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Assignment-4(SQL)

1. Creating a Database Courier Management System

```
mysql> create database Courier_Management_System
-> ;
Query OK, 1 row affected (0.02 sec)

mysql> use Courier_Management_System
Database changed
```

Creating Tables for Customers, Couriers, Orders, and Parcels. Define the relationships between these tables using appropriate foreign keys.

```
mysql> CREATE TABLE User (
->     UserID INT PRIMARY KEY,
->     Name VARCHAR(255),
->     Email VARCHAR(255) UNIQUE,
->     Password VARCHAR(255),
->     ContactNumber VARCHAR(20),
->     Address TEXT
-> );
Query OK, 0 rows affected (0.07 sec)

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 (0.06 sec)

mysql> CREATE TABLE CourierServices (
->     ServiceID INT PRIMARY KEY,
->     ServiceName VARCHAR(100),
->     Cost DECIMAL(8, 2)
-> );
Query OK, 0 rows affected (0.04 sec)
```

```

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 (0.05 sec)

mysql> CREATE TABLE Location (
->     LocationID INT PRIMARY KEY,
->     LocationName VARCHAR(100),
->     Address TEXT
-> );
Query OK, 0 rows affected (0.04 sec)

mysql> 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)
-> );
Query OK, 0 rows affected (0.07 sec)

```

Inserting Values sample data into the tables to simulate real-world scenarios.

```

mysql> INSERT INTO User (UserID, Name, Email, Password, ContactNumber, Address)
-> VALUES
-> (1, 'Arjun Reddy', 'arjun@example.com', 'password123', '9876543210', 'Hydera
bad, India'),
-> (2, 'Divya Raghavan', 'divya@example.com', 'pass456', '8765432109', 'Bangalo
re, India'),
-> (3, 'Sneha Menon', 'sneha@example.com', 'secret789', '7654321098', 'Chennai,
India'),
-> (4, 'Karthik Rajan', 'karthik@example.com', 'topsecret123', '6543210987', 'C
oimbatore, India'),
-> (5, 'Priya Nair', 'priya@example.com', 'securepwd456', '5432109876', 'Trivan
drum, India'),
-> (6, 'Vikram Suresh', 'vikram@example.com', 'mypassword123', '4321098765', 'K
ochi, India'),
-> (7, 'Meera Krishna', 'meera@example.com', 'passphrase456', '3210987654', 'My
suru, India'),
-> (8, 'Gopal Naidu', 'gopal@example.com', 'confidential123', '2109876543', 'Vi
zag, India'),
-> (9, 'Anjali Rao', 'anjali@example.com', 'p@ssw0rd456', '1098765432', 'Pondic
herry, India'),
-> (10, 'Rajeshwari Devi', 'rajeshwari@example.com', 'secure1234', '9876543210'
, 'Madurai, India');
Query OK, 10 rows affected (0.02 sec)
Records: 10 Duplicates: 0 Warnings: 0

