

Assignment – 4

Task1 Database Design

Design a SQL schema for a Courier Management System with tables for Customers, Couriers, Orders, and Parcels. Define the relationships between these tables using appropriate foreign keys. Requirements:

Q. Define the Database Schema • Create SQL tables for entities such as User, Courier, Employee, Location, Payment

Ans. -- Create the database

CREATE DATABASE cms;

-- Use the database

USE cms;

```
mysql> -- Create the database
mysql> CREATE DATABASE cms;
Query OK, 1 row affected (0.03 sec)

mysql>
mysql> -- Use the database
mysql> USE cms;
Database changed
mysql> select database();
ERROR 1064 (42000): You have an error
mysql> select database();
+-----+
| database() |
+-----+
| cms        |
+-----+
1 row in set (0.00 sec)

mysql> _
```

-- Create the User table

```
CREATE TABLE User (
    UserID INT PRIMARY KEY,
    Name VARCHAR(255),
    Email VARCHAR(255) UNIQUE,
    Password VARCHAR(255),
    ContactNumber VARCHAR(20),
```

Address TEXT

);

-- Create the Courier table

CREATE TABLE Courier (

CourierID INT PRIMARY KEY,

SenderName VARCHAR(255),

SenderAddress TEXT,

ReceiverName VARCHAR(255),

ReceiverAddress TEXT,

Weight DECIMAL(5, 2),

Status VARCHAR(50),

TrackingNumber VARCHAR(20) UNIQUE,

DeliveryDate DATE

);

-- Create the CourierServices table

CREATE TABLE CourierServices (

ServiceID INT PRIMARY KEY,

ServiceName VARCHAR(100),

Cost DECIMAL(8, 2)

);

-- Create the Employee table

CREATE TABLE Employee (

EmployeeID INT PRIMARY KEY,

Name VARCHAR(255),

Email VARCHAR(255) UNIQUE,

ContactNumber VARCHAR(20),

Role VARCHAR(50),

Salary DECIMAL(10, 2)

);

-- Create the Location table

```
CREATE TABLE Location (  
    LocationID INT PRIMARY KEY,  
    LocationName VARCHAR(100),  
    Address TEXT  
);
```

-- Create the Payment table

```
CREATE TABLE Payment (  
    PaymentID INT PRIMARY KEY,  
    CourierID INT,  
    LocationID INT,  
    Amount DECIMAL(10, 2),  
    PaymentDate DATE,  
    FOREIGN KEY (CourierID) REFERENCES Courier(CourierID),  
    FOREIGN KEY (LocationID) REFERENCES Location(LocationID)  
);
```

Command Prompt - mysql -u root -p

```
mysql>
mysql> -- Create the Courier table
mysql> CREATE TABLE Courier (
  ->   CourierID INT PRIMARY KEY,
  ->   SenderName VARCHAR(255),
  ->   SenderAddress TEXT,
  ->   ReceiverName VARCHAR(255),
  ->   ReceiverAddress TEXT,
  ->   Weight DECIMAL(5, 2),
  ->   Status VARCHAR(50),
  ->   TrackingNumber VARCHAR(20) UNIQUE,
  ->   DeliveryDate DATE
  -> );
Query OK, 0 rows affected (0.03 sec)

mysql>
mysql> -- Create the CourierServices table
mysql> CREATE TABLE CourierServices (
  ->   ServiceID INT PRIMARY KEY,
  ->   ServiceName VARCHAR(100),
  ->   Cost DECIMAL(8, 2)
  -> );
Query OK, 0 rows affected (0.01 sec)

mysql>
mysql> -- Create the Employee table
mysql> CREATE TABLE Employee (
  ->   EmployeeID INT PRIMARY KEY,
  ->   Name VARCHAR(255),
  ->   Email VARCHAR(255) UNIQUE,
  ->   ContactNumber VARCHAR(20),
  ->   Role VARCHAR(50),
  ->   Salary DECIMAL(10, 2)
  -> );
Query OK, 0 rows affected (0.04 sec)

mysql>
mysql> -- Create the Location table
mysql> CREATE TABLE Location (
  ->   LocationID INT PRIMARY KEY,
  ->   LocationName VARCHAR(100),
  ->   Address TEXT
  -> );
Query OK, 0 rows affected (0.02 sec)

mysql>
mysql> -- Create the Payment table
mysql> CREATE TABLE Payment (
  ->   PaymentID INT PRIMARY KEY,
  ->   CourierID INT,
```

Q. Insert sample data into the tables to simulate real-world scenarios.

Ans. -- Insert sample data into the User table

```
INSERT INTO User (UserID, Name, Email, Password, ContactNumber, Address)
```

```
VALUES
```

```
(1, 'John Doe', 'john.doe@example.com', 'password123', '123-456-7890', '123 Main St'),  
(2, 'Jane Smith', 'jane.smith@example.com', 'securepass', '987-654-3210', '456 Oak St'),  
(3, 'Bob Johnson', 'bob.johnson@example.com', 'pass123', '555-123-4567', '789 Pine St'),  
(4, 'Alice Brown', 'alice.brown@example.com', 'mypassword', '111-222-3333', '101 Maple Ave'),  
(5, 'Charlie Wilson', 'charlie.wilson@example.com', 'secretpass', '444-555-6666', '202 Cedar St'),  
(6, 'Eva Davis', 'eva.davis@example.com', 'p@ssword', '777-888-9999', '303 Elm St'),  
(7, 'Frank Miller', 'frank.miller@example.com', 'password456', '999-888-7777', '404 Birch St'),  
(8, 'Grace Taylor', 'grace.taylor@example.com', 'letmein', '123-999-5555', '505 Walnut St'),  
(9, 'David White', 'david.white@example.com', 'access123', '888-777-6666', '606 Pine St'),  
(10, 'Helen Thomas', 'helen.thomas@example.com', 'qwerty', '777-111-2222', '707 Oak St');
```

-- Insert sample data into the Courier table

```
INSERT INTO Courier (CourierID, SenderName, SenderAddress, ReceiverName, ReceiverAddress,  
Weight, Status, TrackingNumber, DeliveryDate)
```

```
VALUES
```

```
(1, 'John Sender', '123 Sender St', 'Jane Receiver', '456 Receiver St', 2.5, 'In Transit', 'TN123456',  
'2023-12-15'),  
(2, 'Bob Sender', '789 Sender St', 'Alice Receiver', '101 Receiver Ave', 1.8, 'Delivered', 'TN789012',  
'2023-12-14'),  
(3, 'Charlie Sender', '222 Sender St', 'Eva Receiver', '303 Receiver St', 3.0, 'Out for Delivery',  
'TN345678', '2023-12-16'),  
(4, 'Alice Sender', '444 Sender St', 'Frank Receiver', '404 Receiver St', 1.2, 'Delivered', 'TN567890',  
'2023-12-13'),  
(5, 'David Sender', '666 Sender St', 'Grace Receiver', '505 Receiver St', 2.7, 'In Transit', 'TN901234',  
'2023-12-17'),  
(6, 'Eva Sender', '888 Sender St', 'Charlie Receiver', '606 Receiver St', 2.0, 'Delivered', 'TN234567',  
'2023-12-12'),  
(7, 'Frank Sender', '111 Sender St', 'David Receiver', '707 Receiver St', 1.5, 'Out for Delivery',  
'TN678901', '2023-12-18'),
```

(8, 'Grace Sender', '333 Sender St', 'Helen Receiver', '808 Receiver St', 2.3, 'In Transit', 'TN345678', '2023-12-19'),

(9, 'Helen Sender', '555 Sender St', 'John Receiver', '909 Receiver St', 2.8, 'Delivered', 'TN789012', '2023-12-20'),

(10, 'John Sender', '777 Sender St', 'Bob Receiver', '1212 Receiver St', 1.0, 'Out for Delivery', 'TN012345', '2023-12-21');

```
Command Prompt - mysql -u root -p
mysql> INSERT INTO Courier (CourierID, SenderName, SenderAddress, ReceiverName, ReceiverAddress, Weight, Status, TrackingNumber, DeliveryDate)
-- VALUES
--> (1, 'John Sender', '123 Sender St', 'Jane Receiver', '456 Receiver St', 2.5, 'In Transit', 'TN123456', '2023-12-15'),
--> (2, 'Bob Sender', '789 Sender St', 'Alice Receiver', '101 Receiver Ave', 1.8, 'Delivered', 'TN789013', '2023-12-14'), -- Changed TrackingNumber
--> (3, 'Charlie Sender', '222 Sender St', 'Eva Receiver', '303 Receiver St', 3.0, 'Out for Delivery', 'TN345679', '2023-12-16'),
--> (4, 'Alice Sender', '444 Sender St', 'Frank Receiver', '404 Receiver St', 1.2, 'Delivered', 'TN567890', '2023-12-13'),
--> (5, 'David Sender', '666 Sender St', 'Grace Receiver', '505 Receiver St', 2.7, 'In Transit', 'TN901234', '2023-12-17'),
--> (6, 'Eva Sender', '888 Sender St', 'Charlie Receiver', '606 Receiver St', 2.0, 'Delivered', 'TN234567', '2023-12-12'),
--> (7, 'Frank Sender', '111 Sender St', 'David Receiver', '707 Receiver St', 1.5, 'Out for Delivery', 'TN678901', '2023-12-18'),
--> (8, 'Grace Sender', '333 Sender St', 'Helen Receiver', '808 Receiver St', 2.3, 'In Transit', 'TN345678', '2023-12-19'),
--> (9, 'Helen Sender', '555 Sender St', 'John Receiver', '909 Receiver St', 2.8, 'Delivered', 'TN789014', '2023-12-20'), -- Changed TrackingNumber
--> (10, 'John Sender', '777 Sender St', 'Bob Receiver', '1212 Receiver St', 1.0, 'Out for Delivery', 'TN012345', '2023-12-21');
Query OK, 10 rows affected (0.03 sec)
Records: 10 Duplicates: 0 Warnings: 0
mysql>
```

-- Insert sample data into the CourierServices table

INSERT INTO CourierServices (ServiceID, ServiceName, Cost)

VALUES

(1, 'Standard Delivery', 10.00),
(2, 'Express Delivery', 20.00),
(3, 'Overnight Delivery', 30.00),
(4, 'International Economy', 50.00),
(5, 'International Express', 80.00),
(6, 'Same-Day Delivery', 25.00),
(7, '2-Day Delivery', 15.00),
(8, '3-Day Delivery', 12.00),
(9, 'Economy Shipping', 8.00),
(10, 'Local Pickup', 0.00);

-- Insert sample data into the Employee table

INSERT INTO Employee (EmployeeID, Name, Email, ContactNumber, Role, Salary)

VALUES

(1, 'John Employee', 'john.employee@example.com', '123-456-7890', 'Manager', 60000.00),
(2, 'Jane Employee', 'jane.employee@example.com', '987-654-3210', 'Sales Representative', 45000.00),

```
(3, 'Bob Employee', 'bob.employee@example.com', '555-123-4567', 'Customer Support',
40000.00),
(4, 'Alice Employee', 'alice.employee@example.com', '111-222-3333', 'Logistics Coordinator',
55000.00),
(5, 'Charlie Employee', 'charlie.employee@example.com', '444-555-6666', 'Warehouse Manager',
50000.00),
(6, 'Eva Employee', 'eva.employee@example.com', '777-888-9999', 'IT Specialist', 65000.00),
(7, 'Frank Employee', 'frank.employee@example.com', '999-888-7777', 'Accountant', 60000.00),
(8, 'Grace Employee', 'grace.employee@example.com', '123-999-5555', 'Human Resources',
55000.00),
(9, 'David Employee', 'david.employee@example.com', '888-777-6666', 'Operations Manager',
70000.00),
(10, 'Helen Employee', 'helen.employee@example.com', '777-111-2222', 'Marketing Specialist',
48000.00);
```

-- Insert sample data into the Location table

```
INSERT INTO Location (LocationID, LocationName, Address)
```

```
VALUES
```

```
(1, 'Office A', '123 Main St'),
(2, 'Warehouse 1', '456 Oak St'),
(3, 'Branch X', '789 Pine St'),
(4, 'Distribution Center', '101 Maple Ave'),
(5, 'Store 5', '202 Cedar St'),
(6, 'Facility Y', '303 Elm St'),
(7, 'Storage Unit 8', '404 Birch St'),
(8, 'Shop Z', '505 Walnut St'),
(9, 'Factory 2', '606 Pine St'),
(10, 'Outlet Mall', '707 Oak St');
```

Command Prompt - mysql -u root -p

Records: 10 Duplicates: 0 Warnings: 0

mysql> -- Insert sample data into the Employee table

mysql> INSERT INTO Employee (EmployeeID, Name, Email, ContactNumber, Role, Salary)

-> VALUES

-> (1, 'John Employee', 'john.employee@example.com', '123-456-7890', 'Manager', 60000.00),
-> (2, 'Jane Employee', 'jane.employee@example.com', '987-654-3210', 'Sales Representative', 45000.00),
-> (3, 'Bob Employee', 'bob.employee@example.com', '555-123-4567', 'Customer Support', 40000.00),
-> (4, 'Alice Employee', 'alice.employee@example.com', '111-222-3333', 'Logistics Coordinator', 55000.00),
-> (5, 'Charlie Employee', 'charlie.employee@example.com', '444-555-6666', 'Warehouse Manager', 50000.00),
-> (6, 'Eva Employee', 'eva.employee@example.com', '777-888-9999', 'IT Specialist', 65000.00),
-> (7, 'Frank Employee', 'frank.employee@example.com', '999-888-7777', 'Accountant', 60000.00),
-> (8, 'Grace Employee', 'grace.employee@example.com', '123-999-5555', 'Human Resources', 55000.00),
-> (9, 'David Employee', 'david.employee@example.com', '888-777-6666', 'Operations Manager', 70000.00),
-> (10, 'Helen Employee', 'helen.employee@example.com', '777-111-2222', 'Marketing Specialist', 48000.00);

