Assignment 4

Courier Management System

Task 1: Database Design

1.

```sql
CREATE DATABASE CourierManagementSystem;
```

100 %

Messages

Commands completed successfully.

Completion time: 2023-12-08T16:28:42.6667832+05:30

```sql
USE CourierManagementSystem;
```

100 %

Messages

Commands completed successfully.

Completion time: 2023-12-08T16:29:38.5079343+05:30

2.

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

CREATE TABLE Couriers (
    CourierID INT PRIMARY KEY,
    SenderName VARCHAR(255),
    SenderAddress TEXT,
    ReceiverName VARCHAR(255),
    ReceiverAddress TEXT,
    Weight DECIMAL(5, 2),
    Status VARCHAR(50),
    TrackingNumber VARCHAR(20) UNIQUE,
    DeliveryDate DATE
);

CREATE TABLE CourierServices (
    ServiceID INT PRIMARY KEY,
    ServiceName VARCHAR(100),
    Cost DECIMAL(8, 2)
);

CREATE TABLE Employees (
    EmployeeID INT PRIMARY KEY,
    Name VARCHAR(255),
    Email VARCHAR(255) UNIQUE,
    ContactNumber VARCHAR(20),
```

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

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

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

CREATE TABLE Payments (
    PaymentID INT PRIMARY KEY,
    CourierID INT,
    LocationID INT,
    Amount DECIMAL(10, 2),
    PaymentDate DATE,
    FOREIGN KEY (CourierID) REFERENCES Couriers(CourierID),
    FOREIGN KEY (LocationID) REFERENCES Locations(LocationID)
);
```
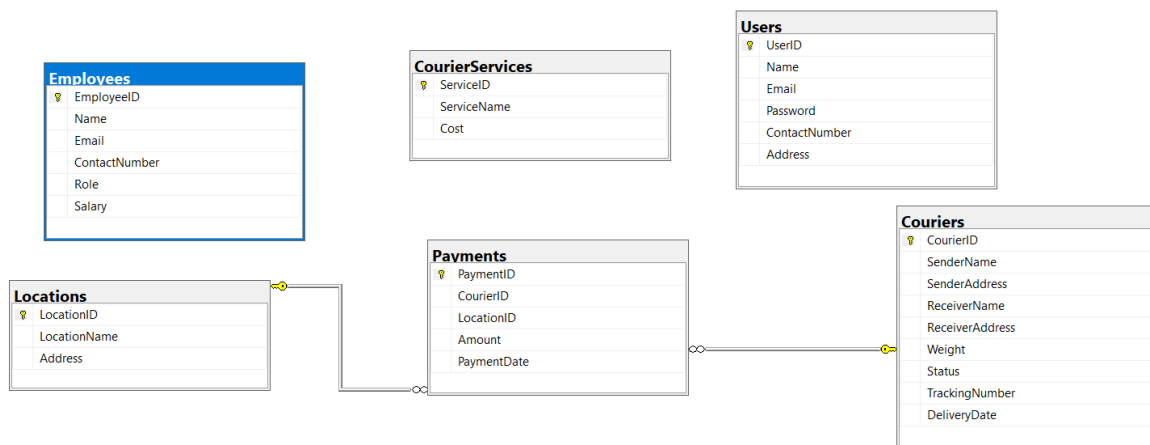
100 %

Messages

Commands completed successfully.

100 %

Messages

Commands completed successfully.

3.