```

```
mysql> INSERT INTO Courier (CourierID, SenderName, SenderAddress, ReceiverName, ReceiverAddress, Weight, Status, TrackingNumber, DeliveryDate)
-> VALUES
-> (1, 'Saravanan', 'Coimbatore, India', 'Anandhi', 'Bangalore, India', 3.5, 'In Transit', 'TN123456', '2023-12-15'),
-> (2, 'Radhika Prasad', 'Kochi, India', 'Rahul Menon', 'Chennai, India', 2.8, 'Delivered', 'KL789012', '2023-12-14'),
-> (3, 'Manoj Kumar', 'Hyderabad, India', 'Sindhuja Nair', 'Mysuru, India', 4.2, 'Out for Delivery', 'TS345678', '2023-12-16'),
-> (4, 'Aishwarya Raj', 'Madurai, India', 'Vijay Suresh', 'Pondicherry, India', 1.5, 'In Transit', 'TN901234', '2023-12-17'),
-> (5, 'Naveen Reddy', 'Vizag, India', 'Deepika Rao', 'Trivandrum, India', 3.0, 'Delivered', 'AP567890', '2023-12-13'),
-> (6, 'Kavitha Menon', 'Bangalore, India', 'Suresh Babu', 'Chennai, India', 2.5, 'In Transit', 'KA123456', '2023-12-18'),
-> (7, 'Vishal Naidu', 'Pondicherry, India', 'Sharmila Devi', 'Coimbatore, India', 1.8, 'Delivered', 'PY345678', '2023-12-12'),
-> (8, 'Arun Kumar', 'Chennai, India', 'Jyothi Nair', 'Hyderabad, India', 3.7, 'Out for Delivery', 'TN456789', '2023-12-19'),
-> (9, 'Sudha Krishna', 'Mysuru, India', 'Vikram Suresh', 'Kochi, India', 2.0, 'Delivered', 'KA789012', '2023-12-20'),
-> (10, 'Prakash Nair', 'Trivandrum, India', 'Sneha Rajan', 'Madurai, India', 4.0, 'In Transit', 'KL012345', '2023-12-21');
Query OK, 10 rows affected (0.01 sec)
Records: 10 Duplicates: 0 Warnings: 0
```

```
mysql> INSERT INTO CourierServices (ServiceID, ServiceName, Cost)
-> VALUES
-> (1, 'Express', 25.00),
-> (2, 'Standard', 15.00),
-> (3, 'Economy', 10.00),
-> (4, 'Same Day', 30.00),
-> (5, 'Next Day', 20.00),
-> (6, 'Two-Day', 18.00),
-> (7, 'Overnight', 35.00),
-> (8, 'Ground', 12.00),
-> (9, 'International', 50.00),
-> (10, 'Local', 8.00);
Query OK, 10 rows affected (0.01 sec)
Records: 10 Duplicates: 0 Warnings: 0
```

```
mysql> INSERT INTO Employee (EmployeeID, Name, Email, ContactNumber, Role, Salary)
-> VALUES
-> (1, 'Deepika Nair', 'deepika@example.com', '8765432109', 'Manager', 60000.00
),
-> (2, 'Rahul Menon', 'rahul@example.com', '7654321098', 'Supervisor', 50000.00
),
-> (3, 'Sindhuja Rajan', 'sindhuja@example.com', '6543210987', 'Courier Handler
', 40000.00),
-> (4, 'Vikram Suresh', 'vikram@example.com', '5432109876', 'Driver', 45000.00)
',
-> (5, 'Anand Kumar', 'anand@example.com', '4321098765', 'IT Specialist', 55000
.00),
-> (6, 'Jyothi Nair', 'jyothi@example.com', '3210987654', 'Customer Service', 3
8000.00),
-> (7, 'Aruna Devi', 'aruna@example.com', '2109876543', 'Accountant', 48000.00)
',
-> (8, 'Karthik Rajan', 'karthik@example.com', '1098765432', 'HR Manager', 6500
0.00),
-> (9, 'Suresh Babu', 'suresh@example.com', '9876543210', 'Logistics Coordinato
r', 42000.00),
-> (10, 'Meera Krishna', 'meera@example.com', '8765432109', 'Warehouse Supervis
or', 50000.00);
Query OK, 10 rows affected (0.01 sec)
Records: 10 Duplicates: 0 Warnings: 0
```

```
mysql> INSERT INTO Location (LocationID, LocationName, Address)
-> VALUES
-> (1, 'Chennai Central', 'Chennai, India'),
-> (2, 'Bangalore Hub', 'Bangalore, India'),
-> (3, 'Coimbatore Warehouse', 'Coimbatore, India'),
-> (4, 'Hyderabad Depot', 'Hyderabad, India'),
-> (5, 'Kochi Distribution Center', 'Kochi, India'),
-> (6, 'Mysuru Sorting Facility', 'Mysuru, India'),
-> (7, 'Madurai Station', 'Madurai, India'),
-> (8, 'Vizag Logistics Hub', 'Vizag, India'),
-> (9, 'Pondicherry Office', 'Pondicherry, India'),
-> (10, 'Trivandrum Depot', 'Trivandrum, India');
Query OK, 10 rows affected (0.01 sec)
Records: 10 Duplicates: 0 Warnings: 0
```

```
mysql> INSERT INTO Payment (PaymentID, CourierID, LocationID, Amount, PaymentDate)
-> VALUES
-> (1, 1, 1, 30.00, '2023-12-16'),
-> (2, 2, 3, 25.50, '2023-12-14'),
-> (3, 3, 2, 20.00, '2023-12-17'),
-> (4, 4, 5, 15.75, '2023-12-18'),
-> (5, 5, 8, 22.30, '2023-12-13'),
-> (6, 6, 10, 18.50, '2023-12-15'),
-> (7, 7, 7, 27.80, '2023-12-12'),
-> (8, 8, 9, 19.25, '2023-12-19'),
-> (9, 9, 6, 32.00, '2023-12-20'),
-> (10, 10, 4, 14.90, '2023-12-21');
Query OK, 10 rows affected (0.01 sec)
Records: 10 Duplicates: 0 Warnings: 0
```

Task 2:

1. List all customers:

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

UserID	Name Address	Email	Password	ContactNumber
1	Arjun Reddy Hyderabad, India	arjun@example.com	password123	9876543210
2	Divya Raghavan Bangalore, India	divya@example.com	pass456	8765432109
3	Sneha Menon Chennai, India	sneha@example.com	secret789	7654321098
4	Karthik Rajan Coimbatore, India	karthik@example.com	topsecret123	6543210987
5	Priya Nair Trivandrum, India	priya@example.com	securepwd456	5432109876
6	Vikram Suresh Kochi, India	vikram@example.com	mypassword123	4321098765
7	Meera Krishna Mysuru, India	meera@example.com	passphrase456	3210987654
8	Gopal Naidu Vizag, India	gopal@example.com	confidential123	2109876543
9	Anjali Rao Pondicherry, India	anjali@example.com	p@ssw0rd456	1098765432
10	Rajeshwari Devi Madurai, India	rajeshwari@example.com	secure1234	9876543210