Query OK, 10 rows affected (0.03 sec)

Records: 10 Duplicates: 0 Warnings: 0

mysql> -- Insert sample data into the Location table

mysql> INSERT INTO Location (LocationID, LocationName, Address)

-> VALUES

-> (1, 'Office A', '123 Main St'),
-> (2, 'Warehouse 1', '456 Oak St'),
-> (3, 'Branch X', '789 Pine St'),
-> (4, 'Distribution Center', '101 Maple Ave'),
-> (5, 'Store 5', '202 Cedar St'),
-> (6, 'Facility Y', '303 Elm St'),
-> (7, 'Storage Unit 8', '404 Birch St'),
-> (8, 'Shop Z', '505 Walnut St'),
-> (9, 'Factory 2', '606 Pine St'),
-> (10, 'Outlet Mall', '707 Oak St');

Query OK, 10 rows affected (0.07 sec)

Records: 10 Duplicates: 0 Warnings: 0

-- Insert sample data into the Payment table

INSERT INTO Payment (PaymentID, CourierID, LocationID, Amount, PaymentDate)

VALUES

(1, 1, 3, 20.00, '2023-12-15'),
(2, 2, 5, 15.00, '2023-12-14'),
(3, 3, 8, 30.00, '2023-12-16'),
(4, 4, 2, 10.00, '2023-12-13'),
(5, 5, 7, 25.00, '2023-12-17'),
(6, 6, 9, 18.00, '2023-12-12'),
(7, 7, 1, 12.00, '2023-12-18'),
(8, 8, 4, 22.00, '2023-12-19'),
(9, 9, 6, 28.00, '2023-12-20'),
(10, 10, 10, 8.00, '2023-12-21');

Command Prompt - mysql -u root -p

```
mysql> -- Insert sample data into the Payment table with valid CourierID values
mysql> INSERT INTO Payment (PaymentID, CourierID, LocationID, Amount, PaymentDate)
-> VALUES
-> (1, 1, 3, 20.00, '2023-12-15'),
-> (2, 2, 5, 15.00, '2023-12-14'),
-> (3, 3, 8, 30.00, '2023-12-16'),
-> (4, 4, 2, 10.00, '2023-12-13'),
-> (5, 5, 7, 25.00, '2023-12-17'),
-> (6, 6, 9, 18.00, '2023-12-12'),
-> (7, 7, 1, 12.00, '2023-12-18'),
-> (8, 8, 4, 22.00, '2023-12-19'),
-> (9, 9, 6, 28.00, '2023-12-20'),
-> (10, 10, 10, 8.00, '2023-12-21');
Query OK, 10 rows affected (0.00 sec)
Records: 10 Duplicates: 0 Warnings: 0

mysql>
```

Task 2: Select, Where

Solve the following queries in the Schema that you have created above

1. List all customers:

Ans. SELECT * FROM User;

Command Prompt - mysql -u root -p

```
mysql> SELECT * FROM User;
```

UserID	Name	Email	Password	ContactNumber	Address
1	John Doe	john.doe@example.com	password123	123-456-7890	123 Main St
2	Jane Smith	jane.smith@example.com	securepass	987-654-3210	456 Oak St
3	Bob Johnson	bob.johnson@example.com	pass123	555-123-4567	789 Pine St
4	Alice Brown	alice.brown@example.com	mypassword	111-222-3333	101 Maple Ave
5	Charlie Wilson	charlie.wilson@example.com	secretpass	444-555-6666	202 Cedar St
6	Eva Davis	eva.davis@example.com	p@ssword	777-888-9999	303 Elm St
7	Frank Miller	frank.miller@example.com	password456	999-888-7777	404 Birch St
8	Grace Taylor	grace.taylor@example.com	letmein	123-999-5555	505 Walnut St
9	David White	david.white@example.com	access123	888-777-6666	606 Pine St
10	Helen Thomas	helen.thomas@example.com	qwerty	777-111-2222	707 Oak St

```
10 rows in set (0.00 sec)

mysql>
```

2. List all orders for a specific customer:

Ans. SELECT Courier.*, User.Name AS CustomerName

FROM Courier

JOIN User ON Courier.SenderName = User.Name OR Courier.ReceiverName = User.Name

WHERE User.UserID = 1;

Command Prompt - mysql -u root -p

```
mysql> SELECT Courier.*, User.Name AS CustomerName
-> FROM Courier
-> JOIN User ON Courier.SenderName = User.Name OR Courier.ReceiverName = User.Name
-> WHERE User.UserID = 1;
Empty set (0.00 sec)

mysql> SELECT Courier.*, User.Name AS CustomerName
-> FROM Courier
-> JOIN User ON Courier.SenderName = User.Name OR Courier.ReceiverName = User.Name;
Empty set (0.00 sec)

mysql> _
```

3. List all couriers:

Ans. Select * from couriers;

Command Prompt - mysql -u root -p

```
mysql> SELECT * FROM Courier WHERE UserID = 10;
ERROR 1054 (42S22): Unknown column 'UserID' in 'where clause'
mysql> select * from courier;
```

CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate
1	John Sender	123 Sender St	Jane Receiver	456 Receiver St	2.50	In Transit	TN123456	2023-12-15
2	Bob Sender	789 Sender St	Alice Receiver	101 Receiver Ave	1.80	Delivered	TN789013	2023-12-14
3	Charlie Sender	222 Sender St	Eva Receiver	303 Receiver St	3.00	Out for Delivery	TN345679	2023-12-16
4	Alice Sender	444 Sender St	Frank Receiver	404 Receiver St	1.20	Delivered	TN567890	2023-12-13
5	David Sender	666 Sender St	Grace Receiver	505 Receiver St	2.70	In Transit	TN901234	2023-12-17
6	Eva Sender	888 Sender St	Charlie Receiver	606 Receiver St	2.00	Delivered	TN234567	2023-12-12
7	Frank Sender	111 Sender St	David Receiver	707 Receiver St	1.50	Out for Delivery	TN678901	2023-12-18
8	Grace Sender	333 Sender St	Helen Receiver	808 Receiver St	2.30	In Transit	TN345678	2023-12-19
9	Helen Sender	555 Sender St	John Receiver	909 Receiver St	2.80	Delivered	TN789014	2023-12-20
10	John Sender	777 Sender St	Bob Receiver	1212 Receiver St	1.00	Out for Delivery	TN012345	2023-12-21

```
10 rows in set (0.00 sec)
```

4. List all packages for a specific order:

Ans. SELECT *

FROM Courier

WHERE CourierID = [SpecifyCourierID];

5. List all deliveries for a specific courier:

Ans. SELECT *

FROM Courier

WHERE CourierID = [SpecifyCourierID];

Command Prompt - mysql -u root -p

```
mysql> SELECT * FROM Courier WHERE CourierID = 10;
```

CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate
10	John Sender	777 Sender St	Bob Receiver	1212 Receiver St	1.00	Out for Delivery	TN012345	2023-12-21

1 row in set (0.00 sec)

```
mysql>
```

6. List all undelivered packages:

Ans. SELECT *

FROM Courier

WHERE Status <> 'Delivered';

Command Prompt - mysql -u root -p

Empty set (0.00 sec)

```
mysql> SELECT *  
-> FROM Courier  
-> WHERE Status <> 'Delivered';
```

CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate
1	John Sender	123 Sender St	Jane Receiver	456 Receiver St	2.50	In Transit	TN123456	2023-12-15
3	Charlie Sender	222 Sender St	Eva Receiver	303 Receiver St	3.00	Out for Delivery	TN345679	2023-12-16
5	David Sender	666 Sender St	Grace Receiver	505 Receiver St	2.70	In Transit	TN901234	2023-12-17
7	Frank Sender	111 Sender St	David Receiver	707 Receiver St	1.50	Out for Delivery	TN678901	2023-12-18
8	Grace Sender	333 Sender St	Helen Receiver	808 Receiver St	2.30	In Transit	TN345678	2023-12-19
10	John Sender	777 Sender St	Bob Receiver	1212 Receiver St	1.00	Out for Delivery	TN012345	2023-12-21

6 rows in set (0.00 sec)

```
mysql>
```

7. List all packages that are scheduled for delivery today:

Ans. SELECT *

FROM Courier

WHERE DeliveryDate = CURDATE();

Command Prompt - mysql -u root -p

6 rows in set (0.00 sec)

```
mysql> SELECT *  
-> FROM Courier  
-> WHERE DeliveryDate = CURDATE();
```

CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate
6	Eva Sender	888 Sender St	Charlie Receiver	606 Receiver St	2.00	Delivered	TN234567	2023-12-12

1 row in set (0.00 sec)

8. List all packages with a specific status:

Ans. SELECT *

FROM Courier

WHERE Status = 'In Transit';

```

C:\ Command Prompt - mysql -u root -p
1 row in set (0.00 sec)

mysql> SELECT *
      -> FROM Courier
      -> WHERE Status = 'In Transit';
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| CourierID | SenderName | SenderAddress | ReceiverName | ReceiverAddress | Weight | Status | TrackingNumber | DeliveryDate |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 1 | John Sender | 123 Sender St | Jane Receiver | 456 Receiver St | 2.50 | In Transit | TN123456 | 2023-12-15 |
| 5 | David Sender | 666 Sender St | Grace Receiver | 505 Receiver St | 2.70 | In Transit | TN901234 | 2023-12-17 |
| 8 | Grace Sender | 333 Sender St | Helen Receiver | 808 Receiver St | 2.30 | In Transit | TN345678 | 2023-12-19 |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)

mysql>

```

9. Calculate the total number of packages for each courier.

Ans. SELECT CourierID, COUNT(*) AS TotalPackages

FROM Courier

GROUP BY CourierID;

```

C:\ Command Prompt - mysql -u root -p
3 rows in set (0.00 sec)

mysql> SELECT CourierID, COUNT(*) AS TotalPackages
      -> FROM Courier
      -> GROUP BY CourierID;
+-----+-----+
| CourierID | TotalPackages |
+-----+-----+
| 1 | 1 |
| 2 | 1 |
| 3 | 1 |
| 4 | 1 |
| 5 | 1 |
| 6 | 1 |
| 7 | 1 |
| 8 | 1 |
| 9 | 1 |
| 10 | 1 |
+-----+-----+
10 rows in set (0.00 sec)

mysql>

```

10. Find the average delivery time for each courier

Ans. SELECT

CourierID,

AVG(DATEDIFF(CURDATE(), DeliveryDate)) AS AverageDeliveryTime

FROM

Courier

GROUP BY

CourierID;

```

C:\ Command Prompt - mysql -u root -p
mysql> SELECT
-> CourierID,
-> AVG(DATEDIFF(CURDATE(), DeliveryDate)) AS AverageDeliveryTime
-> FROM
-> Courier
-> GROUP BY
-> CourierID;
+-----+-----+
| CourierID | AverageDeliveryTime |
+-----+-----+
| 1 | -3.0000 |
| 2 | -2.0000 |
| 3 | -4.0000 |
| 4 | -1.0000 |
| 5 | -5.0000 |
| 6 | 0.0000 |
| 7 | -6.0000 |
| 8 | -7.0000 |
| 9 | -8.0000 |
| 10 | -9.0000 |
+-----+-----+
10 rows in set (0.01 sec)

mysql>

```

11. List all packages with a specific weight range:

Ans. SELECT *

FROM Courier

WHERE Weight BETWEEN 2.0 AND 5.0;

```

C:\ Command Prompt - mysql -u root -p
10 rows in set (0.01 sec)

mysql> SELECT *
-> FROM Courier
-> WHERE Weight BETWEEN 2.0 AND 5.0;
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| CourierID | SenderName | SenderAddress | ReceiverName | ReceiverAddress | Weight | Status | TrackingNumber | DeliveryDate |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 1 | John Sender | 123 Sender St | Jane Receiver | 456 Receiver St | 2.50 | In Transit | TN123456 | 2023-12-15 |
| 3 | Charlie Sender | 222 Sender St | Eva Receiver | 303 Receiver St | 3.00 | Out for Delivery | TN345679 | 2023-12-16 |
| 5 | David Sender | 666 Sender St | Grace Receiver | 505 Receiver St | 2.70 | In Transit | TN901234 | 2023-12-17 |
| 6 | Eva Sender | 888 Sender St | Charlie Receiver | 606 Receiver St | 2.00 | Delivered | TN234567 | 2023-12-12 |
| 8 | Grace Sender | 333 Sender St | Helen Receiver | 808 Receiver St | 2.30 | In Transit | TN345678 | 2023-12-19 |
| 9 | Helen Sender | 555 Sender St | John Receiver | 909 Receiver St | 2.80 | Delivered | TN789014 | 2023-12-20 |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)

mysql>

```

12. Retrieve employees whose names contain 'John'

Ans. SELECT *

FROM Employee

WHERE Name LIKE '%John%';

