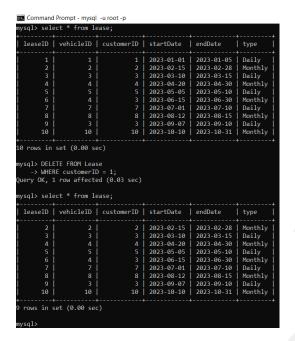
WHERE leaseID IN (SELECT leaseID FROM Lease WHERE customerID = 1);

-- Delete associated leases

DELETE FROM Lease

WHERE customerID = 1;

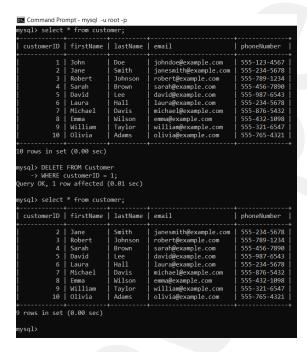




-- Delete the specific customer

DELETE FROM Customer

WHERE customerID = 1;



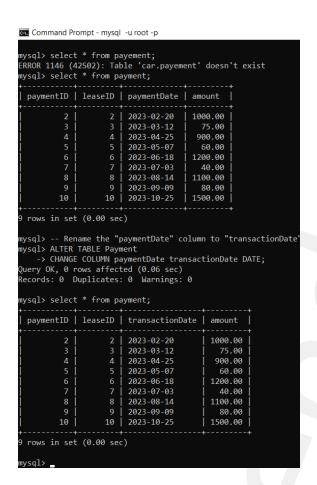
3. Rename the "paymentDate" column in the Payment table to "transactionDate".

Ans. -- Rename the "paymentDate" column to "transactionDate"

ALTER TABLE Payment

CHANGE COLUMN paymentDate transactionDate DATE;





4. Find a specific customer by email.

Ans. -- Find a specific customer by email

SELECT *

FROM Customer

WHERE email = 'olivia@example.com';

5. Get active leases for a specific customer.

Ans. -- Get active leases for a specific customer

SELECT *

FROM Lease



WHERE customerID = CUSTOMER_ID

AND endDate >= CURDATE();

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

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

SELECT Payment.*

FROM Payment

JOIN Lease ON Payment.leaseID = Lease.leaseID

JOIN Customer ON Lease.customerID = Customer.customerID

WHERE Customer.phoneNumber = '555-123-4567';

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

Ans. -- Calculate the average daily rate of all available cars

SELECT AVG(dailyRate) AS averageDailyRate

FROM Vehicle

WHERE status = 'available';



8. Find the car with the highest daily rate.

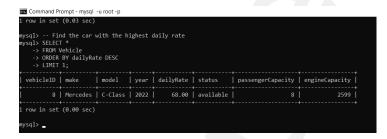
Ans. -- Find the car with the highest daily rate

SELECT *

FROM Vehicle

ORDER BY dailyRate DESC

LIMIT 1;



9. Retrieve all cars leased by a specific customer.

Ans. -- Retrieve all cars leased by a specific customer

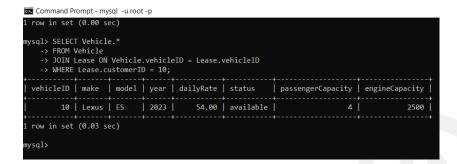
SELECT Vehicle.*

FROM Vehicle

JOIN Lease ON Vehicle.vehicleID = Lease.vehicleID

WHERE Lease.customerID = 10;





10. Find the details of the most recent lease.

Ans. -- Find the details of the most recent lease

SELECT *

FROM Lease

ORDER BY endDate DESC

LIMIT 1;

11. List all payments made in the year 2023.

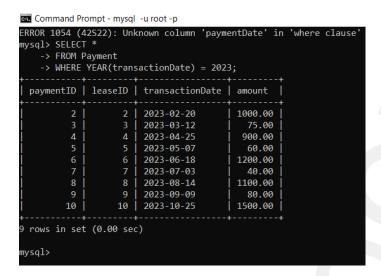
Ans. -- List all payments made in the year 2023

SELECT *

FROM Payment

WHERE YEAR(paymentDate) = 2023;





12. Retrieve customers who have not made any payments.

Ans. -- Retrieve customers who have not made any payments

SELECT Customer.*

FROM Customer

LEFT JOIN Lease ON Customer.customerID = Lease.customerID

LEFT JOIN Payment ON Lease.leaseID = Payment.leaseID

WHERE Payment.paymentID IS NULL;

```
Command Prompt - mysql -u root -p
 rows in set (0.00 sec)
mysql> -- Retrieve customers who have not made any payments
mysql> SELECT Customer.*
    -> FROM Customer
    -> LEFT JOIN Lease ON Customer.customerID = Lease.customerID
    -> LEFT JOIN Payment ON Lease.leaseID = Payment.leaseID
    -> WHERE Payment.paymentID IS NULL;
 customerID | firstName | lastName | email
                                                          phoneNumber
                          Hall
                                                            555-234-5678
            Laura
                                     laura@example.com
          9
              William
                                     william@example.com | 555-321-6547
                          Taylor
 rows in set (0.00 sec)
mysql>
```