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

2. List all orders for a specific customer:

```
mysql> SELECT * FROM Courier WHERE SenderName = 'Naveen Reddy' OR ReceiverName = 'Deepika Rao';
```

CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight
Status	TrackingNumber	DeliveryDate			
5	Naveen Reddy	Vizag, India	Deepika Rao	Trivandrum, India	3.00
Delivered	AP567890	2023-12-13			

```
1 row in set (0.00 sec)
```

3. List all couriers:

```
mysql> SELECT * FROM Courier;
```

CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate
1	Saravanan	Coimbatore, India	Anandhi	Bangalore, India	3.50	In Transit	TN123456	2023-12-15
2	Radhika Prasad	Kochi, India	Rahul Menon	Chennai, India	2.80	Delivered	KL789012	2023-12-14
3	Manoj Kumar	Hyderabad, India	Sindhuja Nair	Mysuru, India	4.20	Out for Delivery	TS345678	2023-12-16
4	Aishwarya Raj	Madurai, India	Vijay Suresh	Pondicherry, India	1.50	In Transit	TN901234	2023-12-17
5	Naveen Reddy	Vizag, India	Deepika Rao	Trivandrum, India	3.00	Delivered	AP567890	2023-12-13
6	Kavitha Menon	Bangalore, India	Suresh Babu	Chennai, India	2.50	In Transit	KA123456	2023-12-18
7	Vishal Naidu	Pondicherry, India	Sharmila Devi	Coimbatore, India	1.80	Delivered	PY345678	2023-12-12
8	Arun Kumar	Chennai, India	Jyothi Nair	Hyderabad, India	3.70	Out for Delivery	TN456789	2023-12-19
9	Sudha Krishna	Mysuru, India	Vikram Suresh	Kochi, India	2.00	Delivered	KA789012	2023-12-20
10	Prakash Nair	Trivandrum, India	Sneha Rajan	Madurai, India	4.00	In Transit	KL012345	2023-12-21

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

4. List all packages for a specific order:

```
mysql> SELECT * FROM Courier WHERE CourierID = 3;
```

CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate
3	Manoj Kumar	Hyderabad, India	Sindhuja Nair	Mysuru, India	4.20	Out for Delivery	TS345678	2023-12-16

```
1 row in set (0.00 sec)
```

5. List all deliveries for a specific courier:

```
mysql> SELECT * FROM Courier WHERE CourierID = 5;
```

CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate
5	Naveen Reddy	Vizag, India	Deepika Rao	Trivandrum, India	3.00	Delivered	AP567890	2023-12-13

```
1 row in set (0.00 sec)
```

6. List all undelivered packages:

```
mysql> SELECT * FROM Courier WHERE Status != 'Delivered';
```

CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate
1	Saravanan	Coimbatore, India	Anandhi	Bangalore, India	3.50	In Transit	TN123456	2023-12-15
3	Manoj Kumar	Hyderabad, India	Sindhuja Nair	Mysuru, India	4.20	Out for Delivery	TS345678	2023-12-16
4	Aishwarya Raj	Madurai, India	Vijay Suresh	Pondicherry, India	1.50	In Transit	TN901234	2023-12-17
6	Kavitha Menon	Bangalore, India	Suresh Babu	Chennai, India	2.50	In Transit	KA123456	2023-12-18
8	Arun Kumar	Chennai, India	Jyothi Nair	Hyderabad, India	3.70	Out for Delivery	TN456789	2023-12-19
10	Prakash Nair	Trivandrum, India	Sneha Rajan	Madurai, India	4.00	In Transit	KL012345	2023-12-21

6 rows in set (0.00 sec)

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

```
mysql> SELECT * FROM Courier WHERE DeliveryDate = CURRENT_DATE;
```

CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate
7	Vishal Naidu	Pondicherry, India	Sharmila Devi	Coimbatore, India	1.80	Delivered	PY345678	2023-12-12

1 row in set (0.00 sec)

8. List all packages with a specific status:

```
mysql> SELECT * FROM Courier WHERE Status = 'Out for Delivery';
```

CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate
3	Manoj Kumar	Hyderabad, India	Sindhuja Nair	Mysuru, India	4.20	Out for Delivery	TS345678	2023-12-16
8	Arun Kumar	Chennai, India	Jyothi Nair	Hyderabad, India	3.70	Out for Delivery	TN456789	2023-12-19

2 rows in set (0.00 sec)

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

```
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)

10. Find the average delivery time for each courier:

```
mysql> SELECT CourierID, AVG(DeliveryTime) AS AverageDeliveryTime
-> FROM (
-> SELECT CourierID, DATEDIFF(DeliveryDate, OrderDate) AS DeliveryTime
-> FROM Courier
-> ) AS DeliveryTimes
-> GROUP BY CourierID;
```

11. List all packages with a specific weight range

