

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.

User Table:

User

```
(UserID INT PRIMARY KEY,  
Name VARCHAR(255),  
Email VARCHAR(255) UNIQUE,  
Password VARCHAR(255),  
ContactNumber VARCHAR(20),  
Address TEXT  
);
```

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);
```

CourierServices

```
(ServiceID INT PRIMARY KEY,  
ServiceName VARCHAR(100),  
Cost DECIMAL(8, 2));
```

Employee Table:

```
(EmployeeID INT PRIMARY KEY,  
Name VARCHAR(255),  
Email VARCHAR(255) UNIQUE,  
ContactNumber VARCHAR(20),  
Role VARCHAR(50),  
Salary DECIMAL(10, 2));
```

Location Table:

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

Payment Table:

```
(PaymentID INT PRIMARY KEY,  
CourierID INT,  
LocationId INT,  
Amount DECIMAL(10, 2),  
PaymentDate DATE,  
FOREIGN KEY (CourierID) REFERENCES Couriers(CourierID),  
FOREIGN KEY (LocationID) REFERENCES Location(LocationID));
```

Task 2: Select, Where

1. List all customers:

Select * from User;

```
MySQL 8.0 Command Line Client
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> use Courier_Management_System
Database changed
mysql> show tables;
+---------------------+
| Tables_in_courier_management_system |
+-----+
| courier               |
| courierservice         |
| employee              |
| location              |
| payment               |
| user                  |
+-----+
6 rows in set (0.00 sec)

mysql> select * from user;
+-----+-----+-----+-----+-----+-----+
| UserID | Name   | Email           | Password | ContactNumber | Address          |
+-----+-----+-----+-----+-----+-----+
| 1     | Rajesh | rajesh@example.com | password1 | 9876543210  | 123 Gandhi Nagar, Delhi |
| 2     | Priya   | priya@example.com  | password2 | 9876543210  | 456 Patel Colony, Mumbai |
| 3     | Ananya  | ananya@example.com | password3 | 9876543210  | 789 Malhotra Street, Kolkata |
| 4     | Deepak  | deepak@example.com | password4 | 9876543210  | 345 Rajput Enclave, Jaipur |
| 5     | Laxmi   | laxmi@example.com  | password5 | 9876543210  | 654 Verma Market, New York |
| 6     | Aray    | aray@example.com   | password6 | 9876543210  | 987 Jorai Nagar, Pune |
| 7     | Meera   | meera@example.com  | password7 | 9876543210  | 741 Khan Street, Hyderabad |
| 8     | Rohan   | rohan@example.com | password8 | 9876543210  | 369 Patel Chowk, Ahmedabad |
| 9     | Ishita  | ishita@example.com | password9 | 9876543210  | 852 Khan Market, Chennai |
| 10    | Arjun   | arjun@example.com | password10 | 9876543210 | 147 Verma Colony, Bangalore |
+-----+-----+-----+-----+-----+-----+
10 rows in set (0.00 sec)

mysql>
```

2. List all orders for a specific customer:

```
select * from courier where senderName = "Sneha";
```

3. List all couriers:

Select * from courier;

```
MySQL 8.0 Command Line Client
+-----+
| 0 rows in set (0.01 sec) |
+-----+
mysql> select * from courier where senderName = "Sneha";
+-----+
| CourierID | SenderName | SenderAddress | ReceiverName | ReceiverAddress | Weight | Status | TrackingNumber | DeliveryDate |
+-----+
| 6 | Sneha | 321 Rajput Enclave, Jaipur | Meera | 741 Khan Street, Hyderabad | 3.75 | In Transit | 6789012345 | 2024-04-11 |
+-----+
1 row in set (0.00 sec)

mysql> select * from courier;
+-----+
| CourierID | SenderName | SenderAddress | ReceiverName | ReceiverAddress | Weight | Status | TrackingNumber | DeliveryDate |
+-----+
| 1 | Rajiv | 123 Gandhi Nagar, Delhi | Priya | 456 Patel Colony, Mumbai | 2.50 | In Transit | 1234567890 | 2024-04-08 |
| 2 | Anita | 789 Malhotra Street, Kolkata | Deepak | 321 Rajput Enclave, Jaipur | 1.75 | Delivered | 2345678901 | 2024-04-07 |
| 3 | Vikram | 654 Verma Lane, Lucknow | Nandini | 987 Joshi Nagar, Pune | 3.25 | In Transit | 3456789012 | 2024-04-09 |
| 4 | Preeti | 741 Khan Street, Hyderabad | Rohan | 369 Patel Chowk, Ahmedabad | 4.00 | Delivered | 4567890123 | 2024-04-06 |
| 5 | Anil | 852 Khan Market, Chennai | Ishita | 147 Verma Colony, Bangalore | 2.00 | In Transit | 5678901234 | 2024-04-10 |
| 6 | Sneha | 321 Rajput Enclave, Jaipur | Meera | 741 Khan Street, Hyderabad | 3.75 | In Transit | 6789012345 | 2024-04-11 |
| 7 | Vikas | 287 Joshi Nagar, Pune | Arjun | 123 Gandhi Nagar, Delhi | 5.25 | Delivered | 7890123456 | 2024-04-05 |
| 8 | Priya | 456 Patel Colony, Mumbai | Rajiv | 123 Gandhi Nagar, Delhi | 2.90 | In Transit | 8901234567 | 2024-04-12 |
| 9 | Deepak | 147 Verma Colony, Bangalore | Anita | 789 Malhotra Street, Kolkata | 1.60 | Delivered | 9012345678 | 2024-04-04 |
| 10 | Nandini | 654 Verma Lane, Lucknow | Vikram | 654 Verma Lane, Lucknow | 3.10 | In Transit | 0123456789 | 2024-04-13 |
+-----+
10 rows in set (0.00 sec)

mysql>
```

4. List all packages for a specific order:

select * from courier where courierID = 3;

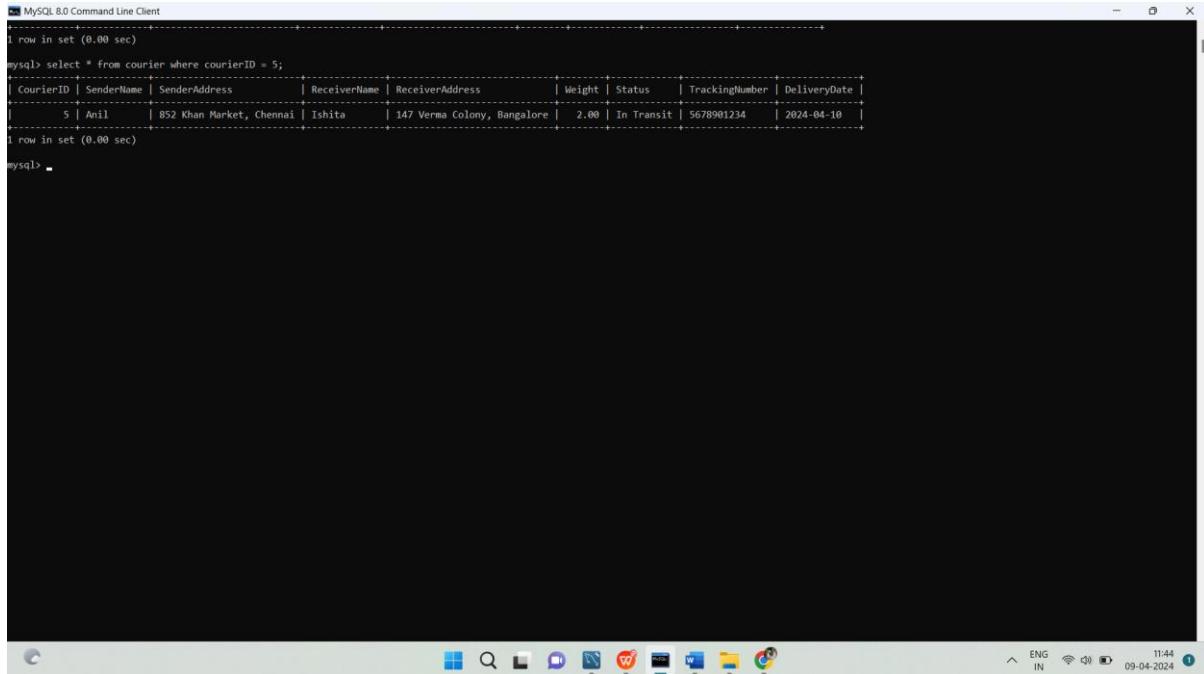
```
MySQL 8.0 Command Line Client
+-----+
| Select MySQL 8.0 Command Line Client |
+-----+
mysql> select * from courier;
+-----+
| CourierID | SenderName | SenderAddress | ReceiverName | ReceiverAddress | Weight | Status | TrackingNumber | DeliveryDate |
+-----+
| 1 | Rajiv | 123 Gandhi Nagar, Delhi | Priya | 456 Patel Colony, Mumbai | 2.50 | In Transit | 1234567890 | 2024-04-08 |
| 2 | Anita | 789 Malhotra Street, Kolkata | Deepak | 321 Rajput Enclave, Jaipur | 1.75 | Delivered | 2345678901 | 2024-04-07 |
| 3 | Vikram | 654 Verma Lane, Lucknow | Nandini | 987 Joshi Nagar, Pune | 3.25 | In Transit | 3456789012 | 2024-04-09 |
| 4 | Preeti | 741 Khan Street, Hyderabad | Rohan | 369 Patel Chowk, Ahmedabad | 4.00 | Delivered | 4567890123 | 2024-04-06 |
| 5 | Anil | 852 Khan Market, Chennai | Ishita | 147 Verma Colony, Bangalore | 2.00 | In Transit | 5678901234 | 2024-04-10 |
| 6 | Sneha | 321 Rajput Enclave, Jaipur | Meera | 741 Khan Street, Hyderabad | 3.75 | In Transit | 6789012345 | 2024-04-11 |
| 7 | Vikas | 287 Joshi Nagar, Pune | Arjun | 123 Gandhi Nagar, Delhi | 5.25 | Delivered | 7890123456 | 2024-04-05 |
| 8 | Priya | 456 Patel Colony, Mumbai | Rajiv | 123 Gandhi Nagar, Delhi | 2.90 | In Transit | 8901234567 | 2024-04-12 |
| 9 | Deepak | 147 Verma Colony, Bangalore | Anita | 789 Malhotra Street, Kolkata | 1.60 | Delivered | 9012345678 | 2024-04-04 |
| 10 | Nandini | 654 Verma Lane, Lucknow | Vikram | 654 Verma Lane, Lucknow | 3.10 | In Transit | 0123456789 | 2024-04-13 |
+-----+
10 rows in set (0.00 sec)

mysql> select * from courier where courierID = 3;
+-----+
| CourierID | SenderName | SenderAddress | ReceiverName | ReceiverAddress | Weight | Status | TrackingNumber | DeliveryDate |
+-----+
| 3 | Vikram | 654 Verma Lane, Lucknow | Nandini | 987 Joshi Nagar, Pune | 3.25 | In Transit | 3456789012 | 2024-04-09 |
+-----+
1 row in set (0.00 sec)

mysql>
```

5. List all deliveries for a specific courier:

```
select * from courier where courierID = 5;
```



MySQL 8.0 Command Line Client

```
1 row in set (0.00 sec)

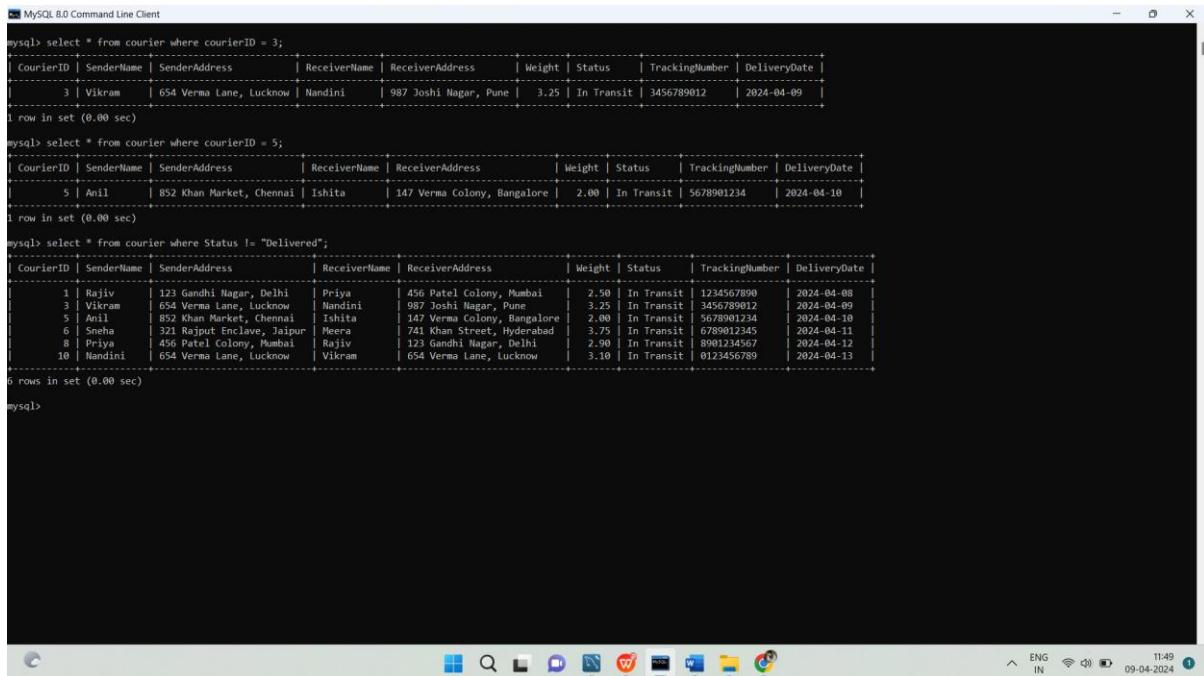
mysql> select * from courier where courierID = 5;
+-----+-----+-----+-----+-----+-----+-----+
| CourierID | SenderName | SenderAddress | ReceiverName | ReceiverAddress | Weight | Status | TrackingNumber | DeliveryDate |
+-----+-----+-----+-----+-----+-----+-----+
| 5 | Anil | 852 Khan Market, Chennai | Ishita | 147 Verma colony, Bangalore | 2.00 | In Transit | 5678901234 | 2024-04-10 |
+-----+-----+-----+-----+-----+-----+-----+
1 row in set (0.00 sec)

mysql>
```

Windows taskbar at the bottom with various icons.

6. List all undelivered packages:

```
select * from courier where Status != "Delivered";
```



MySQL 8.0 Command Line Client

```
mysql> select * from courier where courierID = 3;
+-----+-----+-----+-----+-----+-----+-----+
| CourierID | SenderName | SenderAddress | ReceiverName | ReceiverAddress | Weight | Status | TrackingNumber | DeliveryDate |
+-----+-----+-----+-----+-----+-----+-----+
| 3 | Vikram | 654 Verma Lane, Lucknow | Nandini | 987 Joshi Nagar, Pune | 3.25 | In Transit | 3456789012 | 2024-04-09 |
+-----+-----+-----+-----+-----+-----+-----+
1 row in set (0.00 sec)

mysql> select * from courier where courierID = 5;
+-----+-----+-----+-----+-----+-----+-----+
| CourierID | SenderName | SenderAddress | ReceiverName | ReceiverAddress | Weight | Status | TrackingNumber | DeliveryDate |
+-----+-----+-----+-----+-----+-----+-----+
| 5 | Anil | 852 Khan Market, Chennai | Ishita | 147 Verma Colony, Bangalore | 2.00 | In Transit | 5678901234 | 2024-04-10 |
+-----+-----+-----+-----+-----+-----+-----+
1 row in set (0.00 sec)

mysql> select * from courier where Status != "Delivered";
+-----+-----+-----+-----+-----+-----+-----+
| CourierID | SenderName | SenderAddress | ReceiverName | ReceiverAddress | Weight | Status | TrackingNumber | DeliveryDate |
+-----+-----+-----+-----+-----+-----+-----+
| 1 | Rajiv | 123 Gandhi Nagar, Delhi | Priya | 456 Patel Colony, Mumbai | 2.50 | In Transit | 1234567890 | 2024-04-08 |
| 3 | Vikram | 654 Verma Lane, Lucknow | Nandini | 987 Joshi Nagar, Pune | 3.25 | In Transit | 3456789012 | 2024-04-09 |
| 5 | Anil | 852 Khan Market, Chennai | Ishita | 147 Verma Colony, Bangalore | 2.00 | In Transit | 5678901234 | 2024-04-10 |
| 6 | Sneha | 321 Rajput Enclave, Jaipur | Meera | 741 Khan Street, Hyderabad | 3.75 | In Transit | 6789012345 | 2024-04-11 |
| 8 | Priya | 456 Patel Colony, Mumbai | Rajiv | 123 Gandhi Nagar, Delhi | 2.90 | In Transit | 8901234567 | 2024-04-12 |
| 10 | Nandini | 654 Verma Lane, Lucknow | Vikram | 987 Joshi Nagar, Pune | 3.10 | In Transit | 0123456789 | 2024-04-13 |
+-----+-----+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)

mysql>
```

Windows taskbar at the bottom with various icons.

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