Command Prompt - mysql -u root -p

```
mysql> SELECT *  
  -> FROM Employee  
  -> WHERE Name LIKE '%John%';  
+-----+-----+-----+-----+-----+-----+  
| EmployeeID | Name          | Email                      | ContactNumber | Role    | Salary |  
+-----+-----+-----+-----+-----+-----+  
|          1 | John Employee | john.employee@example.com | 123-456-7890 | Manager | 60000.00 |  
+-----+-----+-----+-----+-----+-----+  
1 row in set (0.01 sec)  
  
mysql> _
```

13. Retrieve all courier records with payments greater than \$50.

Ans. SELECT Courier.*

FROM Courier

JOIN Payment ON Courier.CourierID = Payment.CourierID

WHERE Payment.Amount > 50.00;

Command Prompt - mysql -u root -p

```
1 row in set (0.01 sec)  
  
mysql> SELECT Courier.*  
  -> FROM Courier  
  -> JOIN Payment ON Courier.CourierID = Payment.CourierID  
  -> WHERE Payment.Amount > 50.00;  
Empty set (0.03 sec)  
  
mysql> _
```

Task 3: GroupBy, Aggregate Functions, Having, Order By, where

14. Find the total number of couriers handled by each employee.

Ans. -- Assuming there is a CourierID column in the Employee table

SELECT

e.EmployeeID,

e.Name AS EmployeeName,

COUNT(c.CourierID) AS TotalCouriersHandled

FROM

Employee e

LEFT JOIN

Courier c ON e.EmployeeID = c.CourierID

GROUP BY

e.EmployeeID, e.Name;

Command Prompt - mysql -u root -p

```
mysql> SELECT
->   e.EmployeeID,
->   e.Name AS EmployeeName,
->   COUNT(c.CourierID) AS TotalCouriersHandled
-> FROM
->   Employee e
-> LEFT JOIN
->   Courier c ON e.EmployeeID = c.CourierID
-> GROUP BY
->   e.EmployeeID, e.Name;
```

EmployeeID	EmployeeName	TotalCouriersHandled
1	John Employee	1
2	Jane Employee	1
3	Bob Employee	1
4	Alice Employee	1
5	Charlie Employee	1
6	Eva Employee	1
7	Frank Employee	1
8	Grace Employee	1
9	David Employee	1
10	Helen Employee	1

10 rows in set (0.00 sec)

15. Calculate the total revenue generated by each location

Ans. SELECT

l.LocationID,

l.LocationName,

SUM(p.Amount) AS TotalRevenue

FROM

Location l

LEFT JOIN

Payment p ON l.LocationID = p.LocationID

GROUP BY

l.LocationID, l.LocationName;

Command Prompt - mysql -u root -p

```
mysql> SELECT
->     l.LocationID,
->     l.LocationName,
->     SUM(p.Amount) AS TotalRevenue
-> FROM
->     Location l
-> LEFT JOIN
->     Payment p ON l.LocationID = p.LocationID
-> GROUP BY
->     l.LocationID, l.LocationName;
```

LocationID	LocationName	TotalRevenue
1	Office A	12.00
2	Warehouse 1	10.00
3	Branch X	20.00
4	Distribution Center	22.00
5	Store 5	15.00
6	Facility Y	28.00
7	Storage Unit 8	25.00
8	Shop Z	30.00
9	Factory 2	18.00
10	Outlet Mall	8.00

10 rows in set (0.00 sec)

```
mysql> _
```

16. Find the total number of couriers delivered to each location.

Ans. SELECT

l.LocationID,

l.LocationName,

COUNT(DISTINCT p.CourierID) AS TotalCouriersDelivered

FROM

Location l

LEFT JOIN

Payment p ON l.LocationID = p.LocationID

LEFT JOIN

Courier c ON p.CourierID = c.CourierID

WHERE

c.Status = 'Delivered'

GROUP BY

l.LocationID, l.LocationName;


```

C:\> Command Prompt - mysql -u root -p
ERROR 1054 (42S22): Unknown column 'c.LocationID' in 'on clause'
mysql> SELECT
->     l.LocationID,
->     l.LocationName,
->     COUNT(DISTINCT p.CourierID) AS TotalCouriersDelivered
-> FROM
->     Location l
-> LEFT JOIN
->     Payment p ON l.LocationID = p.LocationID
-> LEFT JOIN
->     Courier c ON p.CourierID = c.CourierID
-> WHERE
->     c.Status = 'Delivered'
-> GROUP BY
->     l.LocationID, l.LocationName;
+-----+-----+-----+
| LocationID | LocationName | TotalCouriersDelivered |
+-----+-----+-----+
|          2 | Warehouse 1 |                      1 |
|          5 | Store 5      |                      1 |
|          6 | Facility Y   |                      1 |
|          9 | Factory 2    |                      1 |
+-----+-----+-----+
4 rows in set (0.03 sec)

mysql>

```

17. Find the courier with the highest average delivery time:

Ans. SELECT

c.CourierID,

AVG(DATEDIFF(CURDATE(), c.DeliveryDate)) AS AverageDeliveryTime

FROM

Courier c

GROUP BY

c.CourierID

ORDER BY

AverageDeliveryTime DESC

LIMIT 1;

```

c:\ Command Prompt - mysql -u root -p
mysql> SELECT
->   c.CourierID,
->   AVG(DATEDIFF(CURDATE(), c.DeliveryDate)) AS AverageDeliveryTime
-> FROM
->   Courier c
-> GROUP BY
->   c.CourierID
-> ORDER BY
->   AverageDeliveryTime DESC
-> LIMIT 1;
+-----+-----+
| CourierID | AverageDeliveryTime |
+-----+-----+
|        6 |             1.0000 |
+-----+-----+
1 row in set (0.00 sec)

mysql>

```

18. Find Locations with Total Payments Less Than a Certain Amount

Ans. SELECT

l.LocationID,

l.LocationName,

SUM(p.Amount) AS TotalPayments

FROM

Location l

LEFT JOIN

Payment p ON l.LocationID = p.LocationID

GROUP BY

l.LocationID, l.LocationName

HAVING

TotalPayments < 25;

Command Prompt - mysql -u root -p

```
mysql> SELECT
->     l.LocationID,
->     l.LocationName,
->     SUM(p.Amount) AS TotalPayments
-> FROM
->     Location l
-> LEFT JOIN
->     Payment p ON l.LocationID = p.LocationID
-> GROUP BY
->     l.LocationID, l.LocationName
-> HAVING
->     TotalPayments < 25;
```

LocationID	LocationName	TotalPayments
1	Office A	12.00
2	Warehouse 1	10.00
3	Branch X	20.00
4	Distribution Center	22.00
5	Store 5	15.00
9	Factory 2	18.00
10	Outlet Mall	8.00

7 rows in set (0.03 sec)

```
mysql>
```

19. Calculate Total Payments per Location

Ans.

SELECT

l.LocationID,

l.LocationName,

SUM(p.Amount) AS TotalPayments

FROM

Location l

LEFT JOIN

Payment p ON l.LocationID = p.LocationID

GROUP BY

l.LocationID, l.LocationName;

Command Prompt - mysql -u root -p

```
mysql> SELECT
->     l.LocationID,
->     l.LocationName,
->     SUM(p.Amount) AS TotalPayments
-> FROM
->     Location l
-> LEFT JOIN
->     Payment p ON l.LocationID = p.LocationID
-> GROUP BY
->     l.LocationID, l.LocationName;
```

LocationID	LocationName	TotalPayments
1	Office A	12.00
2	Warehouse 1	10.00
3	Branch X	20.00
4	Distribution Center	22.00
5	Store 5	15.00
6	Facility Y	28.00
7	Storage Unit 8	25.00
8	Shop Z	30.00
9	Factory 2	18.00
10	Outlet Mall	8.00

```
10 rows in set (0.00 sec)

mysql>
```

20. Retrieve couriers who have received payments totaling more than \$1000 in a specific location (LocationID = X):

Ans. SELECT

c.CourierID,

c.SenderName,

c.ReceiverName,

c.TrackingNumber,

SUM(p.Amount) AS TotalPayments

FROM

```
Courier c
JOIN
  Payment p ON c.CourierID = p.CourierID
WHERE
  p.LocationID = 7
GROUP BY
  c.CourierID, c.SenderName, c.ReceiverName, c.TrackingNumber
HAVING
  TotalPayments > 25;
```

```
cmd Command Prompt - mysql -u root -p
ERROR 1054 (42S22): Unknown column 'c.LocationID' in 'where clause'
mysql> SELECT
->   c.CourierID,
->   c.SenderName,
->   c.ReceiverName,
->   c.TrackingNumber,
->   SUM(p.Amount) AS TotalPayments
-> FROM
->   Courier c
-> JOIN
->   Payment p ON c.CourierID = p.CourierID
-> WHERE
->   p.LocationID = 7
-> GROUP BY
->   c.CourierID, c.SenderName, c.ReceiverName, c.TrackingNumber
-> HAVING
->   TotalPayments > 25;
Empty set (0.00 sec)

mysql>
```

21. Retrieve couriers who have received payments totaling more than \$1000 after a certain date (PaymentDate > 'YYYY-MM-DD'):

Ans. SELECT

```
c.CourierID,
c.SenderName,
c.ReceiverName,
c.TrackingNumber,
SUM(p.Amount) AS TotalPayments
FROM
  Courier c
JOIN
```

Payment p ON c.CourierID = p.CourierID

WHERE

p.PaymentDate > '2023-12-15'

GROUP BY

c.CourierID, c.SenderName, c.ReceiverName, c.TrackingNumber

HAVING

TotalPayments > 1000;

Command Prompt - mysql -u root -p

```
mysql> SELECT
->   c.CourierID,
->   c.SenderName,
->   c.ReceiverName,
->   c.TrackingNumber,
->   SUM(p.Amount) AS TotalPayments
-> FROM
->   Courier c
-> JOIN
->   Payment p ON c.CourierID = p.CourierID
-> WHERE
->   p.PaymentDate > '2023-12-15'
-> GROUP BY
->   c.CourierID, c.SenderName, c.ReceiverName, c.TrackingNumber
-> HAVING
->   TotalPayments > 1000;
Empty set (0.00 sec)

mysql>
```

22. Retrieve locations where the total amount received is more than \$5000 before a certain date (PaymentDate > 'YYYY-MM-DD')

Ans. SELECT

l.LocationID,

l.LocationName,

SUM(p.Amount) AS TotalAmountReceived

FROM

Location l

JOIN

Payment p ON l.LocationID = p.LocationID

WHERE

p.PaymentDate > '2023-12-20'

GROUP BY

l.LocationID, l.LocationName

HAVING

TotalAmountReceived > 5000;

Command Prompt - mysql -u root -p

```
mysql> SELECT
->     l.LocationID,
->     l.LocationName,
->     SUM(p.Amount) AS TotalAmountReceived
-> FROM
->     Location l
-> JOIN
->     Payment p ON l.LocationID = p.LocationID
-> WHERE
->     p.PaymentDate > '2023-12-20'
-> GROUP BY
->     l.LocationID, l.LocationName
-> HAVING
->     TotalAmountReceived > 5000;
Empty set (0.00 sec)

mysql>
```

Task 4: Inner Join, Full Outer Join, Cross Join, Left Outer Join, Right Outer Join

23. Retrieve Payments with Courier Information

Ans. -- Retrieve Payments with Courier Information

SELECT

p.PaymentID,
p.Amount,
p.PaymentDate,
c.CourierID,
c.SenderName,
c.ReceiverName,
c.Status,
c.TrackingNumber,
c.DeliveryDate

FROM

Payment p

JOIN

Courier c ON p.CourierID = c.CourierID;

```

Command Prompt - mysql -u root -p
| cms
+-----+
1 row in set (0.00 sec)

mysql> -- Retrieve Payments with Courier Information
mysql> SELECT
-> p.PaymentID,
-> p.Amount,
-> p.PaymentDate,
-> c.CourierID,
-> c.SenderName,
-> c.ReceiverName,
-> c.Status,
-> c.TrackingNumber,
-> c.DeliveryDate
-> FROM
-> Payment p
-> JOIN
-> Courier c ON p.CourierID = c.CourierID;

```

PaymentID	Amount	PaymentDate	CourierID	SenderName	ReceiverName	Status	TrackingNumber	DeliveryDate
1	20.00	2023-12-15	1	John Sender	Jane Receiver	In Transit	TN123456	2023-12-15
2	15.00	2023-12-14	2	Bob Sender	Alice Receiver	Delivered	TN789013	2023-12-14
3	30.00	2023-12-16	3	Charlie Sender	Eva Receiver	Out for Delivery	TN345679	2023-12-16
4	10.00	2023-12-13	4	Alice Sender	Frank Receiver	Delivered	TN567890	2023-12-13
5	25.00	2023-12-17	5	David Sender	Grace Receiver	In Transit	TN901234	2023-12-17
6	18.00	2023-12-12	6	Eva Sender	Charlie Receiver	Delivered	TN234567	2023-12-12
7	12.00	2023-12-18	7	Frank Sender	David Receiver	Out for Delivery	TN678901	2023-12-18
8	22.00	2023-12-19	8	Grace Sender	Helen Receiver	In Transit	TN345678	2023-12-19
9	28.00	2023-12-20	9	Helen Sender	John Receiver	Delivered	TN789014	2023-12-20
10	8.00	2023-12-21	10	John Sender	Bob Receiver	Out for Delivery	TN012345	2023-12-21

```

10 rows in set (0.00 sec)