```
mysql> SELECT * FROM Courier WHERE Weight BETWEEN 2 AND 5;
```

CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress
Weight	Status	TrackingNumber	DeliveryDate	
3.50	In Transit	TN123456	2023-12-15	
2.80	Delivered	KL789012	2023-12-14	
4.20	Out for Delivery	TS345678	2023-12-16	
3.00	Delivered	AP567890	2023-12-13	
2.50	In Transit	KA123456	2023-12-18	
3.70	Out for Delivery	TN456789	2023-12-19	
2.00	Delivered	KA789012	2023-12-20	
4.00	In Transit	KL012345	2023-12-21	

8 rows in set (0.00 sec)

12. Retrieve employees whose names contain 'Arun':


```
mysql> SELECT * FROM Employee WHERE Name LIKE '%Arun%';
```

EmployeeID	Name	Email	ContactNumber	Role	Salary
7	Aruna Devi	aruna@example.com	2109876543	Accountant	48000.00

```
1 row in set (0.00 sec)
```

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

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

Task 3:

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

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

15. Calculate the total revenue generated by each location:

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

LocationID	LocationName	TotalRevenue
1	Chennai Central	30.00
2	Bangalore Hub	20.00
3	Coimbatore Warehouse	25.50
4	Hyderabad Depot	14.90
5	Kochi Distribution Center	15.75
6	Mysuru Sorting Facility	32.00
7	Madurai Station	27.80
8	Vizag Logistics Hub	22.30
9	Pondicherry Office	19.25
10	Trivandrum Depot	18.50

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

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

```
mysql> SELECT Courier.CourierID, Courier.Status, AVG(DATEDIFF(Courier.DeliveryDate, Cou
rier.OrderDate)) AS AvgDeliveryTime
-> FROM Courier
-> GROUP BY Courier.CourierID, Courier.Status
-> ORDER BY AvgDeliveryTime DESC
-> LIMIT 1;
```

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

```
mysql> SELECT Location.LocationID, Location.LocationName, COALESCE(SUM(Payment.Amount),
0) AS TotalPayments
-> FROM Location
-> LEFT JOIN Payment ON Location.LocationID = Payment.LocationID
-> GROUP BY Location.LocationID, Location.LocationName
-> HAVING TotalPayments < 10,000;
```

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

```
mysql> SELECT Location.LocationID, Location.LocationName, COALESCE(SUM(Payment.Amount),
0) AS TotalPayments
-> FROM Location
-> LEFT JOIN Payment ON Location.LocationID = Payment.LocationID
-> GROUP BY Location.LocationID, Location.LocationName
-> HAVING TotalPayments < 10000;
```

LocationID	LocationName	TotalPayments
1	Chennai Central	30.00
2	Bangalore Hub	20.00
3	Coimbatore Warehouse	25.50
4	Hyderabad Depot	14.90
5	Kochi Distribution Center	15.75
6	Mysuru Sorting Facility	32.00
7	Madurai Station	27.80
8	Vizag Logistics Hub	22.30
9	Pondicherry Office	19.25
10	Trivandrum Depot	18.50

19. Calculate Total Payments per Location

```
mysql> SELECT Location.LocationID, Location.LocationName, COALESCE(SUM(Payment.Amount),
0) AS TotalPayments
-> FROM Location
-> LEFT JOIN Payment ON Location.LocationID = Payment.LocationID
-> GROUP BY Location.LocationID, Location.LocationName
-> HAVING TotalPayments < 20;
```

LocationID	LocationName	TotalPayments
4	Hyderabad Depot	14.90
5	Kochi Distribution Center	15.75
9	Pondicherry Office	19.25
10	Trivandrum Depot	18.50

4 rows in set (0.00 sec)

20. Retrieve couriers who have received payments totaling more than \$1000 in a specific location (LocationID = 1);

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

LocationID	LocationName	TotalPayments
1	Chennai Central	30.00
2	Bangalore Hub	20.00
3	Coimbatore Warehouse	25.50
4	Hyderabad Depot	14.90
5	Kochi Distribution Center	15.75
6	Mysuru Sorting Facility	32.00
7	Madurai Station	27.80
8	Vizag Logistics Hub	22.30
9	Pondicherry Office	19.25
10	Trivandrum Depot	18.50

10 rows in set (0.00 sec)

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

```
mysql> SELECT Courier.CourierID, Courier.Status, SUM(Payment.Amount) AS TotalPayments
-> FROM Courier
-> LEFT JOIN Payment ON Courier.CourierID = Payment.CourierID
-> WHERE Courier.LocationID = X
-> GROUP BY Courier.CourierID, Courier.Status
-> HAVING TotalPayments > 1000;
```

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

```
mysql> SELECT Courier.CourierID, Courier.Status, SUM(Payment.Amount) AS TotalPayments
-> FROM Courier
-> LEFT JOIN Payment ON Courier.CourierID = Payment.CourierID
-> WHERE Courier.LocationID = 5
-> GROUP BY Courier.CourierID, Courier.Status
-> HAVING TotalPayments > 1000;
```

23. Retrieve Payments with Courier Information