```
select * from courier where deliverydate = date(now());
```

```
MySQL 8.0 Command Line Client
Empty set (0.00 sec)

mysql> select now();
+-----+
| now() |
+-----+
| 2024-04-09 11:51:11 |
+-----+
1 row in set (0.00 sec)

mysql> select time(now);
ERROR 1054 (42S22): Unknown column 'now' in 'field list'
mysql> select time(now());
+-----+
| time(now()) |
+-----+
| 11:52:18 |
+-----+
1 row in set (0.00 sec)

mysql> select * from courier where deliverydate = date(now());
+-----+-----+-----+-----+-----+-----+-----+
| CourierID | SenderName | SenderAddress | ReceiverName | ReceiverAddress | Weight | Status |
+-----+-----+-----+-----+-----+-----+-----+
| 3 | Vikram | 654 Verma Lane, Lucknow | Nandini | 987 Joshi Nagar, Pune | 3.25 | In Transit |
+-----+-----+-----+-----+-----+-----+-----+
1 row in set (0.00 sec)

mysql>
```

8. List all packages with a specific status:

```
select * from courier where status = "In Transit";
```

```
MySQL 8.0 Command Line Client
Empty set (0.00 sec)

mysql> select * from courier
->;
+-----+-----+-----+-----+-----+-----+-----+
| CourierID | SenderName | SenderAddress | ReceiverName | ReceiverAddress | Weight | Status |
+-----+-----+-----+-----+-----+-----+-----+
| 1 | Rajiv | 123 Gandhi Nagar, Delhi | Priya | 456 Patel Colony, Mumbai | 2.50 | In Transit |
| 2 | Anita | 789 Malhotra Street, Kolkata | Deepak | 321 Rajput Enclave, Jaipur | 1.75 | Delivered |
| 3 | Vikram | 654 Verma Lane, Lucknow | Nandini | 987 Joshi Nagar, Pune | 3.25 | In Transit |
| 4 | Preeti | 741 Khan Street, Hyderabad | Rohan | 369 Patel Chowk, Ahmedabad | 4.00 | Delivered |
| 5 | Anil | 852 Khan Market, Chennai | Ishita | 147 Verma Colony, Bangalore | 2.00 | In Transit |
| 6 | Sneha | 321 Rajput Enclave, Jaipur | Meera | 741 Khan Street, Hyderabad | 3.75 | In Transit |
| 7 | Vikas | 987 Joshi Nagar, Pune | Arjun | 123 Gandhi Nagar, Delhi | 5.25 | Delivered |
| 8 | Priya | 456 Patel Colony, Mumbai | Rajiv | 123 Gandhi Nagar, Delhi | 2.90 | In Transit |
| 9 | Deepak | 147 Verma Colony, Bangalore | Anita | 789 Malhotra Street, Kolkata | 1.60 | Delivered |
| 10 | Nandini | 654 Verma Lane, Lucknow | Vikram | 654 Verma Lane, Lucknow | 3.10 | In Transit |
+-----+-----+-----+-----+-----+-----+-----+
10 rows in set (0.00 sec)

mysql> select * from courier where status = "In Transit";
+-----+-----+-----+-----+-----+-----+-----+
| CourierID | SenderName | SenderAddress | ReceiverName | ReceiverAddress | Weight | Status |
+-----+-----+-----+-----+-----+-----+-----+
| 3 | Vikram | 654 Verma Lane, Lucknow | Nandini | 987 Joshi Nagar, Pune | 3.25 | In Transit |
| 4 | Preeti | 741 Khan Street, Hyderabad | Rohan | 369 Patel Chowk, Ahmedabad | 4.00 | Delivered |
| 6 | Sneha | 321 Rajput Enclave, Jaipur | Meera | 741 Khan Street, Hyderabad | 3.75 | In Transit |
| 7 | Vikas | 987 Joshi Nagar, Pune | Arjun | 123 Gandhi Nagar, Delhi | 5.25 | Delivered |
| 8 | Priya | 456 Patel Colony, Mumbai | Rajiv | 123 Gandhi Nagar, Delhi | 2.90 | In Transit |
| 10 | Nandini | 654 Verma Lane, Lucknow | Vikram | 654 Verma Lane, Lucknow | 3.10 | In Transit |
+-----+-----+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)

mysql>
```

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

```
select courierID,count(courierID) as no_of_packages from courier group by courierID;
```

The screenshot shows the MySQL Command Line Client interface. The command `select * from courier where status = "In Transit";` is run, displaying 10 rows of courier information. The command `select courierID, count(courierID) as no_of_packages from courier group by courierID;` is then run, resulting in a single row showing the count of packages for each courier ID.

CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate
1	Rajiv	123 Gandhi Nagar, Delhi	Priya	456 Patel Colony, Mumbai	2.50	In Transit	1234567890	2024-04-08
3	Vikram	654 Verma Lane, Lucknow	Nandini	987 Joshi Nagar, Pune	3.25	In Transit	3456789012	2024-04-09
5	Anil	852 Khan Market, Chennai	Ishita	147 Verma Colony, Bangalore	2.00	In Transit	5678901234	2024-04-10
6	Sneha	321 Rajput Enclave, Jaipur	Meera	741 Khan Street, Hyderabad	3.75	In Transit	6789012345	2024-04-11
8	Priya	456 Patel Colony, Mumbai	Rajiv	123 Gandhi Nagar, Delhi	1.90	In Transit	8901234567	2024-04-12
10	Nandini	654 Verma Lane, Lucknow	Vikram	987 Joshi Nagar, Pune	3.10	In Transit	0123456789	2024-04-13

courierID	no_of_packages
1	1
2	1
3	1
4	1
5	1
6	1
7	1
8	1
9	1
10	1

10. Find the average delivery time for each courier:

```
Select p.courierId, avg(datediff(c.deliveryDate,p.paymentDate)) as avgTime
```

```
from payment p inner join courier c on c.courierId =p.courierId group by courierId;
```

The screenshot shows the MySQL Command Line Client interface. The command `select * from payment;` is run, displaying 10 rows of payment information. The command `SELECT p.CourierID, AVG(DATEDIFF(c.deliveryDate, p.PaymentDate)) AS AvgDeliveryTime FROM Payment p inner join courier c on c.courierID = p.courierID group by courierID;` is then run, resulting in a single row showing the average delivery time for each courier ID.

PaymentID	CourierID	LocationID	Amount	PaymentDate	EmployeeID	serviceID
1	1	1	100.00	2024-04-08	1	2
2	2	3	150.00	2024-04-07	4	3
3	3	5	200.00	2024-04-09	19	4
4	4	7	120.00	2024-04-06	8	1
5	5	9	250.00	2024-04-10	6	3
6	6	4	175.00	2024-04-11	10	2
7	7	1	200.00	2024-04-05	4	4
8	8	2	145.00	2024-04-12	1	1
9	9	6	160.00	2024-04-04	8	3
10	10	8	185.00	2024-04-13	6	2

CourierID	AvgDeliveryTime
1	2.0000
2	2.0000
3	4.0000
4	3.0000
5	4.0000
6	4.0000
7	4.0000
8	4.0000
9	4.0000
10	3.0000

11. List all packages with a specific weight range:

```
select * from courier where weight between 2 and 4;
```

```
select * from courier where weight >= 2.5 and weight <= 4;
```

The screenshot shows the MySQL 8.0 Command Line Client interface. It displays two separate SQL queries and their results.

Query 1: `select * from courier;`

CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate
1	Rajiv	123 Gandhi Nagar, Delhi	Priya	456 Patel Colony, Mumbai	2.50	In Transit	1234567890	2024-04-08
2	Anita	789 Malhotra Street, Kolkata	Deepak	321 Rajput Enclave, Jaipur	1.75	Delivered	2345678901	2024-04-07
3	Vikram	654 Verma Lane, Lucknow	Nandini	987 Joshi Nagar, Pune	3.25	In Transit	3456789012	2024-04-09
4	Preeti	741 Khan Street, Hyderabad	Rohan	369 Patel Chowk, Ahmedabad	4.00	Delivered	4567890123	2024-04-06
5	Anil	852 Khan Market, Chennai	Ishita	147 Verma Colony, Bangalore	2.00	In Transit	5678901234	2024-04-10
6	Sneha	321 Rajput Enclave, Jaipur	Mera	701 Patel Colony, Hyderabad	3.75	In Transit	6789012345	2024-04-11
7	Vikas	987 Joshi Nagar, Pune	Amit	123 Gandhi Nagar, Delhi	2.25	Delivered	7890123456	2024-04-05
8	Priya	456 Patel Colony, Mumbai	Rajiv	123 Gandhi Nagar, Delhi	2.90	In Transit	8901234567	2024-04-12
9	Deepak	147 Verma Colony, Bangalore	Anita	789 Malhotra Street, Kolkata	1.60	Delivered	9012345678	2024-04-04
10	Nandini	654 Verma Lane, Lucknow	Vikram	654 Verma Lane, Lucknow	3.10	In Transit	0123456789	2024-04-13

10 rows in set (0.00 sec)

Query 2: `select * from courier where weight between 2 and 4;`

CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate
1	Rajiv	123 Gandhi Nagar, Delhi	Priya	456 Patel Colony, Mumbai	2.50	In Transit	1234567890	2024-04-08
3	Vikram	654 Verma Lane, Lucknow	Nandini	987 Joshi Nagar, Pune	3.25	In Transit	3456789012	2024-04-09
4	Preeti	741 Khan Street, Hyderabad	Rohan	369 Patel Chowk, Ahmedabad	4.00	Delivered	4567890123	2024-04-06
5	Anil	852 Khan Market, Chennai	Ishita	147 Verma Colony, Bangalore	2.00	In Transit	5678901234	2024-04-10
6	Sneha	321 Rajput Enclave, Jaipur	Mera	701 Patel Colony, Hyderabad	3.75	In Transit	6789012345	2024-04-11
7	Vikas	987 Joshi Nagar, Pune	Amit	123 Gandhi Nagar, Delhi	2.25	Delivered	7890123456	2024-04-05
8	Priya	456 Patel Colony, Mumbai	Rajiv	123 Gandhi Nagar, Delhi	2.90	In Transit	8901234567	2024-04-12
10	Nandini	654 Verma Lane, Lucknow	Vikram	654 Verma Lane, Lucknow	3.10	In Transit	0123456789	2024-04-13

7 rows in set (0.00 sec)

mysql>

12. Retrieve employees whose names contain 'John'

```
select * from employee where name like "%john%";
```

The screenshot shows the MySQL 8.0 Command Line Client interface. It displays two separate SQL queries and their results.

Query 1: `select * from employee;`

EmployeeID	Name	Email	ContactNumber	Role	Salary
1	Rahul	rahul@example.com	1234567890	Courier Driver	30000.00
2	Pooja	pooja@example.com	9876543210	Customer Service	35000.00
3	Alok	alok@example.com	5554443322	Manager	50000.00
4	Sunita	sunita@example.com	3345678900	Courier Driver	30000.00
5	Sameer	sameer@example.com	9998887760	Customer Service	35000.00
6	Ritu	ritu@example.com	1112223330	Courier Driver	32000.00
7	Neeta	neeta@example.com	4445556660	Manager	52000.00
8	Ajay	ajay@example.com	7778889900	Courier Driver	31000.00
9	Sonali	sonali@example.com	2223344400	Customer Service	36000.00
10	Vikram	vikram@example.com	6667788800	Courier Driver	29000.00
11	Johniya	joniya123@gmail.com	6379710776	Customer Service	35000.00
12	Lekha John	lekhajohn345@gmail.com	9080873466	Manager	50000.00

12 rows in set (0.00 sec)

Query 2: `select * from employee where name like "%john%";`

EmployeeID	Name	Email	ContactNumber	Role	Salary
11	Johniya	joniya123@gmail.com	6379710776	Customer Service	35000.00
12	Lekha John	lekhajohn345@gmail.com	9080873466	Manager	50000.00

2 rows in set (0.00 sec)

mysql>

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

select * from courier where courierID in (select courierID from payment where amount>50);

```
MySQL 8.0 Command Line Client
6 rows in set (0.00 sec)

mysql> select * from courier;
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| CourierID | SenderName | SenderAddress | ReceiverName | ReceiverAddress | Weight | Status | TrackingNumber | DeliveryDate |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 1 | Rajiv | 123 Gandhi Nagar, Delhi | Priya | 456 Patel Colony, Mumbai | 2.50 | In Transit | 1234567890 | 2024-04-08 |
| 2 | Anita | 789 Malhotra Street, Kolkata | Deepak | 321 Rajput Enclave, Jaipur | 1.75 | Delivered | 2345678901 | 2024-04-07 |
| 3 | Vikram | 654 Verma Lane, Lucknow | Nandini | 987 Joshi Nagar, Pune | 3.25 | In Transit | 3456789012 | 2024-04-09 |
| 4 | Lekha | 1234 Verma Colony, Hyderabad | Meera | 5678 Mahatma Gandhi, Hyderabad | 3.00 | Delivered | 456789013 | 2024-04-06 |
| 5 | Anil | 852 Khan Market, Chennai | Ishita | 147 Verma Colony, Bangalore | 2.00 | In Transit | 5678901234 | 2024-04-18 |
| 6 | Sneha | 321 Rajput Enclave, Jaipur | Meera | 741 Khan Street, Hyderabad | 3.75 | In Transit | 6789012345 | 2024-04-11 |
| 7 | Vikas | 987 Joshi Nagar, Pune | Arjun | 123 Gandhi Nagar, Delhi | 5.25 | Delivered | 7890123456 | 2024-04-05 |
| 8 | Priya | 456 Patel colony, Mumbai | Rajiv | 123 Gandhi Nagar, Delhi | 2.90 | In Transit | 8901234567 | 2024-04-12 |
| 9 | Deepak | 147 Verma colony, Bangalore | Anita | 789 Malhotra Street, Kolkata | 1.60 | Delivered | 98012345678 | 2024-04-04 |
| 10 | Nandini | 654 Verma Lane, Lucknow | Vikram | 654 Verma Lane, Lucknow | 3.10 | In Transit | 0123456789 | 2024-04-13 |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
10 rows in set (0.00 sec)

mysql> select * from courier where courierID in (select courierID from payment where amount>150);
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| CourierID | SenderName | SenderAddress | ReceiverName | ReceiverAddress | Weight | Status | TrackingNumber | DeliveryDate |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 3 | Vikram | 654 Verma Lane, Lucknow | Nandini | 987 Joshi Nagar, Pune | 3.25 | In Transit | 3456789012 | 2024-04-09 |
| 5 | Anil | 852 Khan Market, Chennai | Ishita | 147 Verma Colony, Bangalore | 2.00 | In Transit | 5678901234 | 2024-04-10 |
| 6 | Sneha | 321 Rajput Enclave, Jaipur | Meera | 741 Khan Street, Hyderabad | 3.75 | In Transit | 6789012345 | 2024-04-11 |
| 7 | Vikas | 987 Joshi Nagar, Pune | Arjun | 123 Gandhi Nagar, Delhi | 5.25 | Delivered | 7890123456 | 2024-04-05 |
| 9 | Deepak | 147 Verma colony, Bangalore | Anita | 789 Malhotra Street, Kolkata | 1.60 | Delivered | 98012345678 | 2024-04-04 |
| 10 | Nandini | 654 Verma Lane, Lucknow | Vikram | 654 Verma Lane, Lucknow | 3.10 | In Transit | 0123456789 | 2024-04-13 |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)

mysql>
```

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

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

select e.employeeID,e.name,e.role,count(p.courierID) as total_courier from employee e left join payment p on e.employeeID = p.employeeID group by e.employeeID;

```
MySQL 8.0 Command Line Client
12 rows in set (0.00 sec)

mysql> select e.employeeID,e.name,e.role,count(p.courierID) as total_courier from employee e left join payment p on e.employeeID = p.employeeID group by e.employeeID;
+-----+-----+-----+-----+
| employeeID | name | role | total_courier |
+-----+-----+-----+-----+
| 1 | Rahul | Courier Driver | 2 |
| 2 | Pooja | Customer Service | 0 |
| 3 | Alok | Manager | 0 |
| 4 | Sunita | Courier Driver | 2 |
| 5 | Sameer | Customer Service | 0 |
| 6 | Ritu | Courier Driver | 2 |
| 7 | Neeta | Manager | 0 |
| 8 | Ajay | Courier Driver | 2 |
| 9 | Sonali | Customer Service | 0 |
| 10 | Vikram | Courier Driver | 2 |
| 11 | Johniya | Customer Service | 0 |
| 12 | Lekha John | Manager | 0 |
+-----+-----+-----+-----+
12 rows in set (0.00 sec)

mysql>
```

15. Calculate the total revenue generated by each location:

```
select LocationId,sum(Amount) as total_revenue from payment group by LocationId;
```

The screenshot shows the MySQL 8.0 Command Line Client interface. The command line displays two SQL queries. The first query selects all columns from the 'payment' table, resulting in 10 rows of data. The second query calculates the total revenue for each location using a GROUP BY clause on the 'LocationId' column, resulting in 9 rows of data. The client window has a title bar 'MySQL 8.0 Command Line Client', a status bar at the bottom showing 'ENG IN 09-04-2024 16:00', and a toolbar with various icons.