13. Retrieve Car Details and Their Total Payments.

Ans. -- Retrieve Car Details and Their Total Payments

SELECT

Vehicle.*,

SUM(Payment.amount) AS totalPayments



FROM

Vehicle

JOIN

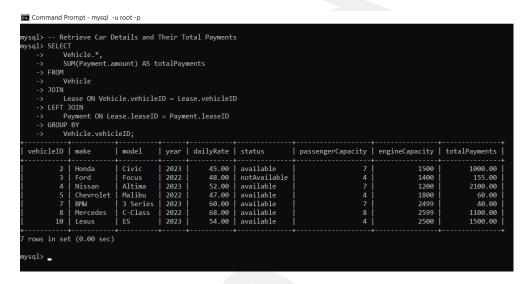
Lease ON Vehicle.vehicleID = Lease.vehicleID

LEFT JOIN

Payment ON Lease.leaseID = Payment.leaseID

GROUP BY

Vehicle.vehicleID;



14. Calculate Total Payments for Each Customer.

Ans. -- Calculate Total Payments for Each Customer

SELECT

Customer.*,

SUM(Payment.amount) AS totalPayments

FROM

Customer

LEFT JOIN

Lease ON Customer.customerID = Lease.customerID

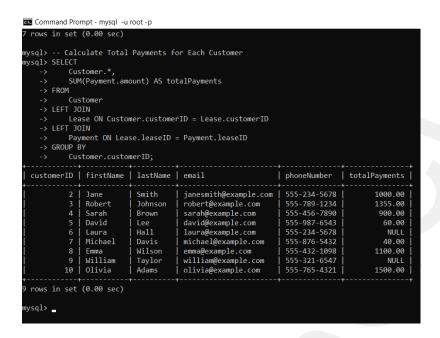
LEFT JOIN

Payment ON Lease.leaseID = Payment.leaseID

GROUP BY

Customer.customerID;





15. List Car Details for Each Lease.

Ans. -- List Car Details for Each Lease

SELECT

Lease.*,

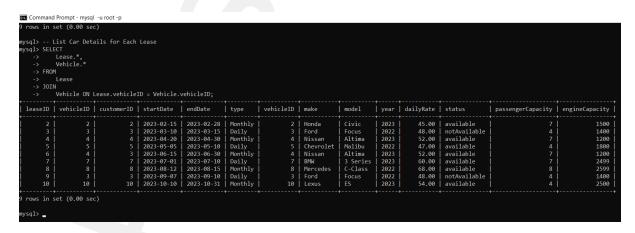
Vehicle.*

FROM

Lease

JOIN

Vehicle ON Lease.vehicleID = Vehicle.vehicleID;



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

Ans. -- Retrieve Details of Active Leases with Customer and Car Information



```
SELECT
  Lease.*,
  Customer.*,
  Vehicle.*
FROM
  Lease
JOIN
  Customer ON Lease.customerID = Customer.customerID
JOIN
  Vehicle ON Lease.vehicleID = Vehicle.vehicleID
WHERE
  Lease.endDate >= CURDATE();
Command Prompt - mysql -u root -p
      -- Retrieve Details of Active Leases with Customer and Car Information
 vsql>
 /sql> SELECT
         Lease.*,
         Customer.
         Vehicle.*
         {\tt Customer~ON~Lease.customerID} \ = \ {\tt Customer.customerID}
         Vehicle ON Lease.vehicleID = Vehicle.vehicleID
         Lease.endDate >= CURDATE();
 mpty set (0.00 sec)
17. Find the Customer Who Has Spent the Most on Leases.
Ans. -- Find the Customer Who Has Spent the Most on Leases
SELECT
  Customer.*,
  SUM(Payment.amount) AS totalSpending
FROM
  Customer
LEFT JOIN
  Lease ON Customer.customerID = Lease.customerID
LEFT JOIN
  Payment ON Lease.leaseID = Payment.leaseID
```



```
GROUP BY
 Customer.customerID
ORDER BY
 totalSpending DESC
LIMIT 1;
Command Prompt - mysql -u root -p
mysql> -- Find the Customer Who Has Spent the Most on Leases
nysql> SELECT
          Customer.*,
          SUM(Payment.amount) AS totalSpending
    -> FROM
          Customer
    -> LEFT JOIN
          Lease ON Customer.customerID = Lease.customerID
          Payment ON Lease.leaseID = Payment.leaseID
    -> GROUP BY
          Customer.customerID
    -> ORDER BY
         totalSpending DESC
    -> LIMIT 1;
 customerID | firstName | lastName | email | phoneNumber | totalSpending |
         10 | Olivia | Adams | olivia@example.com | 555-765-4321 |
                                                                               1500.00
 row in set (0.00 sec)
mysql> _
18. List All Cars with Their Current Lease Information.
Ans. -- List All Cars with Their Current Lease Information
```

SELECT

Vehicle.*,

Lease.*

FROM

Vehicle

LEFT JOIN

Lease ON Vehicle.vehicleID = Lease.vehicleID

WHERE

Lease.endDate >= CURDATE() OR Lease.endDate IS NULL;



```
command Prompt - mysql -u root -p

1 row in set (0.00 sec)

mysql> -- List All Cars with Their Current Lease Information
mysql> SELECT

-> Vehicle.*,
-> Lease.*
-> FROM
-> Vehicle
-> LEFT JOIN
-> Lease ON Vehicle.vehicleID = Lease.vehicleID
-> WHERE
-> Lease.endDate >= CURDATE() OR Lease.endDate IS NULL;

| vehicleID | make | model | year | dailyRate | status | passengerCapacity | leaseID | vehicleID | customerID | startDate | endDate | type |

1 | Toyota | Camry | 2022 | 50.00 | available | 4 | 1450 | NULL | NULL
```