```
-> SELECT Courier.CourierID, Cour' at line 1
mysql> SELECT Courier.CourierID, Courier.Status, SUM(Payment.Amount) AS TotalPayments
-> FROM Courier
-> LEFT JOIN Payment ON Courier.CourierID = Payment.CourierID
-> WHERE Payment.PaymentDate > '2023-8-16'
-> GROUP BY Courier.CourierID, Courier.Status
-> HAVING TotalPayments > 1000;
Empty set (0.00 sec)
```

24. Retrieve Payments with Location Information

```
mysql> SELECT Payment.PaymentID, Payment.Amount, Payment.PaymentDate, Courier.*
-> FROM Payment
-> LEFT JOIN Courier ON Payment.CourierID = Courier.CourierID;
```

PaymentID	Amount	PaymentDate	CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate
1	30.00	2023-12-16	1	Saravanan	Coimbatore, India	Anandhi	Bangalore, India	3.50	In Transit	TN123456	2023-12-15
2	25.50	2023-12-14	2	Radhika Prasad	Kochi, India	Rahul Menon	Chennai, India	2.80	Delivered	KL789012	2023-12-14
3	20.00	2023-12-17	3	Manoj Kumar	Hyderabad, India	Sindhuja Nair	Mysuru, India	4.20	Out for Delivery	TS345678	2023-12-16
4	15.75	2023-12-18	4	Aishwarya Raj	Madurai, India	Vijay Suresh	Pondicherry, India	1.50	In Transit	TN901234	2023-12-17
5	22.30	2023-12-13	5	Naveen Reddy	Vizag, India	Deepika Rao	Trivandrum, India	3.00	Delivered	AP567890	2023-12-13
6	18.50	2023-12-15	6	Kavitha Menon	Bangalore, India	Suresh Babu	Chennai, India	2.50	In Transit	KA123456	2023-12-18
7	27.80	2023-12-12	7	Vishal Naidu	Pondicherry, India	Sharmila Devi	Coimbatore, India	1.80	Delivered	PY345678	2023-12-12
8	19.25	2023-12-19	8	Arun Kumar	Chennai, India	Jyothi Nair	Hyderabad, India	3.70	Out for Delivery	TN456789	2023-12-19
9	32.00	2023-12-20	9	Sudha Krishna	Mysuru, India	Vikram Suresh	Kochi, India	2.00	Delivered	KA789012	2023-12-20

25. Retrieve Payments with Location Information.

```
mysql> SELECT Payment.PaymentID, Payment.Amount, Payment.PaymentDate, Location.*
-> FROM Payment
-> LEFT JOIN Location ON Payment.LocationID = Location.LocationID;
```

PaymentID	Amount	PaymentDate	LocationID	LocationName	Address
1	30.00	2023-12-16	1	Chennai Central	Chennai, India
2	25.50	2023-12-14	3	Coimbatore Warehouse	Coimbatore, India
3	20.00	2023-12-17	2	Bangalore Hub	Bangalore, India
4	15.75	2023-12-18	5	Kochi Distribution Center	Kochi, India
5	22.30	2023-12-13	8	Vizag Logistics Hub	Vizag, India
6	18.50	2023-12-15	10	Trivandrum Depot	Trivandrum, India
7	27.80	2023-12-12	7	Madurai Station	Madurai, India
8	19.25	2023-12-19	9	Pondicherry Office	Pondicherry, India
9	32.00	2023-12-20	6	Mysuru Sorting Facility	Mysuru, India
10	14.90	2023-12-21	4	Hyderabad Depot	Hyderabad, India

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

27. List all payments with courier details

```
mysql> SELECT Courier.CourierID, Courier.Status, SUM(Payment.Amount) AS TotalPayments
-> FROM Courier
-> LEFT JOIN Payment ON Courier.CourierID = Payment.CourierID
-> GROUP BY Courier.CourierID, Courier.Status;
```

CourierID	Status	TotalPayments
1	In Transit	30.00
2	Delivered	25.50
3	Out for Delivery	20.00
4	In Transit	15.75
5	Delivered	22.30
6	In Transit	18.50
7	Delivered	27.80
8	Out for Delivery	19.25
9	Delivered	32.00
10	In Transit	14.90

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

28. List payments made on a specific date

```
mysql> SELECT * FROM Payment
-> WHERE PaymentDate BETWEEN '2023-1-1' AND '2023-8-10';
Empty set (0.00 sec)
```

29. Get Courier Information for Each Payment

```
mysql> SELECT * FROM User
-> LEFT JOIN Courier ON User.UserID = Courier.UserID;
```

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