```
mysql> select * from payment;
+-----+-----+-----+-----+
| PaymentID | CourierID | locationId | Amount | PaymentDate |
+-----+-----+-----+-----+
| 1 | 1 | 1 | 100.00 | 2024-04-08 |
| 2 | 2 | 2 | 150.00 | 2024-04-07 |
| 3 | 3 | 3 | 200.00 | 2024-04-09 |
| 4 | 4 | 4 | 120.00 | 2024-04-06 |
| 5 | 5 | 5 | 150.00 | 2024-04-10 |
| 6 | 6 | 4 | 175.00 | 2024-04-11 |
| 7 | 7 | 1 | 200.00 | 2024-04-05 |
| 8 | 8 | 2 | 145.00 | 2024-04-12 |
| 9 | 9 | 6 | 160.00 | 2024-04-04 |
| 10 | 10 | 8 | 185.00 | 2024-04-13 |
+-----+-----+-----+-----+
10 rows in set (0.00 sec)

mysql> select LocationId,sum(Amount) as total_revenue from payment group by LocationId;
+-----+-----+
| LocationId | total_revenue |
+-----+-----+
| 1 | 300.00 |
| 2 | 145.00 |
| 3 | 150.00 |
| 4 | 175.00 |
| 5 | 200.00 |
| 6 | 160.00 |
| 7 | 120.00 |
| 8 | 185.00 |
| 9 | 250.00 |
+-----+-----+
9 rows in set (0.00 sec)

mysql>
```

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

```
select LocationId,count(CourierId) from payment group by LocationId;
```

The screenshot shows the MySQL 8.0 Command Line Client interface. The command line displays two SQL queries. The first query selects all columns from the 'payment' table, resulting in 10 rows of data. The second query calculates the total number of couriers for each location using a GROUP BY clause on the 'LocationId' column, resulting in 9 rows of data. The client window has a title bar 'MySQL 8.0 Command Line Client', a status bar at the bottom showing 'ENG IN 10-04-2024 14:28', and a toolbar with various icons.

```
mysql> select * from payment;
+-----+-----+-----+-----+
| PaymentID | CourierID | locationId | Amount | PaymentDate |
+-----+-----+-----+-----+
| 1 | 1 | 1 | 100.00 | 2024-04-08 |
| 2 | 2 | 2 | 150.00 | 2024-04-07 |
| 3 | 3 | 3 | 200.00 | 2024-04-09 |
| 4 | 4 | 4 | 120.00 | 2024-04-06 |
| 5 | 5 | 5 | 150.00 | 2024-04-10 |
| 6 | 6 | 4 | 175.00 | 2024-04-11 |
| 7 | 7 | 1 | 200.00 | 2024-04-05 |
| 8 | 8 | 2 | 145.00 | 2024-04-12 |
| 9 | 9 | 6 | 160.00 | 2024-04-04 |
| 10 | 10 | 8 | 185.00 | 2024-04-13 |
+-----+-----+-----+-----+
10 rows in set (0.00 sec)

mysql> select LocationId,count(CourierId) from payment group by LocationId;
+-----+-----+
| LocationId | count(CourierId) |
+-----+-----+
| 1 | 2 |
| 2 | 1 |
| 3 | 1 |
| 4 | 1 |
| 5 | 1 |
| 6 | 1 |
| 7 | 1 |
| 8 | 1 |
| 9 | 1 |
+-----+-----+
9 rows in set (0.00 sec)

mysql>
```

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

```
select p.courierid, avg(datediff(c.deliverydate, p.paymentdate)) as avgdeliverytime from payment p
inner join courier c on c.courierid = p.courierid group by courierid order by
avgdeliverytime desc limit 1;
```

The screenshot shows the MySQL 8.0 Command Line Client interface. The command window displays the following SQL query and its results:

```
mysql> select * from courier;
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| CourierID | SenderName | SenderAddress | ReceiverName | ReceiverAddress | Weight | Status | TrackingNumber | DeliveryDate | serviceId |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 1 | Rajiv | 123 Gandhi Nagar, Delhi | Priya | 456 Patel Colony, Mumbai | 2.50 | In Transit | 1234567890 | 2024-04-10 | 2 |
| 2 | Anita | 789 Malhotra Street, Kolkata | Deepak | 321 Rajput Enclave, Jaipur | 1.75 | Delivered | 2345678901 | 2024-04-09 | 3 |
| 3 | Vikram | 654 Verma Lane, Lucknow | Nandini | 987 Joshi Nagar, Pune | 3.25 | In Transit | 3456789012 | 2024-04-13 | 4 |
| 4 | Preeti | 741 Khan Street, Hyderabad | Rohan | 369 Patel Chowk, Ahmedabad | 4.00 | Delivered | 4567890123 | 2024-04-09 | 1 |
| 5 | Anil | 852 Khan Market, Chennai | Ishita | 147 Verma Colony, Bangalore | 2.00 | In Transit | 5678901234 | 2024-04-14 | 3 |
| 6 | Sneha | 321 Rajput Enclave, Jaipur | Meera | 741 Khan Street, Hyderabad | 3.75 | In Transit | 6789012345 | 2024-04-15 | 2 |
| 7 | Vikas | 987 Joshi Nagar, Pune | Arjun | 123 Gandhi Nagar, Delhi | 5.25 | Delivered | 7890123456 | 2024-04-09 | 4 |
| 8 | Priya | 456 Patel Colony, Mumbai | Rajiv | 123 Gandhi Nagar, Delhi | 2.90 | In Transit | 8901234567 | 2024-04-16 | 1 |
| 9 | Deepak | 147 Verma Colony, Bangalore | Anita | 789 Malhotra Street, Kolkata | 1.60 | Delivered | 9812345678 | 2024-04-08 | 3 |
| 10 | Nandini | 654 Verma Lane, Lucknow | Vikram | 654 Verma Lane, Lucknow | 3.10 | In Transit | 0123456789 | 2024-04-16 | 2 |
| 11 | Anita | 789 Malhotra Street, Kolkata | Vikram | 654 Verma Lane, Lucknow | 5.34 | In Transit | 6738573930 | 2024-04-19 | 3 |
| 12 | Preeti | 741 Khan Street, Hyderabad | Rajiv | 123 Gandhi Nagar, Delhi | 5.34 | Delivered | 8738573930 | 2024-04-10 | 1 |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
12 rows in set (0.00 sec)

mysql> select p.courierID,avg(datediff(c.deliverydate,p.paymentdate)) as avgDeliveryTime from payment p inner join courier c
-> on c.courierId=p.courierId group by courierId order by AvgDeliveryTime desc limit 1;
+-----+-----+
| courierID | avgDeliveryTime |
+-----+-----+
| 3 | 4.0000 |
+-----+-----+
1 row in set (0.00 sec)

mysql>
```

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

```
select LocationId, sum(Amount) from payment group by locationId having sum(Amount)<200;
```

The screenshot shows the MySQL 8.0 Command Line Client interface. The command window displays the following SQL query and its results:

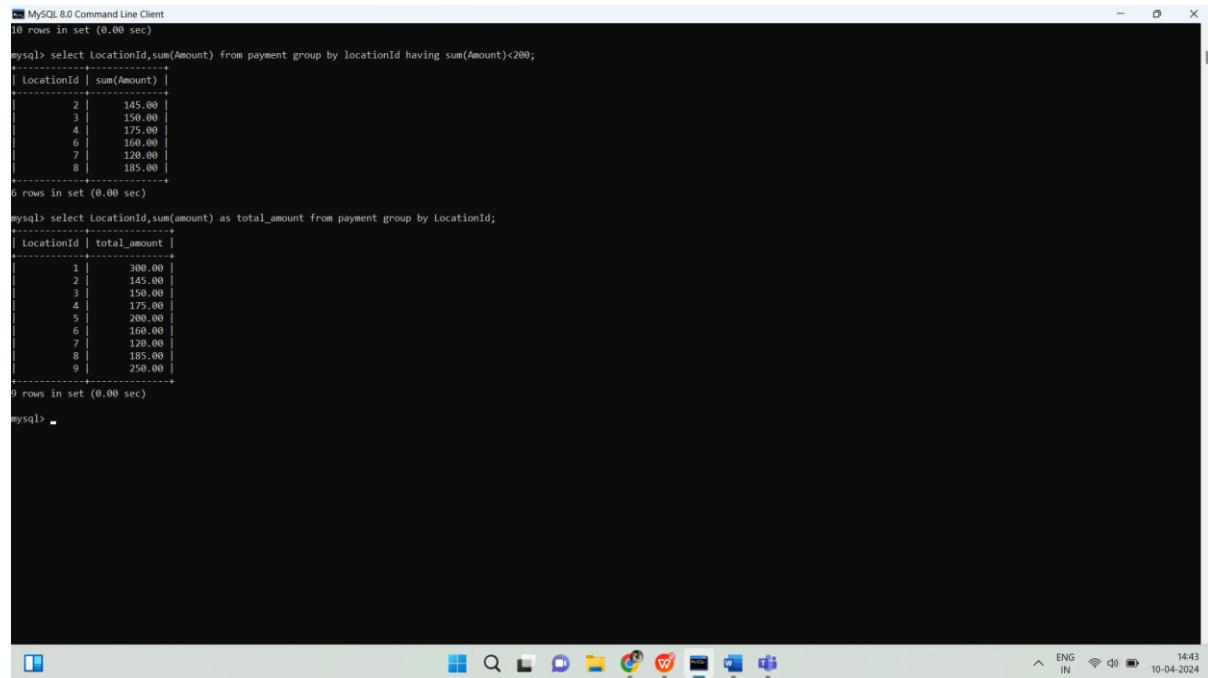
```
mysql> select * from payment;
+-----+-----+-----+-----+-----+
| PaymentID | CourierID | LocationId | Amount | PaymentDate |
+-----+-----+-----+-----+-----+
| 1 | 1 | 1 | 100.00 | 2024-04-08 |
| 2 | 2 | 1 | 100.00 | 2024-04-09 |
| 3 | 3 | 5 | 200.00 | 2024-04-09 |
| 4 | 4 | 7 | 120.00 | 2024-04-06 |
| 5 | 5 | 9 | 250.00 | 2024-04-10 |
| 6 | 6 | 4 | 175.00 | 2024-04-11 |
| 7 | 7 | 1 | 200.00 | 2024-04-05 |
| 8 | 8 | 2 | 145.00 | 2024-04-12 |
| 9 | 9 | 6 | 160.00 | 2024-04-04 |
| 10 | 10 | 8 | 185.00 | 2024-04-13 |
+-----+-----+-----+-----+-----+
10 rows in set (0.00 sec)

mysql> select LocationId,sum(Amount) from payment group by locationId having sum(Amount)<200;
+-----+-----+
| LocationId | sum(Amount) |
+-----+-----+
| 2 | 145.00 |
| 3 | 150.00 |
| 4 | 140.00 |
| 6 | 160.00 |
| 7 | 120.00 |
| 8 | 185.00 |
+-----+-----+
6 rows in set (0.00 sec)

mysql>
```

19. Calculate Total Payments per Location

```
select LocationId,sum(amount) as total_amount from payment group by LocationId;
```



```
MySQL 8.0 Command Line Client
10 rows in set (0.00 sec)

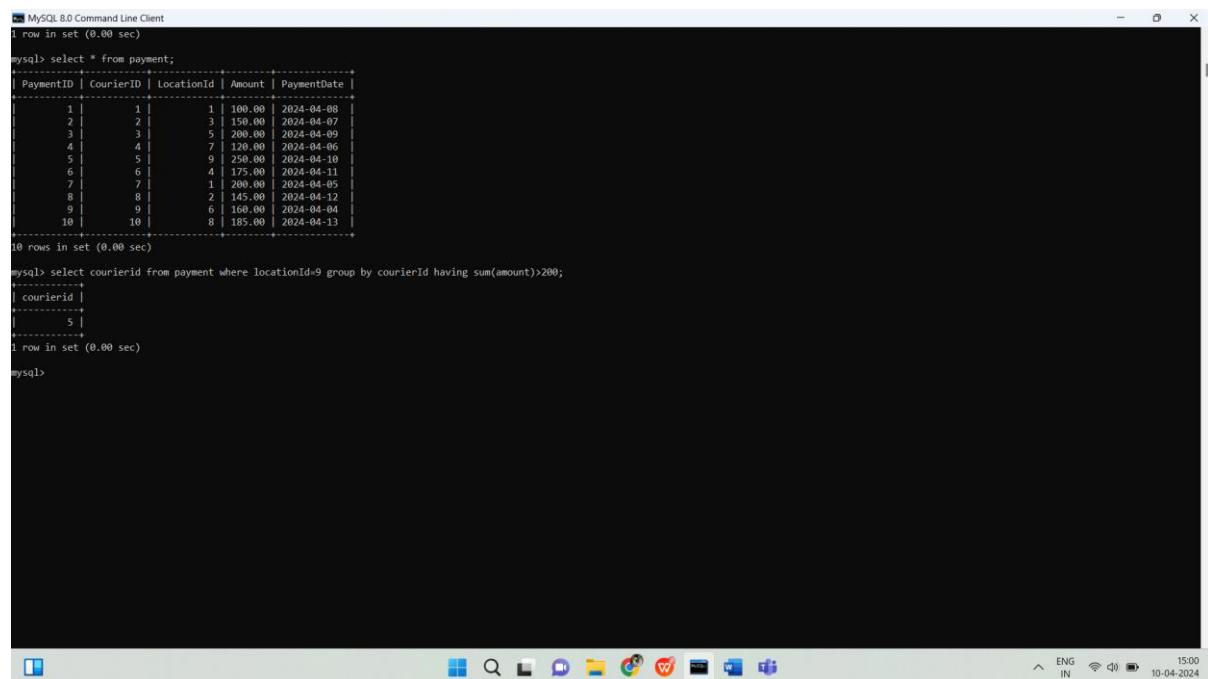
mysql> select LocationId,sum(amount) from payment group by locationId having sum(amount)<200;
+-----+-----+
| LocationId | sum(Amount) |
+-----+-----+
| 2 | 145.00 |
| 3 | 150.00 |
| 4 | 175.00 |
| 6 | 160.00 |
| 7 | 128.00 |
| 8 | 185.00 |
+-----+-----+
0 rows in set (0.00 sec)

mysql> select LocationId,sum(amount) as total_amount from payment group by LocationId;
+-----+-----+
| LocationId | total_amount |
+-----+-----+
| 1 | 300.00 |
| 2 | 145.00 |
| 3 | 150.00 |
| 4 | 175.00 |
| 5 | 200.00 |
| 6 | 160.00 |
| 7 | 120.00 |
| 8 | 185.00 |
| 9 | 250.00 |
+-----+-----+
0 rows in set (0.00 sec)

mysql> -
```

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

```
select courierid from payment where locationId=9 group by courierId having sum(amount)>1000;
```