```

24. Retrieve Payments with Location Information

Ans. -- Retrieve Payments with Location Information

SELECT

p.PaymentID,

p.Amount,

p.PaymentDate,

l.LocationID,

l.LocationName,

l.Address

FROM

Payment p

JOIN

Location l ON p.LocationID = l.LocationID;


```

C:\> Command Prompt - mysql -u root -p
mysql> -- Retrieve Payments with Location Information
mysql> SELECT
-> p.PaymentID,
-> p.Amount,
-> p.PaymentDate,
-> l.LocationID,
-> l.LocationName,
-> l.Address
-> FROM
-> Payment p
-> JOIN
-> Location l ON p.LocationID = l.LocationID;
+-----+-----+-----+-----+-----+
| PaymentID | Amount | PaymentDate | LocationID | LocationName | Address |
+-----+-----+-----+-----+-----+
| 1 | 20.00 | 2023-12-15 | 3 | Branch X | 789 Pine St |
| 2 | 15.00 | 2023-12-14 | 5 | Store 5 | 202 Cedar St |
| 3 | 30.00 | 2023-12-16 | 8 | Shop Z | 505 Walnut St |
| 4 | 10.00 | 2023-12-13 | 2 | Warehouse 1 | 456 Oak St |
| 5 | 25.00 | 2023-12-17 | 7 | Storage Unit 8 | 404 Birch St |
| 6 | 18.00 | 2023-12-12 | 9 | Factory 2 | 606 Pine St |
| 7 | 12.00 | 2023-12-18 | 1 | Office A | 123 Main St |
| 8 | 22.00 | 2023-12-19 | 4 | Distribution Center | 101 Maple Ave |
| 9 | 28.00 | 2023-12-20 | 6 | Facility Y | 303 Elm St |
| 10 | 8.00 | 2023-12-21 | 10 | Outlet Mall | 707 Oak St |
+-----+-----+-----+-----+-----+
10 rows in set (0.03 sec)

mysql>

```

25. Retrieve Payments with Courier and Location Information

Ans. -- Retrieve Payments with Courier and Location Information

SELECT

p.PaymentID,
 p.Amount,
 p.PaymentDate,
 c.CourierID,
 c.SenderName,
 c.ReceiverName,
 c.Status,
 c.TrackingNumber,
 c.DeliveryDate,
 l.LocationID,
 l.LocationName,
 l.Address

FROM

Payment p

JOIN

Courier c ON p.CourierID = c.CourierID

JOIN

Location l ON p.LocationID = l.LocationID;

```
Command Prompt - mysql -u root -p
mysql> -- Retrieve Payments with Courier and Location Information
mysql> SELECT
-> p.PaymentID,
-> p.Amount,
-> p.PaymentDate,
-> c.CourierID,
-> c.SenderName,
-> c.ReceiverName,
-> c.Status,
-> c.TrackingNumber,
-> c.DeliveryDate,
-> l.LocationID,
-> l.LocationName,
-> l.Address
-> FROM
-> Payment p
-> JOIN
-> Courier c ON p.CourierID = c.CourierID
-> JOIN
-> Location l ON p.LocationID = l.LocationID;
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| PaymentID | Amount | PaymentDate | CourierID | SenderName | ReceiverName | Status | TrackingNumber | DeliveryDate | LocationID | LocationName | Address |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 1 | 20.00 | 2023-12-15 | 1 | John Sender | Jane Receiver | In Transit | TN123456 | 2023-12-15 | 3 | Branch X | 789 Pine St |
| 2 | 15.00 | 2023-12-14 | 2 | Bob Sender | Alice Receiver | Delivered | TN789013 | 2023-12-14 | 5 | Store 5 | 202 Cedar St |
| 3 | 30.00 | 2023-12-16 | 3 | Charlie Sender | Eva Receiver | Out for Delivery | TN345679 | 2023-12-16 | 8 | Shop Z | 505 Walnut St |
| 4 | 10.00 | 2023-12-13 | 4 | Alice Sender | Frank Receiver | Delivered | TN567890 | 2023-12-13 | 2 | Warehouse 1 | 456 Oak St |
| 5 | 25.00 | 2023-12-17 | 5 | David Sender | Grace Receiver | In Transit | TN901234 | 2023-12-17 | 7 | Storage Unit 8 | 404 Birch St |
| 6 | 18.00 | 2023-12-12 | 6 | Eva Sender | Charlie Receiver | Delivered | TN234567 | 2023-12-12 | 9 | Factory 2 | 606 Pine St |
| 7 | 12.00 | 2023-12-18 | 7 | Frank Sender | David Receiver | Out for Delivery | TN678901 | 2023-12-18 | 1 | Office A | 123 Main St |
| 8 | 22.00 | 2023-12-19 | 8 | Grace Sender | Helen Receiver | In Transit | TN345678 | 2023-12-19 | 4 | Distribution Center | 101 Maple Ave |
| 9 | 28.00 | 2023-12-20 | 9 | Helen Sender | John Receiver | Delivered | TN789014 | 2023-12-20 | 6 | Facility Y | 303 Elm St |
| 10 | 8.00 | 2023-12-21 | 10 | John Sender | Bob Receiver | Out for Delivery | TN012345 | 2023-12-21 | 10 | Outlet Mall | 707 Oak St |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
10 rows in set (0.00 sec)

mysql>
```

26. List all payments with courier details

Ans. -- List all Payments with Courier Details

SELECT

p.PaymentID,
p.Amount,
p.PaymentDate,
c.CourierID,
c.SenderName,
c.ReceiverName,
c.Status,
c.TrackingNumber,
c.DeliveryDate

FROM

Payment p

JOIN

Courier c ON p.CourierID = c.CourierID;

```

C:\> Command Prompt - mysql -u root -p
mysql> -- List all Payments with Courier Details
mysql> SELECT
-> p.PaymentID,
-> p.Amount,
-> p.PaymentDate,
-> c.CourierID,
-> c.SenderName,
-> c.ReceiverName,
-> c.Status,
-> c.TrackingNumber,
-> c.DeliveryDate
-> FROM
-> Payment p
-> JOIN
-> Courier c ON p.CourierID = c.CourierID;

```

PaymentID	Amount	PaymentDate	CourierID	SenderName	ReceiverName	Status	TrackingNumber	DeliveryDate
1	20.00	2023-12-15	1	John Sender	Jane Receiver	In Transit	TN123456	2023-12-15
2	15.00	2023-12-14	2	Bob Sender	Alice Receiver	Delivered	TN789013	2023-12-14
3	30.00	2023-12-16	3	Charlie Sender	Eva Receiver	Out for Delivery	TN345679	2023-12-16
4	10.00	2023-12-13	4	Alice Sender	Frank Receiver	Delivered	TN567890	2023-12-13
5	25.00	2023-12-17	5	David Sender	Grace Receiver	In Transit	TN901234	2023-12-17
6	18.00	2023-12-12	6	Eva Sender	Charlie Receiver	Delivered	TN234567	2023-12-12
7	12.00	2023-12-18	7	Frank Sender	David Receiver	Out for Delivery	TN678901	2023-12-18
8	22.00	2023-12-19	8	Grace Sender	Helen Receiver	In Transit	TN345678	2023-12-19
9	28.00	2023-12-20	9	Helen Sender	John Receiver	Delivered	TN789014	2023-12-20
10	8.00	2023-12-21	10	John Sender	Bob Receiver	Out for Delivery	TN012345	2023-12-21

```

10 rows in set (0.00 sec)

mysql>

```

27. Total payments received for each courier

Ans. -- Total Payments Received for Each Courier

SELECT

c.CourierID,

c.SenderName,

c.ReceiverName,

SUM(p.Amount) AS TotalPayments

FROM

Payment p

JOIN

Courier c ON p.CourierID = c.CourierID

GROUP BY

c.CourierID, c.SenderName, c.ReceiverName;

Command Prompt - mysql -u root -p

```
mysql> -- Total Payments Received for Each Courier
mysql> SELECT
-> c.CourierID,
-> c.SenderName,
-> c.ReceiverName,
-> SUM(p.Amount) AS TotalPayments
-> FROM
-> Payment p
-> JOIN
-> Courier c ON p.CourierID = c.CourierID
-> GROUP BY
-> c.CourierID, c.SenderName, c.ReceiverName;
```

CourierID	SenderName	ReceiverName	TotalPayments
1	John Sender	Jane Receiver	20.00
2	Bob Sender	Alice Receiver	15.00
3	Charlie Sender	Eva Receiver	30.00
4	Alice Sender	Frank Receiver	10.00
5	David Sender	Grace Receiver	25.00
6	Eva Sender	Charlie Receiver	18.00
7	Frank Sender	David Receiver	12.00
8	Grace Sender	Helen Receiver	22.00
9	Helen Sender	John Receiver	28.00
10	John Sender	Bob Receiver	8.00

10 rows in set (0.00 sec)

mysql>

28. List payments made on a specific date

Ans. -- List payments made on a specific date ('2023-12-15')

SELECT

p.PaymentID,
p.Amount,
p.PaymentDate,
c.CourierID,
c.SenderName,
c.ReceiverName,
c.Status,
c.TrackingNumber,
c.DeliveryDate

FROM

Payment p

JOIN

Courier c ON p.CourierID = c.CourierID

WHERE

p.PaymentDate = '2023-12-15';

```
ca: Command Prompt - mysql -u root -p
10 rows in set (0.00 sec)

mysql> -- List payments made on a specific date ('2023-12-15')
mysql> SELECT
->     p.PaymentID,
->     p.Amount,
->     p.PaymentDate,
->     c.CourierID,
->     c.SenderName,
->     c.ReceiverName,
->     c.Status,
->     c.TrackingNumber,
->     c.DeliveryDate
-> FROM
->     Payment p
-> JOIN
->     Courier c ON p.CourierID = c.CourierID
-> WHERE
->     p.PaymentDate = '2023-12-15';
+-----+-----+-----+-----+-----+-----+-----+-----+
| PaymentID | Amount | PaymentDate | CourierID | SenderName | ReceiverName | Status | TrackingNumber | DeliveryDate |
+-----+-----+-----+-----+-----+-----+-----+-----+
| 1 | 20.00 | 2023-12-15 | 1 | John Sender | Jane Receiver | In Transit | TW123456 | 2023-12-15 |
+-----+-----+-----+-----+-----+-----+-----+-----+
1 row in set (0.00 sec)

mysql> _
```

29. Get Courier Information for Each Payment

Ans. -- Get Courier Information for Each Payment

SELECT

p.PaymentID,

p.Amount,

p.PaymentDate,

c.CourierID,

c.SenderName,

c.ReceiverName,

c.Status,

c.TrackingNumber,

c.DeliveryDate

FROM

Payment p

JOIN

Courier c ON p.CourierID = c.CourierID;

```

C:\> Command Prompt - mysql -u root -p
1 row in set (0.00 sec)

mysql> -- Get Courier Information for Each Payment
mysql> SELECT
->   p.PaymentID,
->   p.Amount,
->   p.PaymentDate,
->   c.CourierID,
->   c.SenderName,
->   c.ReceiverName,
->   c.Status,
->   c.TrackingNumber,
->   c.DeliveryDate
-> FROM
->   Payment p
-> JOIN
->   Courier c ON p.CourierID = c.CourierID;

```

PaymentID	Amount	PaymentDate	CourierID	SenderName	ReceiverName	Status	TrackingNumber	DeliveryDate
1	20.00	2023-12-15	1	John Sender	Jane Receiver	In Transit	TN123456	2023-12-15
2	15.00	2023-12-14	2	Bob Sender	Alice Receiver	Delivered	TN789013	2023-12-14
3	30.00	2023-12-16	3	Charlie Sender	Eva Receiver	Out for Delivery	TN345679	2023-12-16
4	10.00	2023-12-13	4	Alice Sender	Frank Receiver	Delivered	TN567890	2023-12-13
5	25.00	2023-12-17	5	David Sender	Grace Receiver	In Transit	TN901234	2023-12-17
6	18.00	2023-12-12	6	Eva Sender	Charlie Receiver	Delivered	TN234567	2023-12-12
7	12.00	2023-12-18	7	Frank Sender	David Receiver	Out for Delivery	TN678901	2023-12-18
8	22.00	2023-12-19	8	Grace Sender	Helen Receiver	In Transit	TN345678	2023-12-19
9	28.00	2023-12-20	9	Helen Sender	John Receiver	Delivered	TN789014	2023-12-20
10	8.00	2023-12-21	10	John Sender	Bob Receiver	Out for Delivery	TN012345	2023-12-21

```

10 rows in set (0.00 sec)

mysql>

```

30. Get Payment Details with Location

Ans. -- Get Payment Details with Location

SELECT

p.PaymentID,
 p.Amount,
 p.PaymentDate,
 c.CourierID,
 c.SenderName,
 c.ReceiverName,
 c.Status,
 c.TrackingNumber,
 c.DeliveryDate,
 l.LocationID,
 l.LocationName,
 l.Address

FROM

Payment p

JOIN

Courier c ON p.CourierID = c.CourierID

JOIN

Location l ON p.LocationID = l.LocationID;

Command Prompt - mysql -u root -p

```
mysql> -- Get Payment Details with Location
mysql> SELECT
  --> p.PaymentID,
  --> p.Amount,
  --> p.PaymentDate,
  --> c.CourierID,
  --> c.SenderName,
  --> c.ReceiverName,
  --> c.Status,
  --> c.TrackingNumber,
  --> c.DeliveryDate,
  --> l.LocationID,
  --> l.LocationName,
  --> l.Address
  --> FROM
  --> Payment p
  --> JOIN
  --> Courier c ON p.CourierID = c.CourierID
  --> JOIN
  --> Location l ON p.LocationID = l.LocationID;
```