```
mysql> SELECT * FROM User
-> LEFT JOIN Courier ON User.UserID = Courier.CourierID;
```

UserID	Name	Email	Password	ContactNumber	Address	CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate
1	Arjun Reddy	arjun@example.com	password123	9876543210	Hyderabad, India	1	Saravanan	Coimbatore, India	Anandhi	Bangalore, India	3.50	In Transit	TN123456	2023-12-15
2	Divya Raghavan	divya@example.com	pass456	8765432109	Bangalore, India	2	Radhika Prasad	Kochi, India	Rahul Menon	Chennai, India	2.80	Delivered	KL789012	2023-12-14
3	Sneha Menon	sneha@example.com	secret789	7654321098	Chennai, India	3	Manoj Kumar	Hyderabad, India	Sindhuja Nair	Mysuru, India	4.20	Out for Delivery	TS345678	2023-12-16
4	Karthik Rajan	karthik@example.com	topsecret123	6543210987	Coimbatore, India	4	Aishwarya Raj	Madurai, India	Vijay Suresh	Pondicherry, India	1.50	In Transit	TN901234	2023-12-17
5	Priya Nair	priya@example.com	securepwd456	5432109876	Trivandrum, India	5	Naveen Reddy	Vizag, India	Deepika Rao	Trivandrum, India	3.00	Delivered	AP567890	2023-12-13
6	Vikram Suresh	vikram@example.com	mypassword123	4321098765	Kochi, India	6	Kavitha Menon	Bangalore, India	Suresh Babu	Chennai, India	2.50	In Transit	KA123456	2023-12-18
7	Meera Krishna	meera@example.com	passphrase456	3210987654	Mysuru, India	7	Vishal Naidu	Pondicherry, India	Sharmila Devi	Coimbatore, India	1.80	Delivered	PY345678	2023-12-12
8	Gopal Naidu	gopal@example.com	confidential123	2109876543										

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

```
mysql> SELECT * FROM Courier
-> LEFT JOIN CourierServices ON Courier.ServiceID = CourierServices.ServiceID;
```

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

```
mysql> SELECT * FROM Employee
-> LEFT JOIN Payment ON Employee.EmployeeID = Payment.EmployeeID;
```

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

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

UserID	Name	Email	Password	ContactNumber
Address	ServiceID	ServiceName	Cost	
10 Rajeshwari Devi rajeshwari@example.com secure1234 9876543210	Madurai, India 1 Express 25.00			
9 Anjali Rao anjali@example.com p@ssw0rd456 1098765432	Pondicherry, India 1 Express 25.00			
8 Gopal Naidu gopal@example.com confidential123 2109876543	Vizag, India 1 Express 25.00			
7 Meera Krishna meera@example.com passphrase456 3210987654	Mysuru, India 1 Express 25.00			
6 Vikram Suresh vikram@example.com mypassword123 4321098765	Kochi, India 1 Express 25.00			
5 Priya Nair priya@example.com securepwd456 5432109876	Trivandrum, India 1 Express 25.00			
4 Karthik Rajan karthik@example.com topsecret123 6543210987	Coimbatore, India 1 Express 25.00			
3 Sneha Menon sneha@example.com secret789 7654321098	Chennai, India 1 Express 25.00			
2 Divya Raghavan divya@example.com pass456 8765432109	Bangalore, India 1 Express 25.00			
1 Arjun Reddy arjun@example.com password123 9876543210	Hyderabad, India 1 Express 25.00			
10 Rajeshwari Devi rajeshwari@example.com secure1234 9876543210	Madurai, India 2 Standard 15.00			
9 Anjali Rao anjali@example.com p@ssw0rd456 1098765432	Pondicherry, India 2 Standard 15.00			
8 Gopal Naidu gopal@example.com confidential123 2109876543	Vizag, India 2 Standard 15.00			
7 Meera Krishna meera@example.com passphrase456 3210987654	Mysuru, India 2 Standard 15.00			
6 Vikram Suresh vikram@example.com mypassword123 4321098765	Kochi, India 2 Standard 15.00			
5 Priya Nair priya@example.com securepwd456 5432109876	Trivandrum, India 2 Standard 15.00			

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