```
MySQL 8.0 Command Line Client
1 row in set (0.00 sec)

mysql> select * from payment;
+-----+-----+-----+-----+-----+
| PaymentID | CourierID | LocationID | Amount | PaymentDate |
+-----+-----+-----+-----+-----+
| 1 | 1 | 1 | 100.00 | 2024-04-08 |
| 2 | 2 | 1 | 150.00 | 2024-04-09 |
| 3 | 3 | 5 | 200.00 | 2024-04-09 |
| 4 | 4 | 7 | 120.00 | 2024-04-06 |
| 5 | 5 | 9 | 250.00 | 2024-04-10 |
| 6 | 6 | 4 | 175.00 | 2024-04-11 |
| 7 | 7 | 1 | 200.00 | 2024-04-05 |
| 8 | 8 | 2 | 145.00 | 2024-04-12 |
| 9 | 9 | 6 | 160.00 | 2024-04-04 |
| 10 | 10 | 8 | 185.00 | 2024-04-13 |
+-----+-----+-----+-----+-----+
10 rows in set (0.00 sec)

mysql> select courierid from payment where locationId=9 group by courierId having sum(amount)>200;
+-----+
| courierid |
+-----+
| 5 |
+-----+
1 row in set (0.00 sec)

mysql>
```

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

select courierid from payment where paymentDate>date(now()) group by courierId having sum(amount)>1000;

The screenshot shows the MySQL 8.0 Command Line Client interface. The command `select * from payment;` is run first, displaying 10 rows of payment data. Then, the query `select courierid from payment where paymentDate>date(now()) group by courierId having sum(amount)>1000;` is run, resulting in 3 rows where courier IDs 6 and 10 have total payments above \$1000.

PaymentID	CourierID	LocationID	Amount	PaymentDate
1	1	1	100.00	2024-04-08
2	2	3	150.00	2024-04-07
3	3	5	200.00	2024-04-09
4	4	7	120.00	2024-04-06
5	5	9	250.00	2024-04-10
6	6	4	175.00	2024-04-11
7	7	1	130.00	2024-04-05
8	8	2	145.00	2024-04-12
9	9	6	160.00	2024-04-04
10	10	8	185.00	2024-04-13

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

select locationid from payment where paymentdate<date(now()) group by locationId having sum(amount)>5000;

The screenshot shows the MySQL 8.0 Command Line Client interface. The command `select * from payment;` is run first, displaying 10 rows of payment data. Then, the query `select locationid from payment where paymentdate<date(now()) group by locationId having sum(amount)>5000;` is run, resulting in 3 rows where location IDs 1, 5, and 6 have total payments above \$5000.

PaymentID	CourierID	LocationID	Amount	PaymentDate
1	1	1	100.00	2024-04-08
2	2	3	150.00	2024-04-07
3	3	5	200.00	2024-04-09
4	4	7	120.00	2024-04-06
5	5	9	230.00	2024-04-10
6	6	4	175.00	2024-04-11
7	7	1	130.00	2024-04-05
8	8	2	145.00	2024-04-12
9	9	6	160.00	2024-04-04
10	10	8	185.00	2024-04-13

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

23. Retrieve Payments with Courier Information

select * from payment natural join courier;

```
MySQL 8.0 Command Line Client
13 |
+
10 rows in set (0.00 sec)

mysql> select * from payment;
+-----+-----+-----+-----+
| PaymentID | CourierID | LocationID | Amount | PaymentDate |
+-----+-----+-----+-----+
| 1 | 1 | 1 | 100.00 | 2024-04-08 |
| 2 | 2 | 3 | 150.00 | 2024-04-07 |
| 3 | 3 | 5 | 200.00 | 2024-04-09 |
| 4 | 4 | 7 | 120.00 | 2024-04-06 |
| 5 | 5 | 9 | 250.00 | 2024-04-10 |
| 6 | 6 | 4 | 175.00 | 2024-04-11 |
| 7 | 7 | 1 | 100.00 | 2024-04-05 |
| 8 | 8 | 2 | 145.00 | 2024-04-12 |
| 9 | 9 | 6 | 160.00 | 2024-04-04 |
| 10 | 10 | 8 | 185.00 | 2024-04-13 |
+-----+-----+-----+-----+
10 rows in set (0.00 sec)

mysql> select * from payment natural join courier;
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| CourierID | PaymentID | LocationID | Amount | PaymentDate | SenderName | SenderAddress | ReceiverName | ReceiverAddress | Weight | Status | TrackingNumber | DeliveryDate |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 1 | 1 | 1 | 100.00 | 2024-04-08 | Rajiv | 123 Gandhi Nagar, Delhi | Priya | 456 Patel Colony, Mumbai | 2.50 | In Transit | 1234567890 | 2024-04-08 |
| 2 | 2 | 3 | 150.00 | 2024-04-07 | Anita | 789 Malhotra Street, Kolkata | Deepak | 321 Rajput Enclave, Jaipur | 1.75 | Delivered | 2345678901 | 2024-04-07 |
| 3 | 3 | 5 | 200.00 | 2024-04-09 | Vikram | 654 Verma Lane, Lucknow | Nandini | 987 Joshi Nagar, Pune | 3.25 | In Transit | 3456789012 | 2024-04-09 |
| 4 | 4 | 7 | 120.00 | 2024-04-06 | Preeti | 741 Khan Street, Hyderabad | Rohan | 369 Patel Chowk, Ahmedabad | 4.00 | Delivered | 4567890123 | 2024-04-06 |
| 5 | 5 | 9 | 250.00 | 2024-04-10 | Anil | 852 Khan Market, Chennai | Ishita | 147 Verma Colony, Bangalore | 2.00 | In Transit | 5678901234 | 2024-04-10 |
| 6 | 6 | 4 | 175.00 | 2024-04-11 | Sneha | 321 Rajput Enclave, Jaipur | Meera | 741 Khan Street, Hyderabad | 3.75 | In Transit | 6789012345 | 2024-04-11 |
| 7 | 7 | 1 | 100.00 | 2024-04-05 | Vilas | 987 Joshi Nagar, Pune | Arjun | 123 Gandhi Nagar, Delhi | 5.25 | Delivered | 7890123456 | 2024-04-05 |
| 8 | 8 | 2 | 145.00 | 2024-04-13 | Rakesh | 123 Gandhi Nagar, Mumbai | Lata | 123 Gandhi Nagar, Mumbai | 2.00 | In Transit | 8901234567 | 2024-04-13 |
| 9 | 9 | 6 | 160.00 | 2024-04-04 | Despak | 147 Verma Colony, Bangalore | Anita | 789 Malhotra Street, Kolkata | 1.60 | Delivered | 9812345678 | 2024-04-04 |
| 10 | 10 | 8 | 185.00 | 2024-04-13 | Nandini | 654 Verma Lane, Lucknow | Vikram | 654 Verma Lane, Lucknow | 3.10 | In Transit | 0123456789 | 2024-04-13 |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
10 rows in set (0.00 sec)

mysql>
```

24. Retrieve Payments with Location Information

select * from payment natural join location;

```
MySQL 8.0 Command Line Client
8 | 8 | 2 | 145.00 | 2024-04-12 |
9 | 9 | 6 | 160.00 | 2024-04-04 |
10 | 10 | 8 | 185.00 | 2024-04-13 |
+
10 rows in set (0.00 sec)

mysql> select * from payment natural join courier;
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| CourierID | PaymentID | LocationID | Amount | PaymentDate | SenderName | SenderAddress | ReceiverName | ReceiverAddress | Weight | Status | TrackingNumber | DeliveryDate |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 1 | 1 | 1 | 100.00 | 2024-04-08 | Rajiv | 123 Gandhi Nagar, Delhi | Priya | 456 Patel Colony, Mumbai | 2.50 | In Transit | 1234567890 | 2024-04-08 |
| 2 | 2 | 2 | 150.00 | 2024-04-07 | Anita | 789 Malhotra Street, Kolkata | Deepak | 321 Rajput Enclave, Jaipur | 1.75 | Delivered | 2345678901 | 2024-04-07 |
| 3 | 3 | 3 | 200.00 | 2024-04-09 | Vikram | 654 Verma Lane, Lucknow | Nandini | 987 Joshi Nagar, Pune | 3.25 | In Transit | 3456789012 | 2024-04-09 |
| 4 | 4 | 4 | 120.00 | 2024-04-06 | Preeti | 741 Khan Street, Hyderabad | Rohan | 369 Patel Chowk, Ahmedabad | 4.00 | Delivered | 4567890123 | 2024-04-06 |
| 5 | 5 | 5 | 250.00 | 2024-04-10 | Anil | 852 Khan Market, Chennai | Ishita | 147 Verma Colony, Bangalore | 2.00 | In Transit | 5678901234 | 2024-04-10 |
| 6 | 6 | 6 | 175.00 | 2024-04-11 | Sneha | 321 Rajput Enclave, Jaipur | Meera | 741 Khan Street, Hyderabad | 3.75 | In Transit | 6789012345 | 2024-04-11 |
| 7 | 7 | 7 | 100.00 | 2024-04-05 | Vilas | 987 Joshi Nagar, Pune | Arjun | 123 Gandhi Nagar, Delhi | 5.25 | Delivered | 7890123456 | 2024-04-05 |
| 8 | 8 | 8 | 145.00 | 2024-04-12 | Priya | 123 Gandhi Nagar, Mumbai | Lata | 123 Gandhi Nagar, Mumbai | 2.00 | In Transit | 8901234567 | 2024-04-12 |
| 9 | 9 | 6 | 160.00 | 2024-04-04 | Despak | 147 Verma Colony, Bangalore | Anita | 789 Malhotra Street, Kolkata | 1.60 | Delivered | 9812345678 | 2024-04-04 |
| 10 | 10 | 10 | 185.00 | 2024-04-13 | Nandini | 654 Verma Lane, Lucknow | Vikram | 654 Verma Lane, Lucknow | 3.10 | In Transit | 0123456789 | 2024-04-13 |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
10 rows in set (0.00 sec)

mysql> select * from payment natural join location;
+-----+-----+-----+-----+-----+-----+
| LocationID | PaymentID | CourierID | Amount | PaymentDate | LocationName | Address |
+-----+-----+-----+-----+-----+-----+
| 1 | 1 | 1 | 100.00 | 2024-04-08 | Delhi | 123 Gandhi Nagar, Delhi |
| 3 | 2 | 2 | 150.00 | 2024-04-07 | Kolkata | 789 Malhotra Street, Kolkata |
| 5 | 3 | 3 | 200.00 | 2024-04-09 | Lucknow | 654 Verma Lane, Lucknow |
| 7 | 4 | 4 | 120.00 | 2024-04-06 | Hyderabad | 741 Khan Street, Hyderabad |
| 9 | 5 | 5 | 250.00 | 2024-04-10 | Chennai | 852 Khan Market, Chennai |
| 4 | 6 | 6 | 175.00 | 2024-04-11 | Jaipur | 321 Rajput Enclave, Jaipur |
| 1 | 7 | 7 | 100.00 | 2024-04-05 | Mumbai | 123 Gandhi Nagar, Delhi |
| 2 | 8 | 8 | 145.00 | 2024-04-12 | Mumbai | 456 Patel Colony, Mumbai |
| 6 | 9 | 9 | 160.00 | 2024-04-04 | Pune | 987 Joshi Nagar, Pune |
| 8 | 10 | 10 | 185.00 | 2024-04-13 | Ahmedabad | 369 Patel Chowk, Ahmedabad |
+-----+-----+-----+-----+-----+-----+
10 rows in set (0.01 sec)

mysql>
```

25. Retrieve Payments with Courier and Location Information

```
select p.paymentid,p.amount,p.paymentdate,c.courierid,c.status,l.locationid,l.locationname  
from payment p  
join courier c on c.courierid = p.courierid  
join location l on l.locationid = p.locationid;
```

The screenshot shows the MySQL 8.0 Command Line Client interface. The command window displays the results of the query from step 25. The first result set shows the raw payment data:

PaymentID	CourierID	LocationID	Amount	Paymentdate
1	1	1	100.00	2024-04-08
2	2	3	150.00	2024-04-07
3	3	5	200.00	2024-04-09
4	4	7	120.00	2024-04-06
5	5	9	250.00	2024-04-10
6	6	4	175.00	2024-04-11
7	7	1	200.00	2024-04-05
8	8	2	145.00	2024-04-12
9	9	6	160.00	2024-04-04
10	10	8	185.00	2024-04-13

10 rows in set (0.00 sec)

The second result set shows the joined data with courier and location information:

paymentid	amount	paymentdate	courierid	status	locationid	locationname
1	100.00	2024-04-08	1	In Transit	1	Delhi
2	150.00	2024-04-07	2	Delivered	3	Kolkata
3	200.00	2024-04-09	3	In Transit	5	Lucknow
4	120.00	2024-04-06	4	Delivered	7	Hyderabad
5	250.00	2024-04-10	5	In Transit	9	Chennai
6	175.00	2024-04-11	6	In Transit	4	Jaipur
7	200.00	2024-04-05	7	Delivered	1	Delhi
8	145.00	2024-04-12	8	In Transit	2	Mumbai
9	160.00	2024-04-04	9	Delivered	6	Pune
10	185.00	2024-04-13	10	In Transit	8	Ahmedabad

10 rows in set (0.00 sec)

mysql>

26. List all payments with courier details

```
select * from payment natural join courier;
```

The screenshot shows the MySQL 8.0 Command Line Client interface. The command window displays the results of the query from step 26. The result set shows the joined payment and courier data:

CourierID	PaymentID	LocationID	Amount	Paymentdate	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber
1	1	1	100.00	2024-04-08	Rajiv	123 Gandhi Nagar, Delhi	Priya	456 Patel Colony, Mumbai	2.50	In Transit	1234567890
2	2	3	150.00	2024-04-07	Anita	789 Malhotra Street, Kolkata	Deepak	321 Rajput Enclave, Jaipur	1.75	Delivered	2345678901
3	3	5	200.00	2024-04-09	Vikram	654 Verma Lane, Lucknow	Nandini	987 Joshi Nagar, Pune	3.25	In Transit	3456789012
4	4	7	120.00	2024-04-06	Preeti	741 Khan Street, Hyderabad	Rohan	369 Patel Chowk, Ahmedabad	4.00	Delivered	4567890123
5	5	9	250.00	2024-04-10	Anil	852 Khan Market, Chennai	Ishita	147 Verma Colony, Bangalore	2.00	In Transit	5678901234
6	6	4	175.00	2024-04-11	Sneha	321 Rajput Enclave, Jaipur	Meera	741 Khan Street, Hyderabad	3.75	In Transit	6789012345
7	7	1	200.00	2024-04-05	Vikas	987 Joshi Nagar, Pune	Arjun	123 Gandhi Nagar, Delhi	5.25	Delivered	7890123456
8	8	2	145.00	2024-04-12	Priya	456 Patel Colony, Mumbai	Rajiv	123 Gandhi Nagar, Delhi	2.90	In Transit	8901234567
9	9	6	160.00	2024-04-04	Deepak	147 Verma Colony, Bangalore	Anita	789 Malhotra Street, Kolkata	1.60	Delivered	9012345678
10	10	8	185.00	2024-04-13	Nandini	654 Verma Lane, Lucknow	Vikram	321 Rajput Enclave, Jaipur	3.10	In Transit	0123456789

10 rows in set (0.00 sec)

mysql>

27. Total payments received for each courier

```
select courierId,sum(amount) from payment group by courierId;
```

```
MySQL 8.0 Command Line Client
+-----+-----+-----+-----+-----+
| 9 | 160.00 | 2024-04-04 | 9 | Delivered |
| 10 | 185.00 | 2024-04-13 | 10 | In Transit |
+-----+-----+-----+-----+
10 rows in set (0.00 sec)

mysql> select * from payment natural join courier;
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| CourierID | PaymentID | LocationID | Amount | PaymentDate | SenderName | SenderAddress | ReceiverName | ReceiverAddress | Weight | Status | TrackingNumber |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 1 | 1 | 1 | 100.00 | 2024-04-08 | Rajiv | 123 Gandhi Nagar, Delhi | Priya | 456 Patel Colony, Mumbai | 2.50 | In Transit | 1234567890 |
| 2 | 2 | 2 | 150.00 | 2024-04-07 | Anita | 789 Malhotra Street, Kolkata | Deepak | 321 Rajput Enclave, Jaipur | 1.75 | Delivered | 2345678901 |
| 3 | 3 | 3 | 200.00 | 2024-04-09 | Vikram | 654 Verma Lane, Lucknow | Nandini | 987 Joshi Nagar, Pune | 3.25 | In Transit | 3456789012 |
| 4 | 4 | 4 | 120.00 | 2024-04-06 | Preeti | 741 Khan Street, Hyderabad | Rohan | 369 Patel Chowk, Ahmedabad | 4.00 | Delivered | 4567890123 |
| 5 | 5 | 5 | 250.00 | 2024-04-10 | Anil | 852 Khan Market, Chennai | Ishita | 147 Verma Colony, Bangalore | 2.00 | In Transit | 5678901234 |
| 6 | 6 | 6 | 175.00 | 2024-04-11 | Sneha | 321 Rajput Enclave, Jaipur | Meera | 741 Khan Street, Hyderabad | 3.75 | In Transit | 6789012345 |
| 7 | 7 | 1 | 200.00 | 2024-04-05 | Vikas | 987 Joshi Nagar, Pune | Arjun | 123 Gandhi Nagar, Delhi | 5.25 | Delivered | 7890123456 |
| 8 | 8 | 2 | 145.00 | 2024-04-12 | Priya | 456 Patel Colony, Mumbai | Rajiv | 123 Gandhi Nagar, Delhi | 2.90 | In Transit | 8901234567 |
| 9 | 9 | 6 | 160.00 | 2024-04-04 | Deepak | 147 Verma Colony, Bangalore | Anita | 789 Malhotra Street, Kolkata | 1.60 | Delivered | 9012345678 |
| 10 | 10 | 8 | 185.00 | 2024-04-13 | Nandini | 654 Verma Lane, Lucknow | Vikram | 654 Verma Lane, Lucknow | 3.10 | In Transit | 0123456789 |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
10 rows in set (0.00 sec)

mysql> select courierId,sum(amount) from payment group by courierId;
+-----+-----+
| courierId | sum(amount) |
+-----+-----+
| 1 | 100.00 |
| 2 | 150.00 |
| 3 | 200.00 |
| 4 | 120.00 |
| 5 | 250.00 |
| 6 | 175.00 |
| 7 | 200.00 |
| 8 | 145.00 |
| 9 | 160.00 |
| 10 | 185.00 |
+-----+-----+
10 rows in set (0.00 sec)

mysql>
```

28. List payments made on a specific date:

```
select * from payment where paymentdate = '2024-04-04';
```

```
MySQL 8.0 Command Line Client
10 rows in set (0.00 sec)

mysql> select courierId,sum(amount) from payment group by courierId;
+-----+-----+
| courierId | sum(amount) |
+-----+-----+
| 1 | 100.00 |
| 2 | 150.00 |
| 3 | 200.00 |
| 4 | 120.00 |
| 5 | 250.00 |
| 6 | 175.00 |
| 7 | 200.00 |
| 8 | 145.00 |
| 9 | 160.00 |
| 10 | 185.00 |
+-----+-----+
10 rows in set (0.00 sec)

mysql> select * payment where paymentdate = "2024-04-04";
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'payment where paymentdate = "2024-04-04"' at line 1
mysql> select * payment where paymentdate = 2024-04-04;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'payment where paymentdate = 2024-04-04' at line 1
mysql> select * from payment where paymentdate = '2024-04-04';
+-----+-----+-----+-----+
| PaymentID | CourierID | LocationId | Amount | PaymentDate |
+-----+-----+-----+-----+
| 9 | 9 | 6 | 160.00 | 2024-04-04 |
+-----+-----+-----+-----+
1 row in set (0.00 sec)

mysql>
```

29. Get Courier Information for Each Payment:

```
select p.paymentid,c.courierid,c.sendername,c.receivername,c.weight,c.status,c.trackingNumber  
from payment p inner join courier c  
on p.courierid = c.courierid;
```

CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	weight	Status	TrackingNumber	Deliverydate
1	Rajiv	123 Gandhi Nagar, Delhi	Priya	456 Patel Colony, Mumbai	2.50	In Transit	1234567890	2024-04-08
2	Anita	789 Malhotra Street, Kolkata	Deepak	321 Rajput Enclave, Jaipur	1.75	Delivered	2345678901	2024-04-07
3	Vikram	654 Verma Lane, Lucknow	Nandini	987 Joshi Nagar, Pune	3.25	In Transit	3456789012	2024-04-09
4	Preeti	741 Khan Street, Hyderabad	Rohan	369 Patel Chowk, Ahmedabad	4.00	Delivered	4567890123	2024-04-06
5	Anil	852 Khan Market, Chennai	Ishita	147 Verma Colony, Bangalore	2.00	In Transit	5678901234	2024-04-10
6	Sneha	321 Rajput Enclave, Jaipur	Meera	741 Khan Street, Hyderabad	3.75	In Transit	6789012345	2024-04-11
7	Vikas	987 Joshi Nagar, Pune	Arjun	123 Gandhi Nagar, Delhi	5.25	Delivered	7890123456	2024-04-05
8	Priya	456 Patel Colony, Mumbai	Rajiv	123 Gandhi Nagar, Delhi	2.90	In Transit	8901234567	2024-04-12
9	Deepak	147 Verma Colony, Bangalore	Anita	789 Malhotra Street, Kolkata	1.60	Delivered	9012345678	2024-04-04
10	Nandini	654 Verma Lane, Lucknow	Vikram	654 Verma Lane, Lucknow	3.10	In Transit	0123456789	2024-04-13

paymentid	courierid	sendername	receivername	weight	status	trackingnumber
1	1	Rajiv	Priya	2.50	In Transit	1234567890
2	2	Anita	Deepak	1.75	Delivered	2345678901
3	3	Vikram	Nandini	3.25	In Transit	3456789012
4	4	Preeti	Rohan	4.00	Delivered	4567890123
5	5	Anil	Ishita	2.00	In Transit	5678901234
6	6	Sneha	Meera	3.75	In Transit	6789012345
7	7	Vikas	Arjun	5.25	Delivered	7890123456
8	8	Priya	Rajiv	2.90	In Transit	8901234567
9	9	Deepak	Anita	1.60	Delivered	9012345678
10	10	Nandini	Vikram	3.10	In Transit	0123456789

10 rows in set (0.00 sec)

mysql> -

ENG IN 10-04-2024

30. Get Payment Details with Location:

```
select p.paymentid,p.amount,l.locationid,l.locationname,l.address,p.paymentdate  
from payment p inner join location l  
on p.locationid = l.locationid;
```

locationid	locationname	address
4	Jaipur	321 Rajput Enclave, Jaipur
5	Lucknow	654 Verma Lane, Lucknow
6	Pune	987 Joshi Nagar, Pune
7	Hyderabad	741 Khan Street, Hyderabad
8	Ahmedabad	369 Patel Chowk, Ahmedabad
9	Chennai	852 Khan Market, Chennai
10	Bangalore	147 Verma Colony, Bangalore

10 rows in set (0.00 sec)

paymentid	amount	locationid	locationname	address	paymentdate
1	100.00	1	Delhi	123 Gandhi Nagar, Delhi	2024-04-08
2	150.00	3	Kolkata	789 Malhotra Street, Kolkata	2024-04-07
3	200.00	5	Lucknow	654 Verma Lane, Lucknow	2024-04-09
4	120.00	7	Hyderabad	741 Khan Street, Hyderabad	2024-04-06
5	250.00	9	Chennai	852 Khan Market, Chennai	2024-04-10
6	175.00	4	Jaipur	321 Rajput Enclave, Jaipur	2024-04-11
7	200.00	1	Delhi	123 Gandhi Nagar, Delhi	2024-04-05
8	145.00	2	Mumbai	456 Patel Colony, Mumbai	2024-04-12
9	160.00	6	Pune	987 Joshi Nagar, Pune	2024-04-04
10	185.00	8	Ahmedabad	369 Patel Chowk, Ahmedabad	2024-04-13

10 rows in set (0.00 sec)

mysql> -

ENG IN 10-04-2024

31. Calculating Total Payments for Each Courier:

Select courierId,sum(amount) from payment group by courierId;

The screenshot shows the MySQL 8.0 Command Line Client interface. The command `Select courierId,sum(amount) from payment group by courierId;` is run, resulting in a table output:

courierId	sum(amount)
1	160.00
2	150.00
3	200.00
4	120.00
5	250.00
6	175.00
7	200.00
8	145.00
9	160.00
10	185.00

Below this, the command `Select * from payment;` is run, resulting in a table output:

PaymentID	CourierID	LocationId	Amount	PaymentDate
1	1	1	100.00	2024-04-08
2	2	3	150.00	2024-04-07
3	3	5	200.00	2024-04-09
4	4	7	120.00	2024-04-06
5	5	9	250.00	2024-04-10
6	6	4	175.00	2024-04-11
7	7	1	200.00	2024-04-05
8	8	2	145.00	2024-04-12
9	9	6	160.00	2024-04-04
10	10	8	185.00	2024-04-13

32. List Payments Within a Date Range:

select * from payment where paymentDate between '2024-04-07' and '2024-04-11';

The screenshot shows the MySQL 8.0 Command Line Client interface. The command `select * from payment where paymentDate between '2024-04-07' and '2024-04-11';` is run, resulting in a table output:

PaymentID	CourierID	LocationId	Amount	PaymentDate
1	1	1	100.00	2024-04-08
2	2	3	150.00	2024-04-07
3	3	5	200.00	2024-04-09
5	5	9	250.00	2024-04-10
6	6	4	175.00	2024-04-11

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

```
select u.* ,c.courierId,c.status,c.TrackingNumber,c.DeliveryDate from user u left join courier c on u.name = c.senderName;
```

User ID	Name	Email	Password	Contact Number	Address	Courier ID	Status	Tracking Number	Delivery Date
1	Rajesh	rajesh@example.com	password1	9876543210	123 Gandhi Nagar, Delhi	NULL	NULL	NULL	NULL
2	Priya	priya@example.com	password2	9876543210	456 Patel Colony, Mumbai	8	In Transit	8901234567	2024-04-12
3	Ananya	ananya@example.com	password3	9876543210	789 Malhotra Street, Kolkata	NULL	NULL	NULL	NULL
4	Deepak	deepak@example.com	password4	9876543210	321 Rajput Enclave, Jaipur	9	Delivered	9012345678	2024-04-04
5	Ishita	ishita@example.com	password5	9876543210	147 Verma Colony, Lucknow	10	In Transit	0123456789	2024-04-13
6	Aarti	aarti@example.com	password6	9876543210	987 Verma Nagar, Pune	NULL	NULL	NULL	NULL
7	Meera	meera@example.com	password7	9876543210	741 Khan Street, Hyderabad	NULL	NULL	NULL	NULL
8	Rohan	rohan@example.com	password8	9876543210	852 Khan Market, Chennai	NULL	NULL	NULL	NULL
9	Ishita	ishita@example.com	password9	9876543210	321 Rajput Enclave, Jaipur	NULL	NULL	NULL	NULL
10	Arjun	arjun@example.com	password10	9876543210	147 Verma Colony, Bangalore	NULL	NULL	NULL	NULL

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

```
select * from courier c left join courierservice s on c.serviceld = s.serviceld;
```

Courier ID	Sender Name	Sender Address	Receiver Name	Receiver Address	Weight	Status	Tracking Number	Delivery Date	Service ID	Service Name	Cost
1	Deepak	147 Verma Colony, Bangalore	Anita	789 Malhotra Street, Kolkata	1.60	Delivered	9012345678	2024-04-04	3	2	15.00
10	Nandini	654 Verma Lane, Lucknow	Vikram	654 Verma Lane, Lucknow	3.10	In Transit	0123456789	2024-04-13	2	2	15.00

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

```
select * from user cross join courierservice;
```

```
MySQL 8.0 Command Line Client
50 rows in set (0.00 sec)

mysql>
mysql> select * from user cross join courierservices;
+-----+-----+-----+-----+-----+-----+-----+-----+
| UserID | Name  | Email   | Password | ContactNumber | Address          | ServiceID | ServiceName    | cost  |
+-----+-----+-----+-----+-----+-----+-----+-----+
| 1     | Rajesh | rajesh@example.com | password1 | 9876543210  | 123 Gandhi Nagar, Delhi | 5         | International Delivery | 25.00 |
| 1     | Rajesh | rajesh@example.com | password1 | 9876543210  | 123 Gandhi Nagar, Delhi | 4         | Overnight Delivery | 12.00 |
| 1     | Rajesh | rajesh@example.com | password1 | 9876543210  | 123 Gandhi Nagar, Delhi | 3         | Same-day Delivery | 10.00 |
| 1     | Rajesh | rajesh@example.com | password1 | 9876543210  | 123 Gandhi Nagar, Delhi | 2         | Express Delivery  | 15.00 |
| 1     | Rajesh | rajesh@example.com | password1 | 9876543210  | 123 Gandhi Nagar, Delhi | 1         | Standard Delivery | 10.00 |
| 2     | Priya  | priya@example.com  | password2 | 9876543210  | 456 Patel Colony, Mumbai | 5         | International Delivery | 25.00 |
| 2     | Priya  | priya@example.com  | password2 | 9876543210  | 456 Patel Colony, Mumbai | 4         | Overnight Delivery | 12.00 |
| 2     | Priya  | priya@example.com  | password2 | 9876543210  | 456 Patel Colony, Mumbai | 3         | Same-day Delivery | 10.00 |
| 2     | Priya  | priya@example.com  | password2 | 9876543210  | 456 Patel Colony, Mumbai | 1         | Standard Delivery | 10.00 |
| 2     | Priya  | priya@example.com  | password2 | 9876543210  | 456 Patel Colony, Mumbai | 5         | International Delivery | 25.00 |
| 3     | Ananya | ananya@example.com | password3 | 9876543210  | 789 Malhotra Street, Kolkata | 5         | International Delivery | 25.00 |
| 3     | Ananya | ananya@example.com | password3 | 9876543210  | 789 Malhotra Street, Kolkata | 3         | Same-day Delivery | 10.00 |
| 3     | Ananya | ananya@example.com | password3 | 9876543210  | 789 Malhotra Street, Kolkata | 2         | Express Delivery  | 15.00 |
| 3     | Ananya | ananya@example.com | password3 | 9876543210  | 789 Malhotra Street, Kolkata | 1         | Standard Delivery | 10.00 |
| 4     | Deepak | deepak@example.com | password4 | 9876543210  | 323 Rajput Enclave, Jaipur | 5         | International Delivery | 25.00 |
| 4     | Deepak | deepak@example.com | password4 | 9876543210  | 323 Rajput Enclave, Jaipur | 4         | Overnight Delivery | 12.00 |
| 4     | Deepak | deepak@example.com | password4 | 9876543210  | 323 Rajput Enclave, Jaipur | 3         | Same-day Delivery | 10.00 |
| 4     | Deepak | deepak@example.com | password4 | 9876543210  | 323 Rajput Enclave, Jaipur | 2         | Express Delivery  | 15.00 |
| 4     | Deepak | deepak@example.com | password4 | 9876543210  | 323 Rajput Enclave, Jaipur | 1         | Standard Delivery | 10.00 |
| 5     | Neendini | neendini@example.com | password5 | 9876543210  | 654 Verma Lane, Lucknow | 4         | International Delivery | 25.00 |
| 5     | Neendini | neendini@example.com | password5 | 9876543210  | 654 Verma Lane, Lucknow | 3         | Same-day Delivery | 10.00 |
| 5     | Neendini | neendini@example.com | password5 | 9876543210  | 654 Verma Lane, Lucknow | 2         | Express Delivery  | 15.00 |
| 5     | Neendini | neendini@example.com | password5 | 9876543210  | 654 Verma Lane, Lucknow | 1         | Standard Delivery | 10.00 |
| 6     | Aarav  | aarav@example.com  | password6 | 9876543210  | 987 Joshi Nagar, Pune | 5         | International Delivery | 25.00 |
| 6     | Aarav  | aarav@example.com  | password6 | 9876543210  | 987 Joshi Nagar, Pune | 3         | Same-day Delivery | 10.00 |
| 6     | Aarav  | aarav@example.com  | password6 | 9876543210  | 987 Joshi Nagar, Pune | 2         | Express Delivery  | 15.00 |
| 6     | Aarav  | aarav@example.com  | password6 | 9876543210  | 987 Joshi Nagar, Pune | 1         | Standard Delivery | 10.00 |
| 7     | Meera  | meera@example.com  | password7 | 9876543210  | 741 Khan Street, Hyderabad | 5         | International Delivery | 25.00 |
| 7     | Meera  | meera@example.com  | password7 | 9876543210  | 741 Khan Street, Hyderabad | 4         | Overnight Delivery | 12.00 |
| 7     | Meera  | meera@example.com  | password7 | 9876543210  | 741 Khan Street, Hyderabad | 3         | Same-day Delivery | 10.00 |
| 7     | Meera  | meera@example.com  | password7 | 9876543210  | 741 Khan Street, Hyderabad | 2         | Express Delivery  | 15.00 |
| 7     | Meera  | meera@example.com  | password7 | 9876543210  | 741 Khan Street, Hyderabad | 1         | Standard Delivery | 10.00 |
| 8     | Rohan  | rohan@example.com | password8 | 9876543210  | 369 Patel Chowki, Ahmedabad | 4         | International Delivery | 25.00 |
| 8     | Rohan  | rohan@example.com | password8 | 9876543210  | 369 Patel Chowki, Ahmedabad | 3         | Same-day Delivery | 10.00 |
| 8     | Rohan  | rohan@example.com | password8 | 9876543210  | 369 Patel Chowki, Ahmedabad | 2         | Express Delivery  | 15.00 |
| 8     | Rohan  | rohan@example.com | password8 | 9876543210  | 369 Patel Chowki, Ahmedabad | 1         | Standard Delivery | 10.00 |
| 9     | Ishita  | ishita@example.com | password9 | 9876543210  | 850 Khan Market, Chennai | 5         | International Delivery | 25.00 |
| 9     | Ishita  | ishita@example.com | password9 | 9876543210  | 850 Khan Market, Chennai | 4         | Overnight Delivery | 12.00 |
| 9     | Ishita  | ishita@example.com | password9 | 9876543210  | 850 Khan Market, Chennai | 3         | Same-day Delivery | 10.00 |
| 9     | Ishita  | ishita@example.com | password9 | 9876543210  | 850 Khan Market, Chennai | 2         | Express Delivery  | 15.00 |
| 9     | Ishita  | ishita@example.com | password9 | 9876543210  | 850 Khan Market, Chennai | 1         | Standard Delivery | 10.00 |
| 10    | Arjun   | arjun@example.com  | password10 | 9876543210  | 147 Verma Colony, Bangalore | 5         | International Delivery | 25.00 |
| 10    | Arjun   | arjun@example.com  | password10 | 9876543210  | 147 Verma Colony, Bangalore | 4         | Overnight Delivery | 12.00 |
| 10    | Arjun   | arjun@example.com  | password10 | 9876543210  | 147 Verma Colony, Bangalore | 3         | Same-day Delivery | 10.00 |
| 10    | Arjun   | arjun@example.com  | password10 | 9876543210  | 147 Verma Colony, Bangalore | 2         | Express Delivery  | 15.00 |
| 10    | Arjun   | arjun@example.com  | password10 | 9876543210  | 147 Verma Colony, Bangalore | 1         | Standard Delivery | 10.00 |
| 11    | Arjun   | arjun@example.com  | password11 | 9876543210  | 147 Verma Colony, Bangalore | 5         | International Delivery | 25.00 |
| 11    | Arjun   | arjun@example.com  | password11 | 9876543210  | 147 Verma Colony, Bangalore | 4         | Overnight Delivery | 12.00 |
| 11    | Arjun   | arjun@example.com  | password11 | 9876543210  | 147 Verma Colony, Bangalore | 3         | Same-day Delivery | 10.00 |
| 11    | Arjun   | arjun@example.com  | password11 | 9876543210  | 147 Verma Colony, Bangalore | 2         | Express Delivery  | 15.00 |
| 11    | Arjun   | arjun@example.com  | password11 | 9876543210  | 147 Verma Colony, Bangalore | 1         | Standard Delivery | 10.00 |
50 rows in set (0.00 sec)