4.

```sql
INSERT INTO Users (UserID, Name, Email, Password, ContactNumber, Address)
VALUES
(1, 'Raj Sharma', 'raj.sharma@email.com', 'password123', '9876543210', '123 Main Street, Delhi'),
(2, 'Priya Patel', 'priya.patel@email.com', 'pass456', '7890123456', '456 Oak Avenue, Mumbai'),
(3, 'Amit Verma', 'amit.verma@email.com', 'amit123', '8765432109', '789 Elm Street, Bangalore'),
(4, 'Neha Reddy', 'neha.reddy@email.com', 'neha456', '7654321098', '101 Pine Avenue, Hyderabad'),
(5, 'Rahul Kapoor', 'rahul.kapoor@email.com', 'rahul567', '6543210987', '202 Oak Street, Kolkata'),
(6, 'Anjali Desai', 'anjali.desai@email.com', 'anjali456', '5432109876', '303 Maple Avenue, Chennai'),
(7, 'Sanjay Mehra', 'sanjay.mehra@email.com', 'sanjay789', '4321098765', '404 Elm Street, Pune'),
(8, 'Meera Iyer', 'meera.iyer@email.com', 'meera987', '3210987654', '505 Pine Avenue, Ahmedabad');

INSERT INTO Couriers (CourierID, SenderName, SenderAddress, ReceiverName, ReceiverAddress, Weight, Status, TrackingNumber, DeliveryDate)
VALUES
(1, 'Deepa Singh', '789 Pine Street, Delhi', 'Suresh Kumar', '567 Elm Street, Mumbai', 8.5, 'In Transit', 'TN123456', '2023-04-01'),
(2, 'Rajesh Sharma', '321 Oak Street, Kolkata', 'Anita Gupta', '456 Maple Street, Bangalore', 6.0, 'Delivered', 'TN789012', '2023-03-28'),
(3, 'Jyoti Singh', '111 Pine Street, Hyderabad', 'Alok Gupta', '222 Oak Street, Chennai', 7.0, 'In Transit', 'TN654321', '2023-04-05'),
(4, 'Arun Verma', '505 Maple Avenue, Pune', 'Shweta Reddy', '606 Elm Street, Ahmedabad', 4.5, 'Delivered', 'TN987654', '2023-04-02'),
(5, 'Kavita Patel', '777 Oak Street, Delhi', 'Vinod Iyer', '888 Maple Avenue, Mumbai', 9.2, 'In Transit', 'TN789002', '2023-04-08'),
(6, 'Rohit Deshmukh', '999 Pine Street, Kolkata', 'Sneha Kapoor', '111 Elm Street, Bangalore', 6.8, 'Scheduled', 'TN345678', '2023-04-10'),
(7, 'Amit Mehta', '303 Oak Street, Hyderabad', 'Suman Mehra', '404 Maple Avenue, Pune', 5.3, 'Delivered', 'TN012345', '2023-03-30'),
(8, 'Sangeeta Iyer', '202 Elm Street, Chennai', 'Vivek Desai', '303 Pine Street, Ahmedabad', 8.0, 'In Transit', 'TN678901', '2023-04-12');

INSERT INTO CourierServices (ServiceID, ServiceName, Cost)
VALUES
(1, 'Standard', 10.00),
(2, 'Express', 15.00),
(3, 'Next Day Delivery', 20.00),
(4, 'Two-Day Delivery', 18.00),
(5, 'Economy', 12.00),
(6, 'Same Day Delivery', 25.00),
(7, 'Standard', 15.00),
(8, 'Express', 22.00);

INSERT INTO Employees (EmployeeID, Name, Email, ContactNumber, Role, Salary)
VALUES
(1, 'Rohan Gupta', 'rohan.gupta@email.com', '111-222-3333', 'Delivery Driver', 50000.00),
(2, 'Chitra Iyer', 'chitra.iyer@email.com', '444-333-5555', 'Customer Service', 45000.00),
(3, 'Vikram Singh', 'vikram.singh@email.com', '777-888-1111', 'Warehouse Manager', 55000.00),
(4, 'Pooja Desai', 'pooja.desai@email.com', '444-333-5555', 'Dispatcher', 48000.00),
(5, 'Kunal Kapoor', 'kunal.kapoor@email.com', '111-222-3333', 'Delivery Driver', 52000.00),
(6, 'Aarti Singh', 'aarti.singh@email.com', '666-555-7777', 'Customer Service', 47000.00),
(7, 'Rajat Mehta', 'rajat.mehta@email.com', '888-999-1111', 'Warehouse Staff', 45000.00),
(8, 'Ananya Iyer', 'ananya.iyer@email.com', '222-333-4444', 'Dispatcher', 48000.00);

INSERT INTO Locations (LocationID, LocationName, Address)
VALUES
(1, 'Main Office', '123 Main Street, Delhi'),
(2, 'Branch Office', '456 Oak Avenue, Mumbai'),
(3, 'Warehouse A', '777 Pine Street, Hyderabad'),
(4, 'Warehouse B', '888 Oak Street, Pune'),
(5, 'Branch Office 2', '999 Elm Street, Bangalore'),
(6, 'Branch Office 3', '101 Maple Avenue, Chennai'),
(7, 'Warehouse C', '222 Oak Street, Kolkata'),
(8, 'Branch Office 4', '333 Elm Street, Ahmedabad');

INSERT INTO Payments (PaymentID, CourierID, LocationID, Amount, PaymentDate)
VALUES
(1, 1, 1, 20.00, '2023-03-25'),
(2, 2, 2, 30.00, '2023-04-02'),
(3, 3, 3, 15.00, '2023-04-01'),
(4, 4, 4, 25.00, '2023-04-02'),
(5, 5, 5, 18.00, '2023-04-03'),
(6, 6, 6, 22.00, '2023-04-04'),
(7, 7, 7, 30.00, '2023-04-05'),
(8, 8, 8, 20.00, '2023-04-06');
```