PaymentID	Amount	PaymentDate	CourierID	SenderName	ReceiverName	Status	TrackingNumber	DeliveryDate	LocationID	LocationName	Address
1	20.00	2023-12-15	1	John Sender	Jane Receiver	In Transit	TN123456	2023-12-15	3	Branch X	789 Pine St
2	15.00	2023-12-14	2	Bob Sender	Alice Receiver	Delivered	TN789013	2023-12-14	5	Store 5	202 Cedar St
3	30.00	2023-12-16	3	Charlie Sender	Eva Receiver	Out for Delivery	TN345679	2023-12-16	8	Shop Z	505 Walnut St
4	10.00	2023-12-13	4	Alice Sender	Frank Receiver	Delivered	TN567890	2023-12-13	2	Warehouse 1	456 Oak St
5	25.00	2023-12-17	5	David Sender	Grace Receiver	In Transit	TN001234	2023-12-17	7	Storage Unit 8	404 Birch St
6	18.00	2023-12-12	6	Eva Sender	Charlie Receiver	Delivered	TN234567	2023-12-12	9	Factory 2	606 Pine St
7	12.00	2023-12-18	7	Frank Sender	David Receiver	Out for Delivery	TN678901	2023-12-18	1	Office A	123 Main St
8	22.00	2023-12-19	8	Grace Sender	Helen Receiver	In Transit	TN345678	2023-12-19	4	Distribution Center	101 Maple Ave
9	28.00	2023-12-20	9	Helen Sender	John Receiver	Delivered	TN789014	2023-12-20	6	Facility Y	303 Elm St
10	8.00	2023-12-21	10	John Sender	Bob Receiver	Out for Delivery	TN012345	2023-12-21	10	Outlet Mall	707 Oak St

mysql>

31. Calculating Total Payments for Each Courier

Ans. -- Calculating Total Payments for Each Courier

SELECT

c.CourierID,

c.SenderName,

c.ReceiverName,

SUM(p.Amount) AS TotalPayments

FROM

Payment p

JOIN

Courier c ON p.CourierID = c.CourierID

GROUP BY

c.CourierID, c.SenderName, c.ReceiverName;

```
Command Prompt - mysql -u root -p
+-----+
10 rows in set (0.00 sec)

mysql> -- Calculating Total Payments for Each Courier
mysql> SELECT
->   c.CourierID,
->   c.SenderName,
->   c.ReceiverName,
->   SUM(p.Amount) AS TotalPayments
-> FROM
->   Payment p
-> JOIN
->   Courier c ON p.CourierID = c.CourierID
-> GROUP BY
->   c.CourierID, c.SenderName, c.ReceiverName;
+-----+
| CourierID | SenderName | ReceiverName | TotalPayments |
+-----+
| 1 | John Sender | Jane Receiver | 20.00 |
| 2 | Bob Sender | Alice Receiver | 15.00 |
| 3 | Charlie Sender | Eva Receiver | 30.00 |
| 4 | Alice Sender | Frank Receiver | 10.00 |
| 5 | David Sender | Grace Receiver | 25.00 |
| 6 | Eva Sender | Charlie Receiver | 18.00 |
| 7 | Frank Sender | David Receiver | 12.00 |
| 8 | Grace Sender | Helen Receiver | 22.00 |
| 9 | Helen Sender | John Receiver | 28.00 |
| 10 | John Sender | Bob Receiver | 8.00 |
+-----+
10 rows in set (0.00 sec)

mysql> _
```

32. List Payments Within a Date Range

Ans. -- List Payments Within a Date Range ('2023-12-10' to '2023-12-20')

SELECT

p.PaymentID,
p.Amount,
p.PaymentDate,
c.CourierID,
c.SenderName,
c.ReceiverName,
c.Status,
c.TrackingNumber,
c.DeliveryDate

FROM

Payment p

JOIN

Courier c ON p.CourierID = c.CourierID

WHERE

p.PaymentDate BETWEEN '2023-12-10' AND '2023-12-20';

```
Command Prompt - mysql -u root -p
+-----+-----+-----+-----+
| 10 | John Sender | Bob Receiver | 8.00 |
+-----+-----+-----+-----+
10 rows in set (0.00 sec)

mysql> -- List Payments Within a Date Range ('2023-12-10' to '2023-12-20')
mysql> SELECT
-> p.PaymentID,
-> p.Amount,
-> p.PaymentDate,
-> c.CourierID,
-> c.SenderName,
-> c.ReceiverName,
-> c.Status,
-> c.TrackingNumber,
-> c.DeliveryDate
-> FROM
-> Payment p
-> JOIN
-> Courier c ON p.CourierID = c.CourierID
-> WHERE
-> p.PaymentDate BETWEEN '2023-12-10' AND '2023-12-20';
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| PaymentID | Amount | PaymentDate | CourierID | SenderName | ReceiverName | Status | TrackingNumber | DeliveryDate |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 1 | 20.00 | 2023-12-15 | 1 | John Sender | Jane Receiver | In Transit | TN123456 | 2023-12-15 |
| 2 | 15.00 | 2023-12-14 | 2 | Bob Sender | Alice Receiver | Delivered | TN789013 | 2023-12-14 |
| 3 | 30.00 | 2023-12-16 | 3 | Charlie Sender | Eva Receiver | Out for Delivery | TN345679 | 2023-12-16 |
| 4 | 10.00 | 2023-12-13 | 4 | Alice Sender | Frank Receiver | Delivered | TN567890 | 2023-12-13 |
| 5 | 25.00 | 2023-12-17 | 5 | David Sender | Grace Receiver | In Transit | TN901234 | 2023-12-17 |
| 6 | 18.00 | 2023-12-12 | 6 | Eva Sender | Charlie Receiver | Delivered | TN234567 | 2023-12-12 |
| 7 | 12.00 | 2023-12-18 | 7 | Frank Sender | David Receiver | Out for Delivery | TN678901 | 2023-12-18 |
| 8 | 22.00 | 2023-12-19 | 8 | Grace Sender | Helen Receiver | In Transit | TN345678 | 2023-12-19 |
| 9 | 28.00 | 2023-12-20 | 9 | Helen Sender | John Receiver | Delivered | TN789014 | 2023-12-20 |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
9 rows in set (0.00 sec)

mysql>
```

33. Retrieve a list of all users and their corresponding courier records, including cases where there are no matches on either side

Ans. -- Retrieve a list of all users and their corresponding courier records

SELECT

u.UserID,
u.Name AS UserName,
u.Email AS UserEmail,
c.CourierID,
c.SenderName,
c.ReceiverName,
c.Status,
c.TrackingNumber,
c.DeliveryDate

FROM

User u

LEFT JOIN

Courier c ON u.UserID = c.CourierID;

```
Command Prompt - mysql -u root -p
mysql> -- Retrieve a list of all users and their corresponding courier records
mysql> SELECT
-> u.UserID,
-> u.Name AS UserName,
-> u.Email AS UserEmail,
-> c.CourierID,
-> c.SenderName,
-> c.ReceiverName,
-> c.Status,
-> c.TrackingNumber,
-> c.DeliveryDate
-> FROM
-> User u
-> LEFT JOIN
-> Courier c ON u.UserID = c.CourierID;
```

UserID	UserName	UserEmail	CourierID	SenderName	ReceiverName	Status	TrackingNumber	DeliveryDate
1	John Doe	john.doe@example.com	1	John Sender	Jane Receiver	In Transit	TN123456	2023-12-15
2	Jane Smith	jane.smith@example.com	2	Bob Sender	Alice Receiver	Delivered	TN789013	2023-12-14
3	Bob Johnson	bob.johnson@example.com	3	Charlie Sender	Eva Receiver	Out for Delivery	TN345679	2023-12-16
4	Alice Brown	alice.brown@example.com	4	Alice Sender	Frank Receiver	Delivered	TN567890	2023-12-13
5	Charlie Wilson	charlie.wilson@example.com	5	David Sender	Grace Receiver	In Transit	TN901234	2023-12-17
6	Eva Davis	eva.davis@example.com	6	Eva Sender	Charlie Receiver	Delivered	TN234567	2023-12-12
7	Frank Miller	frank.miller@example.com	7	Frank Sender	David Receiver	Out for Delivery	TN678901	2023-12-18
8	Grace Taylor	grace.taylor@example.com	8	Grace Sender	Helen Receiver	In Transit	TN345678	2023-12-19
9	David White	david.white@example.com	9	Helen Sender	John Receiver	Delivered	TN789014	2023-12-20
10	Helen Thomas	helen.thomas@example.com	10	John Sender	Bob Receiver	Out for Delivery	TN012345	2023-12-21

10 rows in set (0.01 sec)

```
mysql>
```

34. Retrieve a list of all couriers and their corresponding services, including cases where there are no matches on either side

Ans. -- Retrieve a list of all couriers and their corresponding services

SELECT

c.CourierID,

c.SenderName,

c.ReceiverName,

c.Status,

c.TrackingNumber,

c.DeliveryDate,

cs.ServiceID,

cs.ServiceName,

cs.Cost

FROM

Courier c

LEFT JOIN

CourierServices cs ON c.CourierID = cs.ServiceID;

```

Command Prompt - mysql -u root -p
-> CourierServices cs ON c.ServiceID = cs.ServiceID;
ERROR 1054 (42S22): Unknown column 'c.ServiceID' in 'on clause'
mysql> -- Retrieve a list of all couriers and their corresponding services
mysql> SELECT
-> c.CourierID,
-> c.SenderName,
-> c.ReceiverName,
-> c.Status,
-> c.TrackingNumber,
-> c.DeliveryDate,
-> cs.ServiceID,
-> cs.ServiceName,
-> cs.Cost
-> FROM
-> Courier c
-> LEFT JOIN
-> CourierServices cs ON c.CourierID = cs.ServiceID;
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| CourierID | SenderName | ReceiverName | Status | TrackingNumber | DeliveryDate | ServiceID | ServiceName | Cost |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 1 | John Sender | Jane Receiver | In Transit | TN123456 | 2023-12-15 | 1 | Standard Delivery | 10.00 |
| 2 | Bob Sender | Alice Receiver | Delivered | TN789013 | 2023-12-14 | 2 | Express Delivery | 20.00 |
| 3 | Charlie Sender | Eva Receiver | Out for Delivery | TN345679 | 2023-12-16 | 3 | Overnight Delivery | 30.00 |
| 4 | Alice Sender | Frank Receiver | Delivered | TN567890 | 2023-12-13 | 4 | International Economy | 50.00 |
| 5 | David Sender | Grace Receiver | In Transit | TN901234 | 2023-12-17 | 5 | International Express | 80.00 |
| 6 | Eva Sender | Charlie Receiver | Delivered | TN234567 | 2023-12-12 | 6 | Same-Day Delivery | 25.00 |
| 7 | Frank Sender | David Receiver | Out for Delivery | TN678901 | 2023-12-18 | 7 | 2-Day Delivery | 15.00 |
| 8 | Grace Sender | Helen Receiver | In Transit | TN345678 | 2023-12-19 | 8 | 3-Day Delivery | 12.00 |
| 9 | Helen Sender | John Receiver | Delivered | TN789014 | 2023-12-20 | 9 | Economy Shipping | 8.00 |
| 10 | John Sender | Bob Receiver | Out for Delivery | TN012345 | 2023-12-21 | 10 | Local Pickup | 0.00 |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
10 rows in set (0.00 sec)

mysql>

```

35. Retrieve a list of all employees and their corresponding payments, including cases where there are no matches on either side I

Ans. -- Retrieve a list of all employees and their corresponding payments

```

SELECT
    e.EmployeeID,
    e.Name AS EmployeeName,
    e.Email AS EmployeeEmail,
    e.ContactNumber,
    e.Role,
    e.Salary,
    p.PaymentID,
    p.Amount,
    p.PaymentDate
FROM
    Employee e
LEFT JOIN
    Payment p ON e.EmployeeID = p.CourierID;

```

```

Command Prompt - mysql -u root -p
10 rows in set (0.00 sec)

mysql> -- Retrieve a list of all employees and their corresponding payments
mysql> SELECT
-> e.EmployeeID,
-> e.Name AS EmployeeName,
-> e.Email AS EmployeeEmail,
-> e.ContactNumber,
-> e.Role,
-> e.Salary,
-> p.PaymentID,
-> p.Amount,
-> p.PaymentDate
-> FROM
-> Employee e
-> LEFT JOIN
-> Payment p ON e.EmployeeID = p.CourierID;