mysql>
```

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

Select * from employee cross join location

MySQL 8.0 Command Line Client								
mysql select * from employee cross join location;								
EmployeeID	Name	Email	ContactNumber	Role	Salary	LocationID	locationName	Address
12	Lekha John	lekhajohn34@gmail.com	9898873466	Manager	50000.00	1	Delhi	132 Gandhi Nagar, Delhi
11	Johniyya	jony123@gmail.com	6379710776	Courier Service	35000.00	1	Delhi	132 Gandhi Nagar, Delhi
10	Vikram	vikram@example.com	6667778880	Courier Driver	29000.00	1	Delhi	123 Gandhi Nagar, Delhi
9	Sonal	sonali@example.com	2223334440	Customer Service	36000.00	1	Delhi	123 Gandhi Nagar, Delhi
8	Ajay	ajay@example.com	7778889990	Courier Driver	31000.00	1	Delhi	123 Gandhi Nagar, Delhi
7	Neeta	neet@example.com	4445556660	Manager	52000.00	1	Delhi	123 Gandhi Nagar, Delhi
6	Ritu	ritu@example.com	7778889990	Courier Driver	31000.00	1	Delhi	123 Gandhi Nagar, Delhi
5	Sameer	sameer@example.com	9988887770	Customer Service	35000.00	1	Delhi	123 Gandhi Nagar, Delhi
4	Sunita	sunita@example.com	3334567890	Courier Driver	28000.00	1	Delhi	123 Gandhi Nagar, Delhi
3	Alok	alok@example.com	5551234567	Manager	50000.00	1	Delhi	123 Gandhi Nagar, Delhi
2	Pooja	poo@example.com	9876543210	Customer Service	35000.00	1	Delhi	123 Gandhi Nagar, Delhi
1	Rahul	rahul@example.com	1122223330	Courier Driver	30000.00	1	Delhi	123 Gandhi Nagar, Delhi
12	Lekha John	lekhajohn34@gmail.com	9898873466	Manager	50000.00	2	Mumbai	1456 Patel Colony, Mumbai
11	Johniyya	jony123@gmail.com	6379710776	Courier Service	35000.00	2	Mumbai	1456 Patel Colony, Mumbai
10	Vikram	vikram@example.com	6667778880	Courier Driver	29000.00	2	Mumbai	1456 Patel Colony, Mumbai
9	Sonal	sonali@example.com	2223334440	Customer Service	36000.00	2	Mumbai	1456 Patel Colony, Mumbai
8	Ajay	ajay@example.com	7778889990	Courier Driver	31000.00	2	Mumbai	1456 Patel Colony, Mumbai
7	Neeta	neet@example.com	4445556660	Manager	52000.00	2	Mumbai	1456 Patel Colony, Mumbai
6	Ritu	ritu@example.com	1122223330	Courier Driver	32000.00	2	Mumbai	1456 Patel Colony, Mumbai
5	Sameer	sameer@example.com	9988887770	Customer Service	35000.00	2	Mumbai	1456 Patel Colony, Mumbai
4	Sunita	sunita@example.com	3334567890	Courier Driver	28000.00	2	Mumbai	1456 Patel Colony, Mumbai
3	Alok	alok@example.com	5551234567	Manager	50000.00	2	Mumbai	1456 Patel Colony, Mumbai
2	Pooja	poo@example.com	9876543210	Customer Service	35000.00	2	Mumbai	1456 Patel Colony, Mumbai
1	Rahul	rahul@example.com	1234567890	Courier Driver	30000.00	2	Mumbai	1456 Patel Colony, Mumbai
12	Lekha John	lekhajohn34@gmail.com	9898873466	Manager	50000.00	3	Kolkata	789 Malhotra Street, Kolkata
11	Johniyya	jony123@gmail.com	6379710776	Courier Service	35000.00	3	Kolkata	789 Malhotra Street, Kolkata
10	Vikram	vikram@example.com	6667778880	Courier Driver	29000.00	3	Kolkata	789 Malhotra Street, Kolkata
9	Sonal	sonali@example.com	2223334440	Customer Service	36000.00	3	Kolkata	789 Malhotra Street, Kolkata
8	Ajay	ajay@example.com	7778889990	Courier Driver	31000.00	3	Kolkata	789 Malhotra Street, Kolkata
7	Neeta	neet@example.com	4445556660	Manager	52000.00	3	Kolkata	789 Malhotra Street, Kolkata
6	Ritu	ritu@example.com	1122223330	Courier Driver	32000.00	3	Kolkata	789 Malhotra Street, Kolkata
5	Sameer	sameer@example.com	9988887770	Customer Service	35000.00	3	Kolkata	789 Malhotra Street, Kolkata
4	Sunita	sunita@example.com	3334567890	Courier Driver	28000.00	3	Kolkata	789 Malhotra Street, Kolkata
3	Alok	alok@example.com	5551234567	Manager	50000.00	3	Kolkata	789 Malhotra Street, Kolkata
2	Pooja	poo@example.com	9876543210	Customer Service	35000.00	3	Kolkata	789 Malhotra Street, Kolkata
1	Rahul	rahul@example.com	1234567890	Courier Driver	30000.00	3	Kolkata	789 Malhotra Street, Kolkata
12	Lekha John	lekhajohn34@gmail.com	9898873466	Manager	50000.00	4	Jaipur	321 Rajput Enclave, Jaipur
11	Johniyya	jony123@gmail.com	6379710776	Courier Service	35000.00	4	Jaipur	321 Rajput Enclave, Jaipur
10	Vikram	vikram@example.com	6667778880	Courier Driver	29000.00	4	Jaipur	321 Rajput Enclave, Jaipur
9	Sonal	sonali@example.com	2223334440	Customer Service	36000.00	4	Jaipur	321 Rajput Enclave, Jaipur
8	Ajay	ajay@example.com	7778889990	Courier Driver	31000.00	4	Jaipur	321 Rajput Enclave, Jaipur
7	Neeta	neet@example.com	4445556660	Manager	52000.00	4	Jaipur	321 Rajput Enclave, Jaipur
6	Ritu	ritu@example.com	1122223330	Courier Driver	32000.00	4	Jaipur	321 Rajput Enclave, Jaipur
5	Sameer	sameer@example.com	9988887770	Customer Service	35000.00	4	Jaipur	321 Rajput Enclave, Jaipur
4	Sunita	sunita@example.com	3334567890	Courier Driver	28000.00	4	Jaipur	321 Rajput Enclave, Jaipur
3	Alok	alok@example.com	5551234567	Manager	50000.00	4	Jaipur	321 Rajput Enclave, Jaipur
2	Pooja	poo@example.com	9876543210	Customer Service	35000.00	4	Jaipur	321 Rajput Enclave, Jaipur
1	Rahul	rahul@example.com	1234567890	Courier Driver	30000.00	4	Jaipur	321 Rajput Enclave, Jaipur
12	Lekha John	lekhajohn34@gmail.com	9898873466	Manager	50000.00	5	Lucknow	654 Verma Lane, Lucknow
11	Johniyya	jony123@gmail.com	6379710776	Courier Service	35000.00	5	Lucknow	654 Verma Lane, Lucknow

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

```
select c.courierId,u.* from courier c inner join user u on c.senderName = u.name;
```

MySQL 8.0 Command Line Client

6	Aarav	aarav@example.com	password6	9876543210	987 Joshi Nagar, Pune
7	Meera	meera@example.com	password7	9876543210	741 Khan Street, Hyderabad
8	Rohan	rohan@example.com	password8	9876543210	369 Patel Chowk, Ahmedabad
9	Ishita	ishita@example.com	password9	9876543210	852 Khan Market, Chennai
10	Anjun	anjun@example.com	password10	9876543210	147 Verma Colony, Bangalore

10 rows in set (0.00 sec)

mysql> select * from courier;

CourierID	SenderId	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate	serviceId
1	Rajiv	123 Gandhi Nagar, Delhi	Priya	456 Patel Colony, Mumbai	2.50	In Transit	1234567890	2024-04-08	2	
2	Anita	789 Malhotra Street, Kolkata	Deepak	321 Rajput Enclave, Jaipur	1.75	Delivered	345678901	2024-04-07	3	
3	Vikram	654 Verma Lane, Lucknow	Nandini	987 Joshi Nagar, Pune	3.25	In Transit	3456789012	2024-04-09	4	
4	Preeti	741 Khan Street, Hyderabad	Rohan	369 Patel Chowk, Ahmedabad	4.00	Delivered	4567890123	2024-04-06	1	
5	Anil	852 Khan Market, Chennai	Ishita	147 Verma Colony, Bangalore	2.00	In Transit	5678901234	2024-04-10	3	
6	Sneha	321 Rajput Enclave, Jaipur	Meera	741 Khan Street, Hyderabad	3.75	In Transit	6789012345	2024-04-11	2	
7	Vikas	987 Joshi Nagar, Pune	Arjun	123 Gandhi Nagar, Delhi	5.25	Delivered	7890123456	2024-04-05	4	
8	Priya	456 Patel Colony, Mumbai	Rajiv	123 Gandhi Nagar, Delhi	2.90	In Transit	8901234567	2024-04-12	1	
9	Deepak	147 Verma Colony, Bangalore	Anita	789 Malhotra Street, Kolkata	1.60	Delivered	9812345678	2024-04-04	3	
10	Nandini	654 Verma Lane, Lucknow	Vikram	654 Verma Lane, Lucknow	3.10	In Transit	0123456789	2024-04-13	2	

10 rows in set (0.00 sec)

mysql> select c.courierId,u.* from courier c inner join user u on c.senderName = u.name;

courierId	UserID	Name	Email	Password	ContactNumber	Address
8	2	Priya	priya@example.com	password2	9876543210	456 Patel Colony, Mumbai
9	4	Deepak	deepak@example.com	password4	9876543210	321 Rajput Enclave, Jaipur
10	5	Nandini	nandini@example.com	password5	9876543210	654 Verma Lane, Lucknow

3 rows in set (0.00 sec)

mysql>

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

```
select c.courierId,u.* from courier c inner join user u on c.receiverName = u.name;
```

MySQL 8.0 Command Line Client

2	Anita	789 Malhotra Street, Kolkata	Deepak	321 Rajput Enclave, Jaipur	1.75	Delivered	2345678901	2024-04-07	3
3	Vikram	654 Verma Lane, Lucknow	Nandini	987 Joshi Nagar, Pune	3.25	In Transit	3456789012	2024-04-09	4
4	Preeti	741 Khan Street, Hyderabad	Rohan	369 Patel Chowk, Ahmedabad	4.00	Delivered	4567890123	2024-04-06	1
5	Anil	852 Khan Market, Chennai	Ishita	147 Verma Colony, Bangalore	2.00	In Transit	5678901234	2024-04-10	3
6	Sneha	321 Rajput Enclave, Jaipur	Meera	741 Khan Street, Hyderabad	3.75	In Transit	6789012345	2024-04-11	2
7	Vikas	987 Joshi Nagar, Pune	Arjun	123 Gandhi Nagar, Delhi	5.25	Delivered	7890123456	2024-04-05	4
8	Priya	456 Patel Colony, Mumbai	Rajiv	123 Gandhi Nagar, Delhi	2.90	In Transit	8901234567	2024-04-12	1
9	Deepak	147 Verma Colony, Bangalore	Anita	789 Malhotra Street, Kolkata	1.60	Delivered	9812345678	2024-04-04	3
10	Nandini	654 Verma Lane, Lucknow	Vikram	654 Verma Lane, Lucknow	3.10	In Transit	0123456789	2024-04-13	2

10 rows in set (0.00 sec)

mysql> select c.courierId,u.* from courier c inner join user u on c.senderName = u.name;

courierId	UserID	Name	Email	Password	ContactNumber	Address
8	2	Priya	priya@example.com	password2	9876543210	456 Patel Colony, Mumbai
9	4	Deepak	deepak@example.com	password4	9876543210	321 Rajput Enclave, Jaipur
10	5	Nandini	nandini@example.com	password5	9876543210	654 Verma Lane, Lucknow

3 rows in set (0.00 sec)

mysql> select c.courierId,u.* from courier c inner join user u on c.receiverName = u.name;

courierId	UserID	Name	Email	Password	ContactNumber	Address
1	2	Priya	priya@example.com	password2	9876543210	456 Patel Colony, Mumbai
2	4	Deepak	deepak@example.com	password4	9876543210	321 Rajput Enclave, Jaipur
3	5	Nandini	nandini@example.com	password5	9876543210	654 Verma Lane, Lucknow
6	7	Meera	meera@example.com	password7	9876543210	741 Khan Street, Hyderabad
4	8	Rohan	rohan@example.com	password8	9876543210	369 Patel Chowk, Ahmedabad
5	9	Ishita	ishita@example.com	password9	9876543210	852 Khan Market, Chennai
7	10	Anjun	anjun@example.com	password10	9876543210	147 Verma Colony, Bangalore

7 rows in set (0.00 sec)

mysql>

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

```
select c.courierID,s.* from courier c left join courierservice s on c.serviceID = s.serviceID;
```

```
MySQL 8.0 Command Line Client
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 3 | Vikram | 654 Verma Lane, Lucknow | Nandini | 987 Joshi Nagar, Pune | Rohan | 369 Patel Chowk, Ahmedabad | Ishita | 147 Verma Colony, Bangalore | Meena | 741 Khan Street, Hyderabad | Arjun | 123 Gandhi Nagar, Delhi | Rajiv | 123 Gandhi Nagar, Delhi | Anita | 789 Malhotra Street, Kolkata | Vikram | 654 Verma Lane, Lucknow |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
10 rows in set (0.00 sec)

mysql> select * from courierservice;
+-----+-----+-----+
| ServiceID | ServiceName | cost |
+-----+-----+-----+
| 1 | Standard Delivery | 10.00 |
| 2 | Express Delivery | 15.00 |
| 3 | Same-day Delivery | 20.00 |
| 4 | Overnight Delivery | 12.00 |
| 5 | International Delivery | 25.00 |
+-----+-----+-----+
5 rows in set (0.00 sec)

mysql> select c.courierID,s.* from courier c left join courierservice s on c.serviceID = s.serviceID;
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| courierID | ServiceID | ServiceName | cost |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 1 | 2 | Express Delivery | 15.00 |
| 2 | 3 | Same-day Delivery | 20.00 |
| 3 | 4 | Overnight Delivery | 12.00 |
| 4 | 1 | Standard Delivery | 10.00 |
| 5 | 3 | Same-day Delivery | 20.00 |
| 6 | 2 | Express Delivery | 15.00 |
| 7 | 4 | Overnight Delivery | 12.00 |
| 8 | 1 | Standard Delivery | 10.00 |
| 9 | 3 | Same-day Delivery | 20.00 |
| 10 | 2 | Express Delivery | 15.00 |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
10 rows in set (0.00 sec)

mysql> 
```

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

```
select e.employeeID,e.name,e.role,count(p.courierID) as total_courier from employee e left join payment p on e.employeeID = p.employeeID group by e.employeeID;
```