100 %

Messages

Task 2: Select, Where

1.

```
--TASK 2

SELECT * FROM Users;
```

	UserID	Name	Email	Password	ContactNumber	Address
1	1	Raj Sharma	raj.sharma@email.com	password123	9876543210	123 Main Street, Delhi
2	2	Priya Patel	priya.patel@email.com	pass456	7890123456	456 Oak Avenue, Mumbai
3	3	Amit Verma	amit.verma@email.co...	amit123	8765432109	789 Elm Street, Bangalo...
4	4	Neha Red...	neha.reddy@email.co...	neha456	7654321098	101 Pine Avenue, Hyder...
5	5	Rahul Kap...	rahul.kapoor@email.c...	rahul567	6543210987	202 Oak Street, Kolkata
6	6	Anjali Desai	anjali.desai@email.c...	anjali456	5432109876	303 Maple Avenue, Che...
7	7	Sanjay Me...	sanjay.mehra@email....	sanjay789	4321098765	404 Elm Street, Pune
8	8	Meera Iyer	meera.iyer@email.com	meera987	3210987654	505 Pine Avenue, Ahme...

2.

```
SELECT * FROM Couriers WHERE SenderName = (SELECT Name FROM Users WHERE UserID = 2) OR ReceiverName = (SELECT Name FROM Users WHERE UserID = 2
```

	CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate
1	2	Priya Patel	321 Oak Street, Kolkata	Anita Gupta	456 Maple Street, Bangalore	6.00	Delivered	TN789012	2023-03-28

3.

```
SELECT * FROM Couriers;
```

	CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate
1	1	Raj Sharma	789 Pine Street, Delhi	Suresh Kumar	567 Elm Street, Mumbai	8.50	In Transit	TN123456	2023-04-01
2	2	Priya Patel	321 Oak Street, Kolkata	Anita Gupta	456 Maple Street, Bangalore	6.00	Delivered	TN789012	2023-03-28
3	3	Jyoti Singh	111 Pine Street, Hyderabad	Alok Gupta	222 Oak Street, Chennai	7.00	In Transit	TN654321	2023-04-05
4	4	Arun Verma	505 Maple Avenue, Pune	Shweta Reddy	606 Elm Street, Ahmedabad	4.50	Delivered	TN987654	2023-04-02
5	5	Kavita Patel	777 Oak Street, Delhi	Vinod Iyer	888 Maple Avenue, Mumbai	9.20	In Transit	TN789002	2023-04-08
6	6	Rohit Deshmukh	999 Pine Street, Kolkata	Sneha Kapoor	111 Elm Street, Bangalore	6.80	Scheduled	TN345678	2023-04-10
7	7	Raj Sharma	303 Oak Street, Hyderabad	Suman Mehra	404 Maple Avenue, Pune	5.30	Delivered	TN012345	2023-03-30
8	8	Sangeeta Iyer	202 Elm Street, Chennai	Vivek Desai	303 Pine Street, Ahmedabad	8.00	In Transit	TN678901	2023-04-12