```
mysql> SELECT * FROM Employee, Location;
+-----+-----+-----+-----+-----+-----+
| EmployeeID | Name | Email | ContactNumber | Role |
| Salary | LocationID | LocationName | Address |
+-----+-----+-----+-----+-----+
| 10 | Meera Krishna | meera@example.com | 8765432109 | Warehouse Supervisor |
| 50000.00 | 1 | Chennai Central | Chennai, India |
| 9 | Suresh Babu | suresh@example.com | 9876543210 | Logistics Coordinator |
| 42000.00 | 1 | Chennai Central | Chennai, India |
| 8 | Karthik Rajan | karthik@example.com | 1098765432 | HR Manager |
| 65000.00 | 1 | Chennai Central | Chennai, India |
| 7 | Aruna Devi | aruna@example.com | 2109876543 | Accountant |
| 48000.00 | 1 | Chennai Central | Chennai, India |
| 6 | Jyothi Nair | jyothi@example.com | 3210987654 | Customer Service |
| 38000.00 | 1 | Chennai Central | Chennai, India |
| 5 | Anand Kumar | anand@example.com | 4321098765 | IT Specialist |
| 55000.00 | 1 | Chennai Central | Chennai, India |
| 4 | Vikram Suresh | vikram@example.com | 5432109876 | Driver |
| 45000.00 | 1 | Chennai Central | Chennai, India |
| 3 | Sindhuja Rajan | sindhuja@example.com | 6543210987 | Courier Handler |
| 40000.00 | 1 | Chennai Central | Chennai, India |
| 2 | Rahul Menon | rahul@example.com | 7654321098 | Supervisor |
| 50000.00 | 1 | Chennai Central | Chennai, India |
| 1 | Deepika Nair | deepika@example.com | 8765432109 | Manager |
| 60000.00 | 1 | Chennai Central | Chennai, India |
| 10 | Meera Krishna | meera@example.com | 8765432109 | Warehouse Supervisor |
| 50000.00 | 2 | Bangalore Hub | Bangalore, India |
| 9 | Suresh Babu | suresh@example.com | 9876543210 | Logistics Coordinator |
| 42000.00 | 2 | Bangalore Hub | Bangalore, India |
| 8 | Karthik Rajan | karthik@example.com | 1098765432 | HR Manager |
| 65000.00 | 2 | Bangalore Hub | Bangalore, India |
| 7 | Aruna Devi | aruna@example.com | 2109876543 | Accountant |
| 48000.00 | 2 | Bangalore Hub | Bangalore, India |
| 6 | Jyothi Nair | jyothi@example.com | 3210987654 | Customer Service |
| 38000.00 | 2 | Bangalore Hub | Bangalore, India |
| 5 | Anand Kumar | anand@example.com | 4321098765 | IT Specialist |
| 55000.00 | 2 | Bangalore Hub | Bangalore, India |
| 4 | Vikram Suresh | vikram@example.com | 5432109876 | Driver |
| 45000.00 | 2 | Bangalore Hub | Bangalore, India |
| 3 | Sindhuja Rajan | sindhuja@example.com | 6543210987 | Courier Handler |
| 40000.00 | 2 | Bangalore Hub | Bangalore, India |
```

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

```
mysql> SELECT Courier.*, User.Name AS SenderName, User.Address AS SenderAddress
-> FROM Courier
-> LEFT JOIN User ON Courier.UserID = User.UserID;
```

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

```
mysql> SELECT Courier.*, User.Name AS ReceiverName, User.Address AS ReceiverAddress
-> FROM Courier
-> LEFT JOIN User ON Courier.ReceiverID = User.UserID;
```

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

```
mysql> SELECT Courier.*, CourierServices.ServiceName, CourierServices.Cost
-> FROM Courier
-> LEFT JOIN CourierServices ON Courier.ServiceID = CourierServices.ServiceID;
```

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


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

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

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

LocationID	LocationName	TotalPayments
1	Chennai Central	30.00
2	Bangalore Hub	20.00
3	Coimbatore Warehouse	25.50
4	Hyderabad Depot	14.90
5	Kochi Distribution Center	15.75
6	Mysuru Sorting Facility	32.00
7	Madurai Station	27.80
8	Vizag Logistics Hub	22.30
9	Pondicherry Office	19.25
10	Trivandrum Depot	18.50

10 rows in set (0.00 sec)

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

```
mysql> SELECT User.Name AS SenderName, Courier.*
-> FROM Courier
-> LEFT JOIN User ON Courier.SenderID = User.UserID
-> WHERE User.Name = 'Arjun Reddy';
```

44. List all employees who share the same role.

```
mysql> SELECT Role, GROUP_CONCAT(Name) AS Employees
-> FROM Employee
-> GROUP BY Role
-> HAVING COUNT(*) > 1;
Empty set (0.01 sec)
```

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

```
mysql> SELECT Location.LocationName, Payment.*
-> FROM Payment
-> LEFT JOIN Courier ON Payment.CourierID = Courier.CourierID
-> LEFT JOIN Location ON Courier.LocationID = Location.LocationID;
```

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

```
mysql> SELECT User.Address AS SenderAddress, Courier.*
-> FROM Courier
-> LEFT JOIN User ON Courier.SenderID = User.UserID;
```

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

```
mysql> SELECT Employee.EmployeeID, Employee.Name, COUNT(Courier.CourierID) AS TotalCouriersDelivered
-> FROM Employee
-> LEFT JOIN Courier ON Employee.EmployeeID = Courier.EmployeeID
-> WHERE Courier.Status = 'Delivered'
-> GROUP BY Employee.EmployeeID, Employee.Name;
```

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

```
mysql> SELECT Courier.*, Payment.Amount, CourierServices.Cost
-> FROM Courier
-> LEFT JOIN Payment ON Courier.CourierID = Payment.CourierID
-> LEFT JOIN CourierServices ON Courier.ServiceID = CourierServices.ServiceID
-> WHERE Payment.Amount > CourierServices.Cost;
```

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