```
MySQL 8.0 Command Line Client
+-----+-----+-----+
| 4 | Sunita | 2 |
| 5 | Sameer | 0 |
| 6 | Ritu | 2 |
| 7 | Neeta | 0 |
| 8 | Ajay | 2 |
| 9 | Sonali | 0 |
| 10 | Vikram | 2 |
| 11 | Johniya | 0 |
| 12 | Lekha John | 0 |
+-----+-----+-----+
12 rows in set (0.00 sec)

mysql> select e.employeeID,e.name,e.role,count(p.courierID) as total_courier from employee e left join payment p on e.employeeID = p.employeeID group by e.employeeID;
+-----+-----+-----+-----+
| employeeID | name | role | total_courier |
+-----+-----+-----+-----+
| 1 | Rahul | Courier Driver | 2 |
| 2 | Pooja | Customer Service | 0 |
| 3 | Alok | Manager | 0 |
| 4 | Sunita | Courier Driver | 2 |
| 5 | Sameer | Customer Service | 0 |
| 6 | Ritu | Courier Driver | 2 |
| 7 | Neeta | Manager | 0 |
| 8 | Ajay | Courier Driver | 2 |
| 9 | Sonali | Customer Service | 0 |
| 10 | Vikram | Courier Driver | 2 |
| 11 | Johniya | Customer Service | 0 |
| 12 | Lekha John | Manager | 0 |
+-----+-----+-----+-----+
12 rows in set (0.00 sec)

mysql> 
```

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

```
select p.locationId,l.locationName,sum(p.Amount) from payment p left join location l on p.locationId = l.locationId group by p.locationId;
```

The screenshot shows the MySQL 8.0 Command Line Client interface. The command entered is:

```
mysql> select p.locationId,l.locationName,sum(p.Amount) from payment p left join location l on p.locationId = l.locationId group by p.locationId;
```

The output displays two tables. The first table shows payment details:

PaymentID	CourierID	LocationID	Amount	PaymentDate
1	1	1	100.00	2024-04-08
2	2	3	150.00	2024-04-07
3	3	5	200.00	2024-04-09
4	4	7	120.00	2024-04-06
5	5	9	250.00	2024-04-10
6	6	4	175.00	2024-04-11
7	7	1	200.00	2024-04-05
8	8	2	145.00	2024-04-12
9	9	6	160.00	2024-04-04
10	10	8	185.00	2024-04-13

The second table shows the grouped results:

locationId	locationName	sum(p.Amount)
1	Delhi	300.00
3	Kolkata	150.00
5	Lucknow	200.00
7	Hyderabad	120.00
9	Chennai	250.00
4	Jaipur	175.00
2	Mumbai	145.00
6	Pune	160.00
8	Ahmedabad	185.00

Both tables have 10 rows each, indicating the total number of payments and locations respectively.

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

```
select * from courier where senderName in (select senderName from courier group by senderName having count(courierId)>1);
```

The screenshot shows the MySQL 8.0 Command Line Client interface. The command entered is:

```
mysql> select * from courier where senderName in (select senderName from courier group by senderName having count(courierId)>1);
```

The output displays two tables. The first table shows courier details:

CourierID	SenderId	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate	serviceId
1	Rajiv	123 Gandhi Nagar, Delhi	Priya	456 Patel Colony, Mumbai	2.50	In Transit	1234567890	2024-04-08	2	
2	Anita	789 Malhotra Street, Kolkata	Deepak	321 Rajput Enclave, Jaipur	1.75	Delivered	2345678901	2024-04-07	3	
3	Vikram	654 Verma Lane, Lucknow	Nandini	987 Joshi Nagar, Pune	3.25	In Transit	3456789012	2024-04-09	4	
4	Preeti	741 Khan Street, Hyderabad	Rohan	369 Patel Chowk, Ahmedabad	4.00	Delivered	4567890123	2024-04-06	1	
5	Anil	852 Khan Market, Chennai	Ishita	147 Verma Colony, Bangalore	2.00	In Transit	5678901234	2024-04-10	3	
6	Sneha	321 Rajput Enclave, Jaipur	Meera	741 Khan Street, Hyderabad	3.75	In Transit	6789012345	2024-04-11	2	
7	Vikas	987 Joshi Nagar, Pune	Arjun	123 Gandhi Nagar, Delhi	5.25	Delivered	7890123456	2024-04-05	4	
8	Priya	456 Patel Colony, Mumbai	Rajiv	123 Gandhi Nagar, Delhi	2.90	In Transit	8901234567	2024-04-12	1	
9	Deepak	147 Verma Colony, Bangalore	Anita	789 Malhotra Street, Kolkata	1.60	Delivered	98012345678	2024-04-04	3	
10	Nandini	654 Verma Lane, Lucknow	Vikram	654 Verma Lane, Lucknow	3.10	In Transit	0123456789	2024-04-13	2	
11	Anita	789 Malhotra Street, Kolkata	Vikram	654 Verma Lane, Lucknow	5.34	In Transit	6738573930	2024-04-14	3	
12	Preeti	741 Khan Street, Hyderabad	Rajiv	123 Gandhi Nagar, Delhi	5.34	Delivered	8738573930	2024-04-06	1	

The second table shows the grouped results:

CourierID	SenderId	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate	serviceId
2	Anita	789 Malhotra Street, Kolkata	Deepak	321 Rajput Enclave, Jaipur	1.75	Delivered	2345678901	2024-04-07	3	
4	Preeti	741 Khan Street, Hyderabad	Rohan	369 Patel Chowk, Ahmedabad	4.00	Delivered	4567890123	2024-04-06	1	
11	Anita	789 Malhotra Street, Kolkata	Vikram	654 Verma Lane, Lucknow	5.34	In Transit	6738573930	2024-04-14	3	
12	Preeti	741 Khan Street, Hyderabad	Rajiv	123 Gandhi Nagar, Delhi	5.34	Delivered	8738573930	2024-04-06	1	

Both tables have 12 rows each, indicating the total number of couriers and senders respectively.

44. List all employees who share the same role.

```
select * from employee e where Role in (select role from employee group by role having count(*)>1);
```

The screenshot shows the MySQL 8.0 Command Line Client interface. The command entered is:

```
mysql> select * from employee e where Role in (select role from employee group by role having count(*)>1);
```

The output displays two sets of results. The first set shows a single row for Lekha John with EmployeeID 12, Name 'Lekha John', Email 'lekhajohn343@gmail.com', ContactNumber '9088873466', Role 'Manager', and Salary '50000.00'. The second set is a larger table titled 'Employee' with columns EmployeeID, Name, Email, ContactNumber, Role, and Salary. It lists 12 rows of data, including names like Rahul, Pooja, Alok, Sunita, Sameer, Ritu, Neeta, Ajay, Sonali, Vikram, Joniyya, and Lekha John, along with their respective roles and salaries. Both sets show '12 rows in set (0.00 sec)'.

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

```
select p1.* from payment p1 inner join payment p2 on p1.locationID = p2.locationID where p1.paymentID!=p2.paymentId;
```

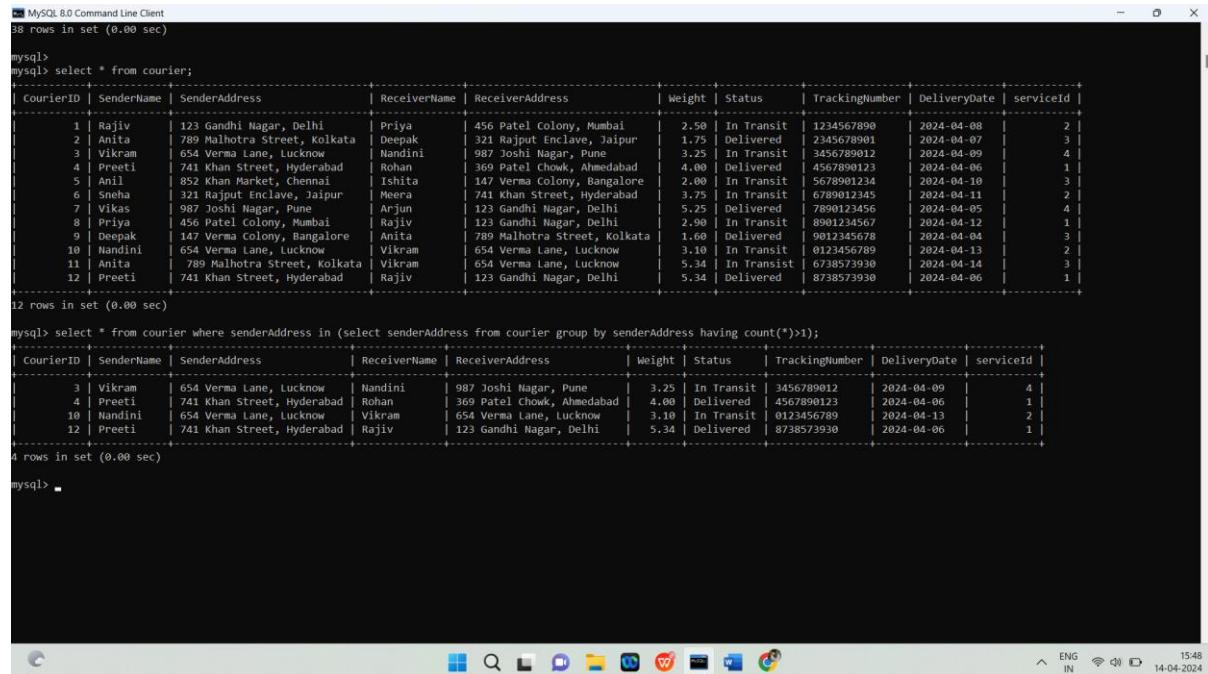
The screenshot shows the MySQL 8.0 Command Line Client interface. The command entered is:

```
mysql> select p1.* from payment p1 inner join payment p2 on p1.locationID = p2.locationID where p1.paymentID!=p2.paymentId;
```

The output shows two sets of results. The first set is a single row with PaymentID 7, CourierID 7, LocationID 1, Amount '200.00', and PaymentDate '2024-04-05'. The second set is a table titled 'Payment' with columns PaymentID, CourierID, LocationID, Amount, and PaymentDate. It lists 10 rows of data, including various payment details for different couriers and locations. Both sets show '10 rows in set (0.00 sec)'.

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

```
select * from courier where senderAddress in (select senderAddress from courier group by senderAddress having count(*)>1);
```



```
MySQL 8.0 Command Line Client
38 rows in set (0.00 sec)

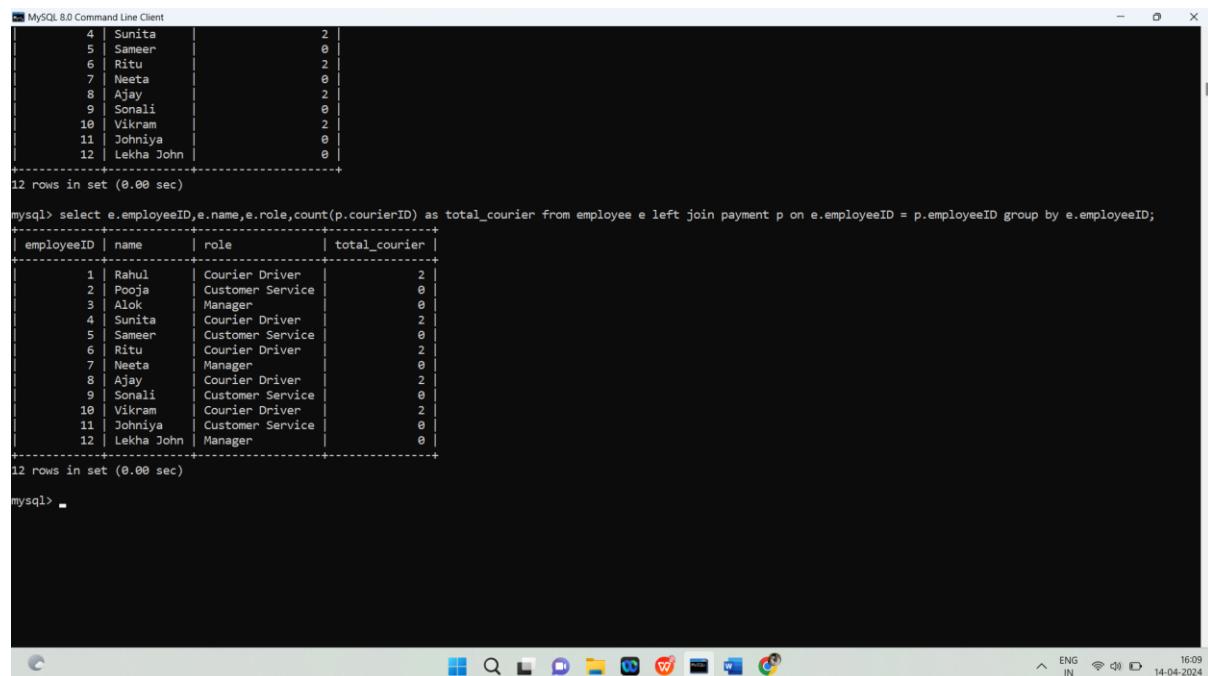
mysql> select * from courier;
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| CourierID | SenderName | SenderAddress | ReceiverName | ReceiverAddress | weight | Status | TrackingNumber | DeliveryDate | serviceId |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 1 | Rajiv | 123 Gandhi Nagar, Delhi | Priya | 456 Patel Colony, Mumbai | 2.50 | In Transit | 1234567890 | 2024-04-08 | 2 |
| 2 | Anita | 789 Malhotra Street, Kolkata | Deepak | 321 Rajput Enclave, Jaipur | 1.75 | Delivered | 2345678901 | 2024-04-07 | 3 |
| 3 | Vikram | 654 Verma Lane, Lucknow | Nandini | 987 Joshi Nagar, Pune | 3.25 | In Transit | 3456789012 | 2024-04-09 | 4 |
| 4 | Preeti | 741 Khan Street, Hyderabad | Rohan | 369 Patel Chowk, Ahmedabad | 4.00 | Delivered | 4567890123 | 2024-04-06 | 1 |
| 5 | Anil | 852 Khan Market, Chennai | Ishita | 147 Verma Colony, Bangalore | 2.00 | In Transit | 6789012345 | 2024-04-10 | 3 |
| 6 | Sneha | 321 Rajput Enclave, Jaipur | Meera | 741 Khan Street, Hyderabad | 3.75 | In Transit | 6789012345 | 2024-04-11 | 2 |
| 7 | Vikas | 987 Joshi Nagar, Pune | Arjun | 123 Gandhi Nagar, Delhi | 5.25 | Delivered | 7890123456 | 2024-04-05 | 4 |
| 8 | Priya | 456 Patel Colony, Mumbai | Rajiv | 123 Gandhi Nagar, Delhi | 2.90 | In Transit | 8901234567 | 2024-04-12 | 1 |
| 9 | Deepak | 147 Verma Colony, Bangalore | Anita | 789 Malhotra Street, Kolkata | 1.60 | Delivered | 9012345678 | 2024-04-04 | 3 |
| 10 | Nandini | 654 Verma Lane, Lucknow | Vikram | 654 Verma Lane, Lucknow | 3.10 | In Transit | 0123456789 | 2024-04-13 | 2 |
| 11 | Anita | 789 Malhotra Street, Kolkata | Vikram | 654 Verma Lane, Lucknow | 5.34 | In Transit | 6738573930 | 2024-04-14 | 3 |
| 12 | Preeti | 741 Khan Street, Hyderabad | Rajiv | 123 Gandhi Nagar, Delhi | 5.34 | Delivered | 8738573930 | 2024-04-06 | 1 |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
12 rows in set (0.00 sec)

mysql> select * from courier where senderAddress in (select senderAddress from courier group by senderAddress having count(*)>1);
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| CourierID | SenderName | SenderAddress | ReceiverName | ReceiverAddress | weight | Status | TrackingNumber | DeliveryDate | serviceId |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 3 | Vikram | 654 Verma Lane, Lucknow | Nandini | 987 Joshi Nagar, Pune | 3.25 | In Transit | 3456789012 | 2024-04-09 | 4 |
| 4 | Preeti | 741 Khan Street, Hyderabad | Rohan | 369 Patel Chowk, Ahmedabad | 4.00 | Delivered | 4567890123 | 2024-04-06 | 1 |
| 10 | Nandini | 654 Verma Lane, Lucknow | Vikram | 654 Verma Lane, Lucknow | 3.10 | In Transit | 0123456789 | 2024-04-13 | 2 |
| 12 | Preeti | 741 Khan Street, Hyderabad | Rajiv | 123 Gandhi Nagar, Delhi | 5.34 | Delivered | 8738573930 | 2024-04-06 | 1 |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)

mysql>
```

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

```
select e.employeeID,e.name,e.role,count(p.courierID) as total_courier from employee e left join payment p on e.employeeID = p.employeeID group by e.employeeID;
```



```
MySQL 8.0 Command Line Client
12 rows in set (0.00 sec)

mysql> select e.employeeID,e.name,e.role,count(p.courierID) as total_courier from employee e left join payment p on e.employeeID = p.employeeID group by e.employeeID;
+-----+-----+-----+-----+
| employeeID | name | role | total_courier |
+-----+-----+-----+-----+
| 1 | Rahul | Courier Driver | 2 |
| 2 | Pooja | Customer Service | 0 |
| 3 | Alok | Manager | 0 |
| 4 | Sunita | Courier Driver | 2 |
| 5 | Sameer | Customer Service | 0 |
| 6 | Ritu | Courier Driver | 2 |
| 7 | Neeta | Manager | 0 |
| 8 | Ajay | Courier Driver | 2 |
| 9 | Sonali | Customer Service | 0 |
| 10 | Vikram | Courier Driver | 2 |
| 11 | Johniya | Customer Service | 0 |
| 12 | Lekha John | Manager | 0 |
+-----+-----+-----+-----+
12 rows in set (0.00 sec)

mysql>
```

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

```
select p.courierID,c.serviceName,p.amount from payment p inner join courierservice c on p.serviceID = c.serviceID where p.amount>c.cost;
```