4.

```sql
SELECT * FROM Couriers;


SELECT * FROM Couriers WHERE CourierID = 1;
```

	CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate
1	1	Raj Sharma	789 Pine Street, Delhi	Suresh Kumar	567 Elm Street, Mumbai	8.50	In Transit	TN123456	2023-04-01

5

```sql
SELECT * FROM Payments WHERE CourierID = 3;
```

	PaymentID	CourierID	LocationID	Amount	PaymentDate
1	3	3	3	15.00	2023-04-01

6.

```sql
SELECT * FROM Couriers WHERE Status != 'Delivered';
```

	CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate
1	1	Raj Sharma	789 Pine Street, Delhi	Suresh Kumar	567 Elm Street, Mumbai	8.50	In Transit	TN123456	2023-04-01
2	3	Jyoti Singh	111 Pine Street, Hyderabad	Alok Gupta	222 Oak Street, Chennai	7.00	In Transit	TN654321	2023-04-05
3	5	Kavita Patel	777 Oak Street, Delhi	Vinod Iyer	888 Maple Avenue, Mumbai	9.20	In Transit	TN789002	2023-04-08
4	6	Rohit Deshmukh	999 Pine Street, Kolkata	Sneha Kapoor	111 Elm Street, Bangalore	6.80	Scheduled	TN345678	2023-04-10
5	8	Sangeeta Iyer	202 Elm Street, Chennai	Vivek Desai	303 Pine Street, Ahmedabad	8.00	In Transit	TN678901	2023-04-12

7.

```sql
SELECT * FROM Couriers WHERE DeliveryDate = '2023-04-01';
```

	CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate
1	1	Raj Sharma	789 Pine Street, Delhi	Suresh Kumar	567 Elm Street, Mumbai	8.50	In Transit	TN123456	2023-04-01

8.

```sql
SELECT * FROM Couriers WHERE Status = 'In Transit';
```

	CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate
1	1	Raj Sharma	789 Pine Street, Delhi	Suresh Kumar	567 Elm Street, Mumbai	8.50	In Transit	TN123456	2023-04-01
2	3	Jyoti Singh	111 Pine Street, Hyderabad	Alok Gupta	222 Oak Street, Chennai	7.00	In Transit	TN654321	2023-04-05
3	5	Kavita Patel	777 Oak Street, Delhi	Vinod Iyer	888 Maple Avenue, Mumbai	9.20	In Transit	TN789002	2023-04-08
4	8	Sangeeta Iyer	202 Elm Street, Chennai	Vivek Desai	303 Pine Street, Ahmedabad	8.00	In Transit	TN678901	2023-04-12

9.

```sql
SELECT CourierID, COUNT(*) AS TotalPackages
FROM Couriers
GROUP BY CourierID;
```

100 %

Results | Messages

	CourierID	TotalPackages
1	7	1
2	1	1
3	6	1
4	3	1
5	8	1
6	5	1
7	2	1
8	4	1

10.

```sql
SELECT CourierID, AVG(DATEDIFF(dd,DeliveryDate,'05-01-2023')) AS AverageDeliveryTime
FROM Couriers
GROUP BY CourierID;
```

100 %

Results | Messages

	CourierID	AverageDeliveryTime
1	1	30
2	2	34
3	3	26
4	4	29
5	5	23
6	6	21
7	7	32
8	8	19

11.

```sql
SELECT * FROM Couriers WHERE Weight BETWEEN 5.0 AND 10.0; -- Adjust the range as needed
```