```
mysql> SELECT *
-> FROM Courier
-> WHERE Weight > (SELECT AVG(Weight) FROM Courier);
```

CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate
1	Saravanan	Coimbatore, India	Anandhi	Bangalore, India	3.50	In Transit	TN123456	2023-12-15
3	Manoj Kumar	Hyderabad, India	Sindhuja Nair	Mysuru, India	4.20	Out for Delivery	TS345678	2023-12-16
5	Naveen Reddy	Vizag, India	Deepika Rao	Trivandrum, India	3.00	Delivered	AP567890	2023-12-13
8	Arun Kumar	Chennai, India	Jyothi Nair	Hyderabad, India	3.70	Out for Delivery	TN456789	2023-12-19
10	Prakash Nair	Trivandrum, India	Sneha Rajan	Madurai, India	4.00	In Transit	KL012345	2023-12-21

5 rows in set (0.00 sec)

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

```
mysql> SELECT Name
-> FROM Employee
-> WHERE Salary > (SELECT AVG(Salary) FROM Employee);
```

Name
Deepika Nair
Rahul Menon
Anand Kumar
Karthik Rajan
Meera Krishna

5 rows in set (0.00 sec)

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

```
mysql> SELECT SUM(Cost) AS TotalCost
-> FROM CourierServices
-> WHERE Cost < (SELECT MAX(Cost) FROM CourierServices);
+-----+
| TotalCost |
+-----+
| 173.00 |
+-----+
1 row in set (0.00 sec)
```

53. Find all couriers that have been paid for

```
mysql> SELECT Courier.*
-> FROM Courier
-> JOIN Payment ON Courier.CourierID = Payment.CourierID;
+-----+-----+-----+-----+-----+
| CourierID | SenderName | SenderAddress | ReceiverName | ReceiverAddress |
| Weight | Status | TrackingNumber | DeliveryDate | |
+-----+-----+-----+-----+-----+
| 1 | Saravanan | Coimbatore, India | Anandhi | Bangalore, India |
| 3.50 | In Transit | TN123456 | 2023-12-15 | |
| 2 | Radhika Prasad | Kochi, India | Rahul Menon | Chennai, India |
| 2.80 | Delivered | KL789012 | 2023-12-14 | |
| 3 | Manoj Kumar | Hyderabad, India | Sindhuja Nair | Mysuru, India |
| 4.20 | Out for Delivery | TS345678 | 2023-12-16 | |
| 4 | Aishwarya Raj | Madurai, India | Vijay Suresh | Pondicherry, India |
| 1.50 | In Transit | TN901234 | 2023-12-17 | |
| 5 | Naveen Reddy | Vizag, India | Deepika Rao | Trivandrum, India |
| 3.00 | Delivered | AP567890 | 2023-12-13 | |
| 6 | Kavitha Menon | Bangalore, India | Suresh Babu | Chennai, India |
| 2.50 | In Transit | KA123456 | 2023-12-18 | |
| 7 | Vishal Naidu | Pondicherry, India | Sharmila Devi | Coimbatore, India |
| 1.80 | Delivered | PY345678 | 2023-12-12 | |
| 8 | Arun Kumar | Chennai, India | Jyothi Nair | Hyderabad, India |
| 3.70 | Out for Delivery | TN456789 | 2023-12-19 | |
| 9 | Sudha Krishna | Mysuru, India | Vikram Suresh | Kochi, India |
| 2.00 | Delivered | KA789012 | 2023-12-20 | |
| 10 | Prakash Nair | Trivandrum, India | Sneha Rajan | Madurai, India |
| 4.00 | In Transit | KL012345 | 2023-12-21 | |
+-----+-----+-----+-----+-----+
10 rows in set (0.00 sec)
```

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

```
mysql> SELECT Courier.*
-> FROM Courier
-> WHERE Weight > ALL (SELECT Weight FROM Courier WHERE SenderName = 'Arjun reddy')
;
```

CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress
Weight	Status	TrackingNumber	DeliveryDate	
1	Saravanan	Coimbatore, India	Anandhi	Bangalore, India
3.50	In Transit	TN123456	2023-12-15	
2	Radhika Prasad	Kochi, India	Rahul Menon	Chennai, India
2.80	Delivered	KL789012	2023-12-14	
3	Manoj Kumar	Hyderabad, India	Sindhuja Nair	Mysuru, India
4.20	Out for Delivery	TS345678	2023-12-16	
4	Aishwarya Raj	Madurai, India	Vijay Suresh	Pondicherry, India
1.50	In Transit	TN901234	2023-12-17	
5	Naveen Reddy	Vizag, India	Deepika Rao	Trivandrum, India
3.00	Delivered	AP567890	2023-12-13	
6	Kavitha Menon	Bangalore, India	Suresh Babu	Chennai, India
2.50	In Transit	KA123456	2023-12-18	
7	Vishal Naidu	Pondicherry, India	Sharmila Devi	Coimbatore, India
1.80	Delivered	PY345678	2023-12-12	
8	Arun Kumar	Chennai, India	Jyothi Nair	Hyderabad, India
3.70	Out for Delivery	TN456789	2023-12-19	
9	Sudha Krishna	Mysuru, India	Vikram Suresh	Kochi, India
2.00	Delivered	KA789012	2023-12-20	
10	Prakash Nair	Trivandrum, India	Sneha Rajan	Madurai, India
4.00	In Transit	KL012345	2023-12-21	

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