```
mysql> select * from courierservice;
+-----+-----+-----+
| ServiceID | ServiceName | cost |
+-----+-----+-----+
| 1 | Standard Delivery | 10.00 |
| 2 | Express Delivery | 15.00 |
| 3 | Same-day Delivery | 20.00 |
| 4 | Overnight Delivery | 12.00 |
| 5 | International Delivery | 25.00 |
+-----+-----+-----+
5 rows in set (0.00 sec)

mysql> select p.courierID,c.serviceName,p.amount from payment p inner join courierservice c on p.serviceID = c.serviceID where p.amount>c.cost;
+-----+-----+-----+
| courierID | serviceName | amount |
+-----+-----+-----+
| 1 | Express Delivery | 100.00 |
| 2 | Same-day Delivery | 150.00 |
| 3 | Overnight Delivery | 200.00 |
| 4 | Standard Delivery | 120.00 |
| 5 | Same-day Delivery | 250.00 |
| 6 | Express Delivery | 175.00 |
| 7 | Overnight Delivery | 200.00 |
| 8 | Standard Delivery | 145.00 |
| 9 | Same-day Delivery | 160.00 |
| 10 | Express Delivery | 185.00 |
+-----+-----+-----+
10 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

```
select courierID from courier where weight > (select avg(weight) from courier);
```

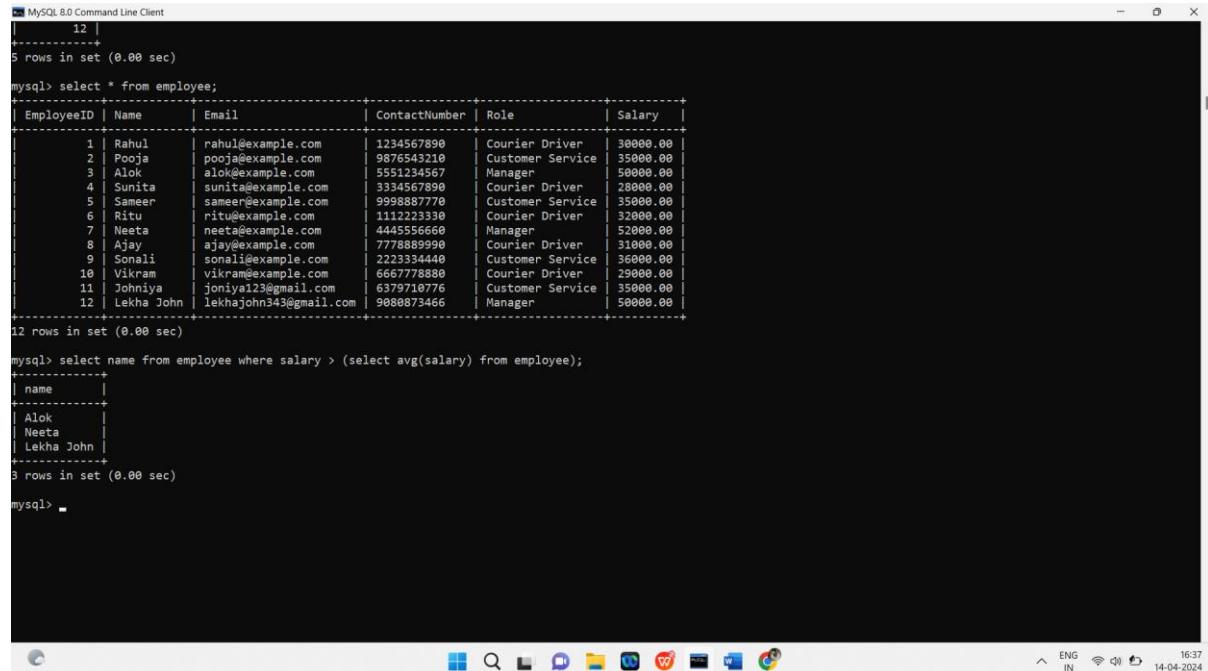
```
mysql> select * from courier;
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| CourierID | SenderName | SenderAddress | ReceiverName | ReceiverAddress | Weight | Status | TrackingNumber | DeliveryDate | serviceId |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 1 | Rajiv | 123 Gandhi Nagar, Delhi | Priya | 456 Patel Colony, Mumbai | 2.50 | In Transit | 1234567890 | 2024-04-08 | 2 |
| 2 | Anita | 789 Malhotra Street, Kolkata | Deepak | 321 Rajput Enclave, Jaipur | 1.75 | Delivered | 2345678901 | 2024-04-07 | 3 |
| 3 | Vikram | 654 Verma Lane, Lucknow | Nandini | 987 Joshi Nagar, Pune | 3.25 | In Transit | 3456789012 | 2024-04-09 | 4 |
| 4 | Preeti | 741 Khan Street, Hyderabad | Rohan | 369 Patel Chowk, Ahmedabad | 4.00 | Delivered | 4567890123 | 2024-04-06 | 1 |
| 5 | Anil | 852 Khan Market, Chennai | Ishita | 147 Verma Colony, Bangalore | 2.00 | In Transit | 5678901234 | 2024-04-10 | 3 |
| 6 | Sneha | 321 Rajput Enclave, Jaipur | Meera | 741 Khan Street, Hyderabad | 3.75 | In Transit | 6789012345 | 2024-04-11 | 2 |
| 7 | Vikas | 987 Joshi Nagar, Pune | Arjun | 123 Gandhi Nagar, Delhi | 5.25 | Delivered | 7890123456 | 2024-04-05 | 4 |
| 8 | Priya | 456 Patel Colony, Mumbai | Rajiv | 123 Gandhi Nagar, Delhi | 2.90 | In Transit | 8901234567 | 2024-04-12 | 1 |
| 9 | Deepak | 147 Verma Colony, Bangalore | Anita | 789 Malhotra Street, Kolkata | 1.60 | Delivered | 98012345678 | 2024-04-04 | 3 |
| 10 | Nandini | 654 Verma Lane, Lucknow | Vikram | 654 Verma Lane, Lucknow | 3.10 | In Transit | 0123456789 | 2024-04-13 | 2 |
| 11 | Anita | 789 Malhotra Street, Kolkata | Vikram | 654 Verma Lane, Lucknow | 5.34 | In Transit | 6738573930 | 2024-04-14 | 3 |
| 12 | Preeti | 741 Khan Street, Hyderabad | Rajiv | 123 Gandhi Nagar, Delhi | 5.34 | Delivered | 8738573930 | 2024-04-06 | 1 |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
12 rows in set (0.00 sec)

mysql> select courierID from courier where weight > (select avg(weight) from courier);
+-----+
| courierID |
+-----+
| 4 |
| 6 |
| 7 |
| 11 |
| 12 |
+-----+
5 rows in set (0.00 sec)

mysql>
```

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

```
select name from employee where salary > (select avg(salary) from employee);
```



```
MySQL 8.0 Command Line Client
| 12 |
5 rows in set (0.00 sec)

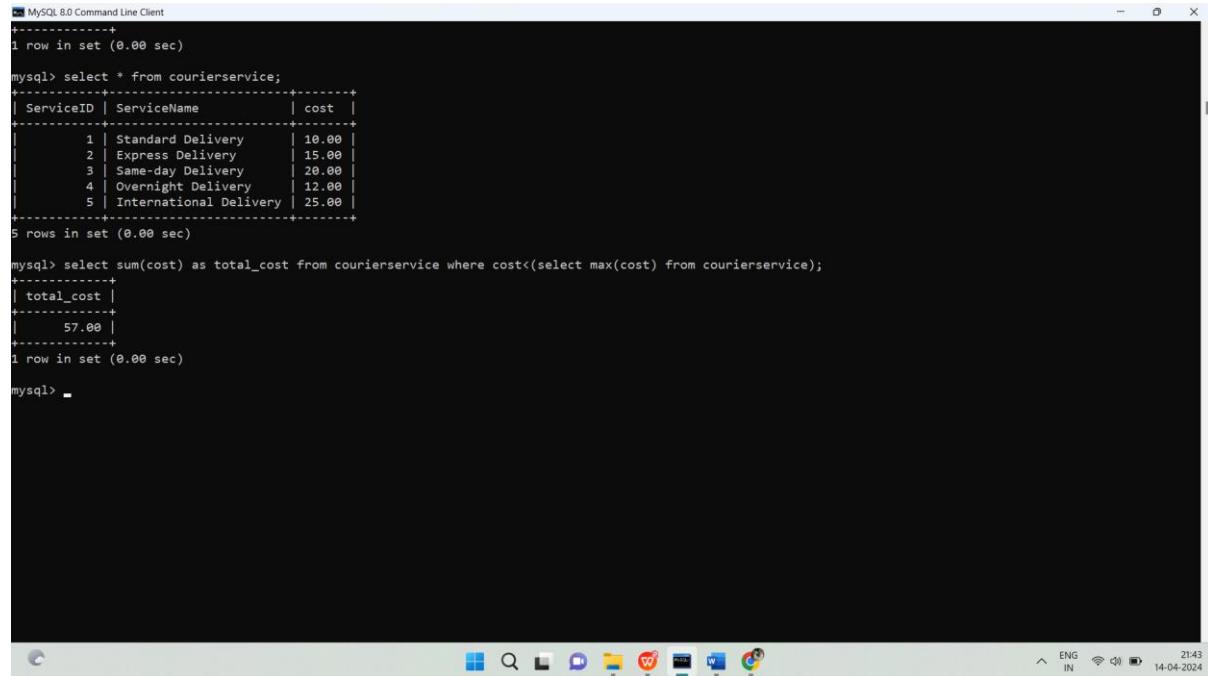
mysql> select * from employee;
+-----+-----+-----+-----+-----+
| EmployeeID | Name | Email | ContactNumber | Role | Salary |
+-----+-----+-----+-----+-----+
| 1 | Rahul | rahul@example.com | 1234567890 | Courier Driver | 30000.00 |
| 2 | Pooja | pooja@example.com | 9876543210 | Customer Service | 35000.00 |
| 3 | Alok | alok@example.com | 5551234567 | Manager | 50000.00 |
| 4 | Sunita | sunita@example.com | 3334567890 | Courier Driver | 28000.00 |
| 5 | Sameer | sameer@example.com | 9998887770 | Customer Service | 35000.00 |
| 6 | Ritu | ritu@example.com | 1112223330 | Courier Driver | 32000.00 |
| 7 | Neeta | neeta@example.com | 4445556668 | Manager | 52000.00 |
| 8 | Ajay | ajay@example.com | 7778889990 | Courier Driver | 31000.00 |
| 9 | Sonali | sonali@example.com | 2223334440 | Customer Service | 36000.00 |
| 10 | Vikram | vikram@example.com | 6667778888 | Courier Driver | 29000.00 |
| 11 | Johniya | joniya123@gmail.com | 6379718776 | Customer Service | 35000.00 |
| 12 | Lekha John | lekhajohn343@gmail.com | 9088873466 | Manager | 50000.00 |
+-----+-----+-----+-----+-----+
12 rows in set (0.00 sec)

mysql> select name from employee where salary > (select avg(salary) from employee);
+-----+
| name |
+-----+
| Alok |
| Neeta |
| Lekha John |
+-----+
3 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:

```
select sum(cost) as total_cost from courierservice where cost<(select max(cost) from courierservice);
```



```
MySQL 8.0 Command Line Client
+-----+
1 row in set (0.00 sec)

mysql> select * from courierservice;
+-----+-----+-----+
| ServiceID | ServiceName | cost |
+-----+-----+-----+
| 1 | Standard Delivery | 10.00 |
| 2 | Express Delivery | 15.00 |
| 3 | Same-day Delivery | 20.00 |
| 4 | Overnight Delivery | 12.00 |
| 5 | International Delivery | 25.00 |
+-----+-----+-----+
5 rows in set (0.00 sec)

mysql> select sum(cost) as total_cost from courierservice where cost<(select max(cost) from courierservice);
+-----+
| total_cost |
+-----+
| 57.00 |
+-----+
1 row in set (0.00 sec)

mysql>
```

52. Find all couriers that have been paid for

```
select c.* from courier c inner join payment p where c.courierID = p.courierId;
```

The screenshot shows the MySQL Command Line Client interface. The command `select c.* from courier c inner join payment p where c.courierID = p.courierId;` has been run, resulting in two sets of data being displayed as tables.

The first table shows the initial data from the courier and payment tables:

	CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate	serviceId
1	Rajiv	Anita	789 Malhotra Street, Kolkata	Vikram	654 Verma Lane, Lucknow	5.34	In Transit	6738573930	2024-04-14	3
2	Preeti	Preeti	741 Khan Street, Hyderabad	Rajiv	123 Gandhi Nagar, Delhi	5.34	Delivered	8738573930	2024-04-06	1
3	Vikram	Anita	789 Malhotra Street, Kolkata	Deepak	321 Rajput Enclave, Jaipur	1.75	Delivered	2345678901	2024-04-07	3
4	Preeti	Vikram	654 Verma Lane, Lucknow	Nandini	987 Joshi Nagar, Pune	3.25	In Transit	3456789012	2024-04-09	4
5	Anil	Preeti	741 Khan Street, Hyderabad	Rohan	369 Patel Chowk, Ahmedabad	4.00	Delivered	4567890123	2024-04-06	1
6	Sneha	Anil	852 Khan Market, Chennai	Ishita	147 Verma Colony, Bangalore	2.00	In Transit	5678901234	2024-04-10	3
7	Vikas	Sneha	321 Rajput Enclave, Jaipur	Meera	741 Khan Street, Hyderabad	3.75	In Transit	6789012345	2024-04-11	2
8	Priya	Vikas	987 Joshi Nagar, Pune	Arjun	123 Gandhi Nagar, Delhi	5.25	Delivered	7890123456	2024-04-05	4
9	Deepak	Priya	456 Patel Colony, Mumbai	Rajiv	123 Gandhi Nagar, Delhi	2.90	In Transit	8901234567	2024-04-12	1
10	Nandini	Deepak	147 Verma Colony, Bangalore	Anita	789 Malhotra Street, Kolkata	1.60	Delivered	9012345678	2024-04-04	3
				Vikram	654 Verma Lane, Lucknow	3.10	In Transit	0123456789	2024-04-13	2

The second table shows the results of the query, which filters the data from the first table to show only the rows where the service ID is 3 (Delivered status).

	CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate	serviceId
1	Rajiv	Anita	789 Malhotra Street, Kolkata	Vikram	654 Verma Lane, Lucknow	5.34	Delivered	8738573930	2024-04-06	1
2	Preeti	Preeti	741 Khan Street, Hyderabad	Rajiv	123 Gandhi Nagar, Delhi	5.34	Delivered	9012345678	2024-04-13	2
3	Vikram	Anita	789 Malhotra Street, Kolkata	Deepak	321 Rajput Enclave, Jaipur	1.75	Delivered	2345678901	2024-04-07	3
4	Preeti	Vikram	654 Verma Lane, Lucknow	Nandini	987 Joshi Nagar, Pune	3.25	In Transit	3456789012	2024-04-09	4
5	Anil	Preeti	741 Khan Street, Hyderabad	Rohan	369 Patel Chowk, Ahmedabad	4.00	Delivered	4567890123	2024-04-06	1
6	Sneha	Anil	852 Khan Market, Chennai	Ishita	147 Verma Colony, Bangalore	2.00	In Transit	5678901234	2024-04-10	3
7	Vikas	Sneha	321 Rajput Enclave, Jaipur	Meera	741 Khan Street, Hyderabad	3.75	In Transit	6789012345	2024-04-11	2
8	Priya	Vikas	987 Joshi Nagar, Pune	Arjun	123 Gandhi Nagar, Delhi	5.25	Delivered	7890123456	2024-04-05	4
9	Deepak	Priya	456 Patel Colony, Mumbai	Rajiv	123 Gandhi Nagar, Delhi	2.90	In Transit	8901234567	2024-04-12	1
10	Nandini	Deepak	147 Verma Colony, Bangalore	Anita	789 Malhotra Street, Kolkata	1.60	Delivered	9012345678	2024-04-04	3

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

```
select locationID from payment where amount = (select max(amount) from payment);
```

The screenshot shows the MySQL Command Line Client interface. The command `select locationID from payment where amount = (select max(amount) from payment);` has been run, resulting in one row being displayed.

locationID
9

The status bar at the bottom right indicates the date as 14-04-2024 and the time as 22:19.

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

```
select * from courier where weight > all(select weight from courier where senderName = "Vikram");
```