100 %

Results | Messages

	CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate
1	1	Raj Sharma	789 Pine Street, Delhi	Suresh Kumar	567 Elm Street, Mumbai	8.50	In Transit	TN123456	2023-04-01
2	2	Priya Patel	321 Oak Street, Kolkata	Anita Gupta	456 Maple Street, Bangalore	6.00	Delivered	TN789012	2023-03-28
3	3	Jyoti Singh	111 Pine Street, Hyderabad	Alok Gupta	222 Oak Street, Chennai	7.00	In Transit	TN654321	2023-04-05
4	5	Kavita Patel	777 Oak Street, Delhi	Vinod Iyer	888 Maple Avenue, Mumbai	9.20	In Transit	TN789002	2023-04-08
5	6	Rohit Deshmukh	999 Pine Street, Kolkata	Sneha Kapoor	111 Elm Street, Bangalore	6.80	Scheduled	TN345678	2023-04-10
6	7	Raj Sharma	303 Oak Street, Hyderabad	Suman Mehra	404 Maple Avenue, Pune	5.30	Delivered	TN012345	2023-03-30
7	8	Sangeeta Iyer	202 Elm Street, Chennai	Vivek Desai	303 Pine Street, Ahmedabad	8.00	In Transit	TN678901	2023-04-12

12.

```sql
SELECT * FROM Employees WHERE Name LIKE '%na%';
```

	EmployeeID	Name	Email	ContactNumber	Role	Salary
1	5	Kunal Kapoor	kunal.kapoor@email.com	111-222-3333	Delivery Driver	52000.00
2	8	Ananya Iyer	ananya.iyer@email.com	222-333-4444	Dispatcher	48000.00

13.

```sql
SELECT Couriers.*, Payments.Amount
FROM Couriers JOIN Payments ON Couriers.CourierID = Payments.CourierID
WHERE Payments.Amount > 20.0;
```

	CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate	Amount
1	2	Priya Patel	321 Oak Street, Kolkata	Anita Gupta	456 Maple Street, Bangalore	6.00	Delivered	TN789012	2023-03-28	30.00
2	4	Arun Verma	505 Maple Avenue, Pune	Shweta Reddy	606 Elm Street, Ahmedabad	4.50	Delivered	TN987654	2023-04-02	25.00
3	6	Rohit Deshmukh	999 Pine Street, Kolkata	Sneha Kapoor	111 Elm Street, Bangalore	6.80	Scheduled	TN345678	2023-04-10	22.00
4	7	Raj Sharma	303 Oak Street, Hyderabad	Suman Mehra	404 Maple Avenue, Pune	5.30	Delivered	TN012345	2023-03-30	30.00

Task 3: Group By, Aggregate functions, Having, Order By, Where

1.

```sql
SELECT e.Name AS EmployeeName, COUNT(c.CourierID) AS TotalCouriersHandled
FROM Employees e
LEFT JOIN Couriers c ON e.EmployeeID = c.EmployeeID
GROUP BY e.Name;
```

	EmployeeName	TotalCouriersHandled
1	Aarti Singh	1
2	Ananya Iyer	1
3	Chitra Iyer	1
4	Kunal Kapoor	1
5	Pooja Desai	1
6	Rajat Mehta	1
7	Rohan Gupta	1
8	Vikram Singh	1

2.

```sql
SELECT l.LocationName, SUM(p.Amount) AS TotalRevenue
FROM Locations l
LEFT JOIN Payments p ON l.LocationID = p.LocationID
GROUP BY l.LocationName;
```

	LocationName	TotalRevenue
1	Branch Office	30.00
2	Branch Office 2	18.00
3	Branch Office 3	22.00
4	Branch Office 4	20.00
5	Main Office	20.00
6	Warehouse A	15.00
7	Warehouse B	25.00
8	Warehouse C	30.00

3.

```sql
SELECT l.LocationName, COUNT(c.CourierID) AS TotalCouriersDelivered
FROM Locations l
LEFT JOIN Couriers c ON l.LocationName = 'Kolkata'
GROUP BY l.LocationName;
```

	LocationName	TotalCouriersDelivered
1	Branch Office	0
2	Branch Office 2	0
3	Branch Office 3	0
4	Branch Office 4	0
5	Main Office	0
6	Warehouse A	0
7	Warehouse B	0
8	Warehouse C	0

4.

```sql
SELECT c.CourierID, AVG(DATEDIFF(dd,c.DeliveryDate, '05-01-2023')) AS AvgDeliveryTime
FROM Couriers c
GROUP BY c.CourierID
ORDER BY AvgDeliveryTime DESC;
```