```

EmployeeID	EmployeeName	EmployeeEmail	ContactNumber	Role	Salary	PaymentID	Amount	PaymentDate
1	John Employee	john.employee@example.com	123-456-7890	Manager	60000.00	1	20.00	2023-12-15
2	Jane Employee	jane.employee@example.com	987-654-3210	Sales Representative	45000.00	2	15.00	2023-12-14
3	Bob Employee	bob.employee@example.com	555-123-4567	Customer Support	40000.00	3	30.00	2023-12-16
4	Alice Employee	alice.employee@example.com	111-222-3333	Logistics Coordinator	55000.00	4	10.00	2023-12-13
5	Charlie Employee	charlie.employee@example.com	444-555-6666	Warehouse Manager	50000.00	5	25.00	2023-12-17
6	Eva Employee	eva.employee@example.com	777-888-9999	IT Specialist	65000.00	6	18.00	2023-12-12
7	Frank Employee	frank.employee@example.com	999-888-7777	Accountant	60000.00	7	12.00	2023-12-18
8	Grace Employee	grace.employee@example.com	123-999-5555	Human Resources	55000.00	8	22.00	2023-12-19
9	David Employee	david.employee@example.com	888-777-6666	Operations Manager	70000.00	9	28.00	2023-12-20
10	Helen Employee	helen.employee@example.com	777-111-2222	Marketing Specialist	48000.00	10	8.00	2023-12-21

```

10 rows in set (0.00 sec)

mysql>

```

36. List all users and all courier services, showing all possible combinations.

Ans. -- List all users and all courier services, showing all possible combinations

SELECT

u.UserID,

u.Name AS UserName,

u.Email AS UserEmail,

cs.ServiceID,

cs.ServiceName,

cs.Cost

FROM

User u

CROSS JOIN

CourierServices cs;

Command Prompt - mysql -u root -p

```
mysql> SELECT
```

```
-> u.UserID,
-> u.Name AS UserName,
-> u.Email AS userEmail,
-> cs.ServiceID,
-> cs.ServiceName,
-> cs.Cost
-> FROM
-> User u
-> CROSS JOIN
-> CourierServices cs;
```

UserID	UserName	UserEmail	ServiceID	ServiceName	Cost
10	Helen Thomas	helen.thomas@example.com	1	Standard Delivery	10.00
9	David White	david.white@example.com	1	Standard Delivery	10.00
8	Grace Taylor	grace.taylor@example.com	1	Standard Delivery	10.00
7	Frank Miller	frank.miller@example.com	1	Standard Delivery	10.00
6	Eva Davis	eva.davis@example.com	1	Standard Delivery	10.00
5	Charlie Wilson	charlie.wilson@example.com	1	Standard Delivery	10.00
4	Alice Brown	alice.brown@example.com	1	Standard Delivery	10.00
3	Bob Johnson	bob.johnson@example.com	1	Standard Delivery	10.00
2	Jane Smith	jane.smith@example.com	1	Standard Delivery	10.00
1	John Doe	john.doe@example.com	1	Standard Delivery	10.00
10	Helen Thomas	helen.thomas@example.com	2	Express Delivery	20.00
9	David White	david.white@example.com	2	Express Delivery	20.00
8	Grace Taylor	grace.taylor@example.com	2	Express Delivery	20.00
7	Frank Miller	frank.miller@example.com	2	Express Delivery	20.00
6	Eva Davis	eva.davis@example.com	2	Express Delivery	20.00
5	Charlie Wilson	charlie.wilson@example.com	2	Express Delivery	20.00
4	Alice Brown	alice.brown@example.com	2	Express Delivery	20.00
3	Bob Johnson	bob.johnson@example.com	2	Express Delivery	20.00
2	Jane Smith	jane.smith@example.com	2	Express Delivery	20.00
1	John Doe	john.doe@example.com	2	Express Delivery	20.00
10	Helen Thomas	helen.thomas@example.com	3	Overnight Delivery	30.00
9	David White	david.white@example.com	3	Overnight Delivery	30.00
8	Grace Taylor	grace.taylor@example.com	3	Overnight Delivery	30.00
7	Frank Miller	frank.miller@example.com	3	Overnight Delivery	30.00
6	Eva Davis	eva.davis@example.com	3	Overnight Delivery	30.00
5	Charlie Wilson	charlie.wilson@example.com	3	Overnight Delivery	30.00
4	Alice Brown	alice.brown@example.com	3	Overnight Delivery	30.00
3	Bob Johnson	bob.johnson@example.com	3	Overnight Delivery	30.00
2	Jane Smith	jane.smith@example.com	3	Overnight Delivery	30.00
1	John Doe	john.doe@example.com	3	Overnight Delivery	30.00
10	Helen Thomas	helen.thomas@example.com	4	International Economy	50.00
9	David White	david.white@example.com	4	International Economy	50.00
8	Grace Taylor	grace.taylor@example.com	4	International Economy	50.00
7	Frank Miller	frank.miller@example.com	4	International Economy	50.00
6	Eva Davis	eva.davis@example.com	4	International Economy	50.00
5	Charlie Wilson	charlie.wilson@example.com	4	International Economy	50.00

37. List all employees and all locations, showing all possible combinations:

Ans. -- List all employees and all locations, showing all possible combinations

```
SELECT
```

```
e.EmployeeID,
```

```
e.Name AS EmployeeName,
```

```
e.Email AS EmployeeEmail,
```

```
l.LocationID,
```

```
l.LocationName,
```

```
l.Address
```

```
FROM
```

Employee e

CROSS JOIN

Location l;

Command Prompt - mysql -u root -p

```
mysql> -- List all employees and all locations, showing all possible combinations
mysql> SELECT
-> e.EmployeeID,
-> e.Name AS EmployeeName,
-> e.Email AS EmployeeEmail,
-> l.LocationID,
-> l.LocationName,
-> l.Address
-> FROM
-> Employee e
-> CROSS JOIN
-> Location l;
```

EmployeeID	EmployeeName	EmployeeEmail	LocationID	LocationName	Address
10	Helen Employee	helen.employee@example.com	1	Office A	123 Main St
9	David Employee	david.employee@example.com	1	Office A	123 Main St
8	Grace Employee	grace.employee@example.com	1	Office A	123 Main St
7	Frank Employee	frank.employee@example.com	1	Office A	123 Main St
6	Eva Employee	eva.employee@example.com	1	Office A	123 Main St
5	Charlie Employee	charlie.employee@example.com	1	Office A	123 Main St
4	Alice Employee	alice.employee@example.com	1	Office A	123 Main St
3	Bob Employee	bob.employee@example.com	1	Office A	123 Main St
2	Jane Employee	jane.employee@example.com	1	Office A	123 Main St
1	John Employee	john.employee@example.com	1	Office A	123 Main St
10	Helen Employee	helen.employee@example.com	2	Warehouse 1	456 Oak St
9	David Employee	david.employee@example.com	2	Warehouse 1	456 Oak St
8	Grace Employee	grace.employee@example.com	2	Warehouse 1	456 Oak St
7	Frank Employee	frank.employee@example.com	2	Warehouse 1	456 Oak St
6	Eva Employee	eva.employee@example.com	2	Warehouse 1	456 Oak St
5	Charlie Employee	charlie.employee@example.com	2	Warehouse 1	456 Oak St
4	Alice Employee	alice.employee@example.com	2	Warehouse 1	456 Oak St
3	Bob Employee	bob.employee@example.com	2	Warehouse 1	456 Oak St
2	Jane Employee	jane.employee@example.com	2	Warehouse 1	456 Oak St
1	John Employee	john.employee@example.com	2	Warehouse 1	456 Oak St
10	Helen Employee	helen.employee@example.com	3	Branch X	789 Pine St
9	David Employee	david.employee@example.com	3	Branch X	789 Pine St
8	Grace Employee	grace.employee@example.com	3	Branch X	789 Pine St
7	Frank Employee	frank.employee@example.com	3	Branch X	789 Pine St
6	Eva Employee	eva.employee@example.com	3	Branch X	789 Pine St
5	Charlie Employee	charlie.employee@example.com	3	Branch X	789 Pine St
4	Alice Employee	alice.employee@example.com	3	Branch X	789 Pine St
3	Bob Employee	bob.employee@example.com	3	Branch X	789 Pine St
2	Jane Employee	jane.employee@example.com	3	Branch X	789 Pine St
1	John Employee	john.employee@example.com	3	Branch X	789 Pine St
10	Helen Employee	helen.employee@example.com	4	Distribution Center	101 Maple Ave
9	David Employee	david.employee@example.com	4	Distribution Center	101 Maple Ave
8	Grace Employee	grace.employee@example.com	4	Distribution Center	101 Maple Ave
7	Frank Employee	frank.employee@example.com	4	Distribution Center	101 Maple Ave
6	Eva Employee	eva.employee@example.com	4	Distribution Center	101 Maple Ave

38. Retrieve a list of couriers and their corresponding sender information (if available)

Ans. -- Retrieve a list of couriers and their corresponding sender information

SELECT

c.CourierID,

c.SenderName,

c.SenderAddress,

c.ReceiverName,

c.ReceiverAddress,
 c.Weight,
 c.Status,
 c.TrackingNumber,
 c.DeliveryDate,
 u.UserID AS SenderUserID,
 u.Name AS SenderUserName,
 u.Email AS SenderUserEmail,
 u.ContactNumber AS SenderContactNumber,
 u.Address AS SenderAddress

FROM

Courier c

LEFT JOIN

User u ON c.SenderName = u.Name;

Command Prompt - mysql -u root -p

```
mysql> SELECT
-> c.CourierID,
-> c.SenderName,
-> c.SenderAddress,
-> c.ReceiverName,
-> c.ReceiverAddress,
-> c.Weight,
-> c.Status,
-> c.TrackingNumber,
-> c.DeliveryDate,
-> u.UserID AS SenderUserID,
-> u.Name AS SenderUserName,
-> u.Email AS SenderUserEmail,
-> u.ContactNumber AS SenderContactNumber,
-> u.Address AS SenderAddress
-> FROM
-> Courier c
-> LEFT JOIN
-> User u ON c.SenderName = u.Name;
```

CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate	SenderUserID	SenderUserName	SenderUserEmail	SenderContactNumber
1	John Sender	123 Sender St	Jane Receiver	456 Receiver St	2.50	In Transit	TN123456	2023-12-15				
2	Bob Sender	789 Sender St	Alice Receiver	101 Receiver Ave	1.80	Delivered	TN789013	2023-12-14				
3	Charlie Sender	222 Sender St	Eva Receiver	303 Receiver St	3.00	Out for Delivery	TN345679	2023-12-16				
4	Alice Sender	444 Sender St	Frank Receiver	404 Receiver St	1.20	Delivered	TN567890	2023-12-13				
5	David Sender	666 Sender St	Grace Receiver	505 Receiver St	2.70	In Transit	TN901234	2023-12-17				
6	Eva Sender	888 Sender St	Charlie Receiver	606 Receiver St	2.00	Delivered	TN234567	2023-12-12				
7	Frank Sender	111 Sender St	David Receiver	707 Receiver St	1.50	Out for Delivery	TN678901	2023-12-18				
8	Grace Sender	333 Sender St	Helen Receiver	808 Receiver St	2.30	In Transit	TN345678	2023-12-19				
9	Helen Sender	555 Sender St	John Receiver	909 Receiver St	2.80	Delivered	TN789014	2023-12-20				
10	John Sender	777 Sender St	Bob Receiver	1212 Receiver St	1.00	Out for Delivery	TN012345	2023-12-21				

10 rows in set (0.01 sec)

39. Retrieve a list of couriers and their corresponding receiver information (if available):

Ans. -- Retrieve a list of couriers and their corresponding receiver information

SELECT

c.CourierID,

```

c.SenderName,
c.SenderAddress,
c.ReceiverName,
c.ReceiverAddress,
c.Weight,
c.Status,
c.TrackingNumber,
c.DeliveryDate,
u.UserID AS ReceiverUserID,
u.Name AS ReceiverUserName,
u.Email AS ReceiverUserEmail,
u.ContactNumber AS ReceiverContactNumber,
u.Address AS ReceiverAddress
FROM
    Courier c
LEFT JOIN
    User u ON c.ReceiverName = u.Name;

```

Command Prompt - mysql -u root -p

```
mysql> SELECT
-> c.CourierID,
-> c.SenderName,
-> c.SenderAddress,
-> c.ReceiverName,
-> c.ReceiverAddress,
-> c.Weight,
-> c.Status,
-> c.TrackingNumber,
-> c.DeliveryDate,
-> u.UserID AS ReceiverUserID,
-> u.Name AS ReceiverUserName,
-> u.Email AS ReceiverUserEmail,
-> u.ContactNumber AS ReceiverContactNumber,
-> u.Address AS ReceiverAddress
-> FROM
-> Courier c
-> LEFT JOIN
-> User u ON c.ReceiverName = u.Name;
```

CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate	ReceiverUserID	ReceiverUserName	ReceiverUserEmail	ReceiverContactNumber
1	John Sender	123 Sender St	Jane Receiver	456 Receiver St	2.50	In Transit	TN123456	2023-12-15	NULL	NULL	NULL	NULL
2	Bob Sender	789 Sender St	Alice Receiver	101 Receiver Ave	1.80	Delivered	TN789013	2023-12-14	NULL	NULL	NULL	NULL
3	Charlie Sender	222 Sender St	Eva Receiver	303 Receiver St	3.00	Out for Delivery	TN345679	2023-12-16	NULL	NULL	NULL	NULL
4	Alice Sender	444 Sender St	Frank Receiver	404 Receiver St	1.20	Delivered	TN567890	2023-12-13	NULL	NULL	NULL	NULL
5	David Sender	666 Sender St	Grace Receiver	505 Receiver St	2.70	In Transit	TN001234	2023-12-17	NULL	NULL	NULL	NULL
6	Eva Sender	888 Sender St	Charlie Receiver	606 Receiver St	2.00	Delivered	TN234567	2023-12-12	NULL	NULL	NULL	NULL
7	Frank Sender	111 Sender St	David Receiver	707 Receiver St	1.50	Out for Delivery	TN678901	2023-12-18	NULL	NULL	NULL	NULL
8	Grace Sender	333 Sender St	Helen Receiver	808 Receiver St	2.30	In Transit	TN345678	2023-12-19	NULL	NULL	NULL	NULL
9	Helen Sender	555 Sender St	John Receiver	909 Receiver St	2.80	Delivered	TN789014	2023-12-20	NULL	NULL	NULL	NULL
10	John Sender	777 Sender St	Bob Receiver	1212 Receiver St	1.00	Out for Delivery	TN012345	2023-12-21	NULL	NULL	NULL	NULL

10 rows in set (0.00 sec)

40. Retrieve a list of couriers along with the courier service details (if available):

Ans. -- Retrieve a list of couriers along with courier service details

SELECT

c.CourierID,
c.SenderName,
c.SenderAddress,
c.ReceiverName,
c.ReceiverAddress,
c.Weight,
c.Status,
c.TrackingNumber,
c.DeliveryDate,
cs.ServiceID,
cs.ServiceName,
cs.Cost

FROM

Courier c

LEFT JOIN

CourierServices cs ON c.CourierID = cs.ServiceID;

```
Command Prompt - mysql -u root -p
mysql> -- Retrieve a list of couriers along with courier service details
mysql> SELECT
--> c.CourierID,
--> c.SenderName,
--> c.SenderAddress,
--> c.ReceiverName,
--> c.ReceiverAddress,
--> c.Weight,
--> c.Status,
--> c.TrackingNumber,
--> c.DeliveryDate,
--> cs.ServiceID,
--> cs.ServiceName,
--> cs.Cost
--> FROM
--> Courier c
--> LEFT JOIN
--> CourierServices cs ON c.CourierID = cs.ServiceID;
```

CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate	ServiceID	ServiceName	Cost
1	John Sender	123 Sender St	Jane Receiver	456 Receiver St	2.50	In Transit	TN123456	2023-12-15	1	Standard Delivery	10.00
2	Bob Sender	789 Sender St	Alice Receiver	101 Receiver Ave	1.80	Delivered	TN789013	2023-12-14	2	Express Delivery	20.00
3	Charlie Sender	222 Sender St	Eva Receiver	303 Receiver St	3.00	Out for Delivery	TN345679	2023-12-16	3	Overnight Delivery	30.00
4	Alice Sender	444 Sender St	Frank Receiver	404 Receiver St	1.20	Delivered	TN567890	2023-12-13	4	International Economy	50.00
5	David Sender	666 Sender St	Grace Receiver	505 Receiver St	2.70	In Transit	TN901234	2023-12-17	5	International Express	80.00
6	Eva Sender	888 Sender St	Charlie Receiver	606 Receiver St	2.00	Delivered	TN234567	2023-12-12	6	Same-Day Delivery	25.00
7	Frank Sender	111 Sender St	David Receiver	707 Receiver St	1.50	Out for Delivery	TN678901	2023-12-18	7	2-Day Delivery	15.00
8	Grace Sender	333 Sender St	Helen Receiver	808 Receiver St	2.30	In Transit	TN345678	2023-12-19	8	3-Day Delivery	12.00
9	Helen Sender	555 Sender St	John Receiver	909 Receiver St	2.80	Delivered	TN789014	2023-12-20	9	Economy Shipping	8.00
10	John Sender	777 Sender St	Bob Receiver	1212 Receiver St	1.00	Out for Delivery	TN012345	2023-12-21	10	Local Pickup	0.00

10 rows in set (0.00 sec)

```
mysql>
```

41. Retrieve a list of employees and the number of couriers assigned to each employee:

Ans. -- Retrieve a list of employees and the number of couriers assigned to each employee

SELECT

e.EmployeeID,

```

e.Name AS EmployeeName,
e.Email AS EmployeeEmail,
e.ContactNumber AS EmployeeContactNumber,
e.Role,
e.Salary,
COUNT(c.CourierID) AS NumCouriersAssigned
FROM
    Employee e
LEFT JOIN
    Courier c ON e.EmployeeID = c.CourierID
GROUP BY
    e.EmployeeID, e.Name, e.Email, e.ContactNumber, e.Role, e.Salary;

```

```

Command Prompt - mysql -u root -p
10 rows in set (0.00 sec)

mysql> -- Retrieve a list of employees and the number of couriers assigned to each employee
mysql> SELECT
-> e.EmployeeID,
-> e.Name AS EmployeeName,
-> e.Email AS EmployeeEmail,
-> e.ContactNumber AS EmployeeContactNumber,
-> e.Role,
-> e.Salary,
-> COUNT(c.CourierID) AS NumCouriersAssigned
-> FROM
-> Employee e
-> LEFT JOIN
-> Courier c ON e.EmployeeID = c.CourierID
-> GROUP BY
-> e.EmployeeID, e.Name, e.Email, e.ContactNumber, e.Role, e.Salary;

```

EmployeeID	EmployeeName	EmployeeEmail	EmployeeContactNumber	Role	Salary	NumCouriersAssigned
1	John Employee	john.employee@example.com	123-456-7890	Manager	60000.00	1
2	Jane Employee	jane.employee@example.com	987-654-3210	Sales Representative	45000.00	1
3	Bob Employee	bob.employee@example.com	555-123-4567	Customer Support	40000.00	1
4	Alice Employee	alice.employee@example.com	111-222-3333	Logistics Coordinator	55000.00	1
5	Charlie Employee	charlie.employee@example.com	444-555-6666	Warehouse Manager	50000.00	1
6	Eva Employee	eva.employee@example.com	777-888-9999	IT Specialist	65000.00	1
7	Frank Employee	frank.employee@example.com	999-888-7777	Accountant	60000.00	1
8	Grace Employee	grace.employee@example.com	123-999-5555	Human Resources	55000.00	1
9	David Employee	david.employee@example.com	888-777-6666	Operations Manager	70000.00	1
10	Helen Employee	helen.employee@example.com	777-111-2222	Marketing Specialist	48000.00	1

```

10 rows in set (0.03 sec)

mysql>

```

42. Retrieve a list of locations and the total payment amount received at each location:

Ans. -- Retrieve a list of locations and the total payment amount received at each location

```

SELECT
    l.LocationID,
    l.LocationName,
    l.Address,

```

```

SUM(p.Amount) AS TotalPaymentAmount

FROM

Location l

LEFT JOIN

Payment p ON l.LocationID = p.LocationID

GROUP BY

l.LocationID, l.LocationName, l.Address;

```

```

Command Prompt - mysql -u root -p
mysql> -- Retrieve a list of locations and the total payment amount received
mysql> SELECT
-> l.LocationID,
-> l.LocationName,
-> l.Address,
-> SUM(p.Amount) AS TotalPaymentAmount
-> FROM
-> Location l
-> LEFT JOIN
-> Payment p ON l.LocationID = p.LocationID
-> GROUP BY
-> l.LocationID, l.LocationName, l.Address;
+-----+-----+-----+-----+
| LocationID | LocationName | Address | TotalPaymentAmount |
+-----+-----+-----+-----+
| 1 | Office A | 123 Main St | 12.00 |
| 2 | Warehouse 1 | 456 Oak St | 10.00 |
| 3 | Branch X | 789 Pine St | 20.00 |
| 4 | Distribution Center | 101 Maple Ave | 22.00 |
| 5 | Store 5 | 202 Cedar St | 15.00 |
| 6 | Facility Y | 303 Elm St | 28.00 |
| 7 | Storage Unit 8 | 404 Birch St | 25.00 |
| 8 | Shop Z | 505 Walnut St | 30.00 |
| 9 | Factory 2 | 606 Pine St | 18.00 |
| 10 | Outlet Mall | 707 Oak St | 8.00 |
+-----+-----+-----+-----+
10 rows in set (0.00 sec)

mysql>

```

43. Retrieve all couriers sent by the same sender (based on SenderName).

Ans. -- Retrieve all couriers sent by the same sender

```

SELECT

c.CourierID,

c.SenderName,

c.SenderAddress,

c.ReceiverName,

c.ReceiverAddress,

c.Weight,

c.Status,

c.TrackingNumber,

```

c.DeliveryDate

FROM

Courier c

WHERE

c.SenderName = 'John Sender';

Command Prompt - mysql -u root -p

```
mysql> SELECT
-> c.CourierID,
-> c.SenderName,
-> c.SenderAddress,
-> c.ReceiverName,
-> c.ReceiverAddress,
-> c.Weight,
-> c.Status,
-> c.TrackingNumber,
-> c.DeliveryDate
-> FROM
-> Courier c
-> WHERE
-> c.SenderName = 'John Sender';
```

CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate
1	John Sender	123 Sender St	Jane Receiver	456 Receiver St	2.50	In Transit	TN123456	2023-12-15
10	John Sender	777 Sender St	Bob Receiver	1212 Receiver St	1.00	Out for Delivery	TN012345	2023-12-21

2 rows in set (0.00 sec)

```
mysql>
```

44. List all employees who share the same role.

Ans. -- List all employees who share the same role

SELECT

e.EmployeeID,

e.Name AS EmployeeName,

e.Email AS EmployeeEmail,

e.ContactNumber AS EmployeeContactNumber,

e.Role

FROM

Employee e

JOIN

Employee e2 ON e.Role = e2.Role AND e.EmployeeID <> e2.EmployeeID;

```

C:\> Command Prompt - mysql -u root -p
2 rows in set (0.00 sec)

mysql> -- List all employees who share the same role
mysql> SELECT
  -> e.EmployeeID,
  -> e.Name AS EmployeeName,
  -> e.Email AS EmployeeEmail,
  -> e.ContactNumber AS EmployeeContactNumber,
  -> e.Role
  -> FROM
  -> Employee e
  -> JOIN
  -> Employee e2 ON e.Role = e2.Role AND e.EmployeeID <> e2.EmployeeID;
Empty set (0.00 sec)

mysql>

```

45. Retrieve all payments made for couriers sent from the same location.

Ans. -- Retrieve all payments made for couriers sent from the same location

SELECT

p.PaymentID,
 p.CourierID,
 p.LocationID,
 p.Amount,
 p.PaymentDate,
 c.SenderName,
 c.ReceiverName,
 c.Status,
 c.TrackingNumber,
 c.DeliveryDate

FROM

Payment p

JOIN

Courier c ON p.CourierID = c.CourierID

WHERE

c.SenderAddress = '123 Sender St'; -- Replace with the desired SenderAddress

```

Command Prompt - mysql -u root -p
mysql> -- Retrieve all payments made for couriers sent from the same location
mysql> SELECT
  -> p.PaymentID,
  -> p.CourierID,
  -> p.LocationID,
  -> p.Amount,
  -> p.PaymentDate,
  -> c.SenderName,
  -> c.ReceiverName,
  -> c.Status,
  -> c.TrackingNumber,
  -> c.DeliveryDate
  -> FROM
  -> Payment p
  -> JOIN
  -> Courier c ON p.CourierID = c.CourierID
  -> WHERE
  -> c.SenderAddress = '123 Sender St'; -- Replace with the desired SenderAddress
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| PaymentID | CourierID | LocationID | Amount | PaymentDate | SenderName | ReceiverName | Status | TrackingNumber | DeliveryDate |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 1 | 1 | 3 | 20.00 | 2023-12-15 | John Sender | Jane Receiver | In Transit | TN123456 | 2023-12-15 |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
1 row in set (0.00 sec)

mysql>

```

46. Retrieve all couriers sent from the same location (based on SenderAddress).

Ans. -- Retrieve all couriers sent from the same location

SELECT

c.CourierID,
 c.SenderName,
 c.SenderAddress,
 c.ReceiverName,
 c.ReceiverAddress,
 c.Weight,
 c.Status,
 c.TrackingNumber,
 c.DeliveryDate

FROM

Courier c

WHERE

c.SenderAddress = '123 Sender St'; -- Replace with the desired SenderAddress

```
Command Prompt - mysql -u root -p

mysql> -- Retrieve all couriers sent from the same location
mysql> SELECT
  -> c.CourierID,
  -> c.SenderName,
  -> c.SenderAddress,
  -> c.ReceiverName,
  -> c.ReceiverAddress,
  -> c.Weight,
  -> c.Status,
  -> c.TrackingNumber,
  -> c.DeliveryDate
  -> FROM
  -> Courier c
  -> WHERE
  -> c.SenderAddress = '123 Sender St'; -- Replace with the desired SenderAddress
+-----+-----+-----+-----+-----+-----+-----+-----+
| CourierID | SenderName | SenderAddress | ReceiverName | ReceiverAddress | Weight | Status | TrackingNumber | DeliveryDate |
+-----+-----+-----+-----+-----+-----+-----+-----+
| 1 | John Sender | 123 Sender St | Jane Receiver | 456 Receiver St | 2.50 | In Transit | TN123456 | 2023-12-15 |
+-----+-----+-----+-----+-----+-----+-----+-----+
1 row in set (0.00 sec)

mysql>
```

47. List employees and the number of couriers they have delivered:

Ans. -- List employees and the number of couriers they have delivered

SELECT

e.EmployeeID,

e.Name AS EmployeeName,

e.Email AS EmployeeEmail,

e.ContactNumber AS EmployeeContactNumber,

e.Role,

e.Salary,

COUNT(c.CourierID) AS NumCouriersDelivered

FROM

Employee e

JOIN

Courier c ON e.EmployeeID = c.CourierID

GROUP BY

e.EmployeeID, e.Name, e.Email, e.ContactNumber, e.Role, e.Salary;

```

Command Prompt - mysql -u root -p
1 row in set (0.00 sec)

mysql> -- List employees and the number of couriers they have delivered
mysql> SELECT
-> e.EmployeeID,
-> e.Name AS EmployeeName,
-> e.Email AS EmployeeEmail,
-> e.ContactNumber AS EmployeeContactNumber,
-> e.Role,
-> e.Salary,
-> COUNT(c.CourierID) AS NumCouriersDelivered
-> FROM
-> Employee e
-> JOIN
-> Courier c ON e.EmployeeID = c.CourierID
-> GROUP BY
-> e.EmployeeID, e.Name, e.Email, e.ContactNumber, e.Role, e.Salary;

```

EmployeeID	EmployeeName	EmployeeEmail	EmployeeContactNumber	Role	Salary	NumCouriersDelivered
1	John Employee	john.employee@example.com	123-456-7890	Manager	60000.00	1
2	Jane Employee	jane.employee@example.com	987-654-3210	Sales Representative	45000.00	1
3	Bob Employee	bob.employee@example.com	555-123-4567	Customer Support	40000.00	1
4	Alice Employee	alice.employee@example.com	111-222-3333	Logistics Coordinator	55000.00	1
5	Charlie Employee	charlie.employee@example.com	444-555-6666	Warehouse Manager	50000.00	1
6	Eva Employee	eva.employee@example.com	777-888-9999	IT Specialist	65000.00	1
7	Frank Employee	frank.employee@example.com	999-888-7777	Accountant	60000.00	1
8	Grace Employee	grace.employee@example.com	123-999-5555	Human Resources	55000.00	1
9	David Employee	david.employee@example.com	888-777-6666	Operations Manager	70000.00	1
10	Helen Employee	helen.employee@example.com	777-111-2222	Marketing Specialist	48000.00	1

```

10 rows in set (0.00 sec)

mysql>

```

48. Find couriers that were paid an amount greater than the cost of their respective courier services

Ans. -- Find couriers paid an amount greater than the cost of their respective services

```

SELECT
    c.CourierID,
    c.SenderName,
    c.ReceiverName,
    c.Status,
    c.TrackingNumber,
    c.DeliveryDate,
    p.Amount,
    cs.Cost
FROM
    Courier c
JOIN
    Payment p ON c.CourierID = p.CourierID
JOIN
    CourierServices cs ON p.LocationID = cs.ServiceID
WHERE
    p.Amount > cs.Cost;

```



```

C:\> Command Prompt - mysql -u root -p
mysql> -- Find couriers paid an amount greater than the cost of their respective services
mysql> SELECT
-> c.CourierID,
-> c.SenderName,
-> c.ReceiverName,
-> c.Status,
-> c.TrackingNumber,
-> c.DeliveryDate,
-> p.Amount,
-> cs.Cost
-> FROM
-> Courier c
-> JOIN
-> Payment p ON c.CourierID = p.CourierID
-> JOIN
-> CourierServices cs ON p.LocationID = cs.ServiceID
-> WHERE
-> p.Amount > cs.Cost;
+-----+-----+-----+-----+-----+-----+-----+
| CourierID | SenderName | ReceiverName | Status | TrackingNumber | DeliveryDate | Amount | Cost |
+-----+-----+-----+-----+-----+-----+-----+
| 7 | Frank Sender | David Receiver | Out for Delivery | TN678901 | 2023-12-18 | 12.00 | 10.00 |
| 9 | Helen Sender | John Receiver | Delivered | TN789014 | 2023-12-20 | 28.00 | 25.00 |
| 5 | David Sender | Grace Receiver | In Transit | TN901234 | 2023-12-17 | 25.00 | 15.00 |
| 3 | Charlie Sender | Eva Receiver | Out for Delivery | TN345679 | 2023-12-16 | 30.00 | 12.00 |
| 6 | Eva Sender | Charlie Receiver | Delivered | TN234567 | 2023-12-12 | 18.00 | 8.00 |
| 10 | John Sender | Bob Receiver | Out for Delivery | TN012345 | 2023-12-21 | 8.00 | 0.00 |
+-----+-----+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)

mysql>

```

Scope: Inner Queries, Non Equi Joins, Equi joins, Exist, Any, All

49. Find couriers that have a weight greater than the average weight of all couriers

Ans. -- Find couriers with weight greater than the average weight

SELECT

CourierID,

SenderName,

ReceiverName,

Weight,

Status,

TrackingNumber,

DeliveryDate

FROM

Courier

WHERE

Weight > (SELECT AVG(Weight) FROM Courier);

```

Command Prompt - mysql -u root -p
+-----+
6 rows in set (0.00 sec)

mysql> -- Find couriers with weight greater than the average weight
mysql> SELECT
->   CourierID,
->   SenderName,
->   ReceiverName,
->   Weight,
->   Status,
->   TrackingNumber,
->   DeliveryDate
-> FROM
->   Courier
-> WHERE
->   Weight > (SELECT AVG(Weight) FROM Courier);
+-----+
| CourierID | SenderName | ReceiverName | Weight | Status | TrackingNumber | DeliveryDate |
+-----+
| 1 | John Sender | Jane Receiver | 2.50 | In Transit | TN123456 | 2023-12-15 |
| 3 | Charlie Sender | Eva Receiver | 3.00 | Out for Delivery | TN345679 | 2023-12-16 |
| 5 | David Sender | Grace Receiver | 2.70 | In Transit | TN901234 | 2023-12-17 |
| 8 | Grace Sender | Helen Receiver | 2.30 | In Transit | TN345678 | 2023-12-19 |
| 9 | Helen Sender | John Receiver | 2.80 | Delivered | TN789014 | 2023-12-20 |
+-----+
5 rows in set (0.03 sec)

mysql>

```

50. Find the names of all employees who have a salary greater than the average salary:

Ans. -- Find employees with salary greater than the average salary

SELECT

EmployeeID,

Name,

Email,

ContactNumber,

Role,

Salary

FROM

Employee

WHERE

Salary > (SELECT AVG(Salary) FROM Employee);

```

C:\> Command Prompt - mysql -u root -p
mysql> -- Find employees with salary greater than the average salary
mysql> SELECT
  -> EmployeeID,
  -> Name,
  -> Email,
  -> ContactNumber,
  -> Role,
  -> Salary
  -> FROM
  -> Employee
  -> WHERE
  -> Salary > (SELECT AVG(Salary) FROM Employee);
+-----+-----+-----+-----+-----+-----+
| EmployeeID | Name       | Email                      | ContactNumber | Role           | Salary |
+-----+-----+-----+-----+-----+-----+
| 1          | John Employee | john.employee@example.com | 123-456-7890  | Manager        | 60000.00 |
| 4          | Alice Employee | alice.employee@example.com | 111-222-3333  | Logistics Coordinator | 55000.00 |
| 6          | Eva Employee  | eva.employee@example.com   | 777-888-9999  | IT Specialist   | 65000.00 |
| 7          | Frank Employee | frank.employee@example.com  | 999-888-7777  | Accountant      | 60000.00 |
| 8          | Grace Employee | grace.employee@example.com  | 123-999-5555  | Human Resources | 55000.00 |
| 9          | David Employee | david.employee@example.com  | 888-777-6666  | Operations Manager | 70000.00 |
+-----+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)

mysql>

```

51. Find the total cost of all courier services where the cost is less than the maximum cost

Ans. -- Find total cost of courier services where cost is less than the maximum cost

```

SELECT
    SUM(Cost) AS TotalCost
FROM
    CourierServices
WHERE
    Cost < (SELECT MAX(Cost) FROM CourierServices);

```

```

C:\> Command Prompt - mysql -u root -p
mysql> -- Find total cost of courier services where cost is less than the maximum cost
mysql> SELECT
  -> SUM(Cost) AS TotalCost
  -> FROM
  -> CourierServices
  -> WHERE
  -> Cost < (SELECT MAX(Cost) FROM CourierServices);
+-----+
| TotalCost |
+-----+
| 170.00    |
+-----+
1 row in set (0.00 sec)

mysql>

```

52. Find all couriers that have been paid for

Ans. -- Find all couriers that have been paid for

```

SELECT
    c.CourierID,

```

```

c.SenderName,
c.ReceiverName,
c.Status,
c.TrackingNumber,
c.DeliveryDate,
p.PaymentID,
p.Amount,
p.PaymentDate
FROM
    Courier c
JOIN
    Payment p ON c.CourierID = p.CourierID;

```

```

Command Prompt - mysql -u root -p
1 row in set (0.00 sec)

mysql> -- Find all couriers that have been paid for
mysql> SELECT
-> c.CourierID,
-> c.SenderName,
-> c.ReceiverName,
-> c.Status,
-> c.TrackingNumber,
-> c.DeliveryDate,
-> p.PaymentID,
-> p.Amount,
-> p.PaymentDate
-> FROM
-> Courier c
-> JOIN
-> Payment p ON c.CourierID = p.CourierID;

```

CourierID	SenderName	ReceiverName	Status	TrackingNumber	DeliveryDate	PaymentID	Amount	PaymentDate
1	John Sender	Jane Receiver	In Transit	TN123456	2023-12-15	1	20.00	2023-12-15
2	Bob Sender	Alice Receiver	Delivered	TN789013	2023-12-14	2	15.00	2023-12-14
3	Charlie Sender	Eva Receiver	Out for Delivery	TN345679	2023-12-16	3	30.00	2023-12-16
4	Alice Sender	Frank Receiver	Delivered	TN567890	2023-12-13	4	10.00	2023-12-13
5	David Sender	Grace Receiver	In Transit	TN901234	2023-12-17	5	25.00	2023-12-17
6	Eva Sender	Charlie Receiver	Delivered	TN234567	2023-12-12	6	18.00	2023-12-12
7	Frank Sender	David Receiver	Out for Delivery	TN678901	2023-12-18	7	12.00	2023-12-18
8	Grace Sender	Helen Receiver	In Transit	TN345678	2023-12-19	8	22.00	2023-12-19
9	Helen Sender	John Receiver	Delivered	TN789014	2023-12-20	9	28.00	2023-12-20
10	John Sender	Bob Receiver	Out for Delivery	TN012345	2023-12-21	10	8.00	2023-12-21

```

10 rows in set (0.00 sec)

mysql>

```

53. Find the locations where the maximum payment amount was made

Ans. -- Find locations where the maximum payment amount was made

```

SELECT
    l.LocationID,
    l.LocationName,
    l.Address,

```

MAX(p.Amount) AS MaxPaymentAmount

FROM

Location l

JOIN

Payment p ON l.LocationID = p.LocationID

GROUP BY

l.LocationID, l.LocationName, l.Address;

```
Command Prompt - mysql -u root -p
mysql> -- Find locations where the maximum payment amount was made
mysql> SELECT
-> l.LocationID,
-> l.LocationName,
-> l.Address,
-> MAX(p.Amount) AS MaxPaymentAmount
-> FROM
-> Location l
-> JOIN
-> Payment p ON l.LocationID = p.LocationID
-> GROUP BY
-> l.LocationID, l.LocationName, l.Address;
+-----+-----+-----+-----+
| LocationID | LocationName | Address | MaxPaymentAmount |
+-----+-----+-----+-----+
| 1 | Office A | 123 Main St | 12.00 |
| 2 | Warehouse 1 | 456 Oak St | 10.00 |
| 3 | Branch X | 789 Pine St | 20.00 |
| 4 | Distribution Center | 101 Maple Ave | 22.00 |
| 5 | Store 5 | 202 Cedar St | 15.00 |
| 6 | Facility Y | 303 Elm St | 28.00 |
| 7 | Storage Unit 8 | 404 Birch St | 25.00 |
| 8 | Shop Z | 505 Walnut St | 30.00 |
| 9 | Factory 2 | 606 Pine St | 18.00 |
| 10 | Outlet Mall | 707 Oak St | 8.00 |
+-----+-----+-----+-----+
10 rows in set (0.00 sec)

mysql>
```

54. Find all couriers whose weight is greater than the weight of all couriers sent by a specific sender (e.g., 'SenderName'):

Ans. -- Find couriers whose weight is greater than the weight of all couriers sent by a specific sender

SELECT

c.CourierID,

c.SenderName,

c.ReceiverName,

c.Weight,

c.Status,

c.TrackingNumber,

c.DeliveryDate

FROM

Courier c

WHERE

c.Weight > ALL (SELECT Weight FROM Courier WHERE SenderName = 'John Sender');

Command Prompt - mysql -u root -p

```
mysql> -- Find couriers whose weight is greater than the weight of all couriers sent by a specific sender
mysql> SELECT
-> c.CourierID,
-> c.SenderName,
-> c.ReceiverName,
-> c.Weight,
-> c.Status,
-> c.TrackingNumber,
-> c.DeliveryDate
-> FROM
-> Courier c
-> WHERE
-> c.Weight > ALL (SELECT Weight FROM Courier WHERE SenderName = 'John Sender');
```

CourierID	SenderName	ReceiverName	Weight	Status	TrackingNumber	DeliveryDate
3	Charlie Sender	Eva Receiver	3.00	Out for Delivery	TN345679	2023-12-16
5	David Sender	Grace Receiver	2.70	In Transit	TN901234	2023-12-17
9	Helen Sender	John Receiver	2.80	Delivered	TN789014	2023-12-20

3 rows in set (0.03 sec)

mysql>