	CourierID	AvgDeliveryTime
1	2	34
2	7	32
3	1	30
4	4	29
5	3	26
6	5	23
7	6	21
8	8	19

5.

```sql
SELECT l.LocationName, SUM(p.Amount) AS TotalPayments
FROM Locations l
LEFT JOIN Payments p ON l.LocationID = p.LocationID
GROUP BY l.LocationName
HAVING SUM(p.Amount) < 20;
```

	LocationName	TotalPayments
1	Branch Office 2	18.00
2	Warehouse A	15.00

6.

```sql
SELECT l.LocationName, SUM(p.Amount) AS TotalPayments
FROM Locations l
LEFT JOIN Payments p ON l.LocationID = p.LocationID
GROUP BY l.LocationName;
```

100 %

Results | Messages

	LocationName	TotalPayments
1	Branch Office	30.00
2	Branch Office 2	18.00
3	Branch Office 3	22.00
4	Branch Office 4	20.00
5	Main Office	20.00
6	Warehouse A	15.00
7	Warehouse B	25.00
8	Warehouse C	30.00

7.

```sql
SELECT c.CourierID, c.ReceiverName, SUM(p.Amount) AS TotalPayments
FROM Couriers c
JOIN Payments p ON c.CourierID = p.CourierID
WHERE p.LocationID = 5
GROUP BY c.CourierID, c.ReceiverName
HAVING SUM(p.Amount) > 10;
```

100 %

Results | Messages

	CourierID	ReceiverName	TotalPayments
1	5	Vinod Iyer	18.00

8.

```sql
SELECT c.CourierID, c.ReceiverName, SUM(p.Amount) AS TotalPayments
FROM Couriers c
JOIN Payments p ON c.CourierID = p.CourierID
WHERE p.PaymentDate > '2023-04-01'
GROUP BY c.CourierID, c.ReceiverName
HAVING SUM(p.Amount) > 10;
```

100 %

Results | Messages

	CourierID	ReceiverName	TotalPayments
1	2	Anita Gupta	30.00
2	4	Shweta Reddy	25.00
3	5	Vinod Iyer	18.00
4	6	Sneha Kapoor	22.00
5	7	Suman Mehra	30.00
6	8	Vivek Desai	20.00

9.

```sql
SELECT l.LocationName, SUM(p.Amount) AS TotalPayments
FROM Locations l
JOIN Payments p ON l.LocationID = p.LocationID
WHERE p.PaymentDate < '2023-05-01'
GROUP BY l.LocationName
HAVING SUM(p.Amount) > 20;
```

100 % ▼ ◄

▦ Results | ▧ Messages

	LocationName	TotalPayments
1	Branch Office	30.00
2	Branch Office 3	22.00
3	Warehouse B	25.00
4	Warehouse C	30.00

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

1.

```sql
SELECT p.*, c.*
FROM Payments p
JOIN Couriers c ON p.CourierID = c.CourierID;
```

	PaymentID	CourierID	LocationID	Amount	PaymentDate	CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate
1	1	1	1	20.00	2023-03-25	1	Raj Sharma	789 Pine Street, Delhi	Suresh Kumar	567 Elm Street, Mumbai	8.50	In Transit	TN123456	2023-04-01
2	2	2	2	30.00	2023-04-02	2	Priya Patel	321 Oak Street, Kolkata	Anita Gupta	456 Maple Street, Bangalore	6.00	Delivered	TN789012	2023-03-28
3	3	3	3	15.00	2023-04-01	3	Jyoti Singh	111 Pine Street, Hyderabad	Alok Gupta	222 Oak Street, Chennai	7.00	In Transit	TN654321	2023-04-05
4	4	4	4	25.00	2023-04-02	4	Arun Verma	505 Maple Avenue, Pune	Shweta Reddy	606 Elm Street, Ahmedabad	4.50	Delivered	TN987654	2023-04-02
5	5	5	5	18.00	2023-04-03	5	Kavita Patel	777 Oak Street, Delhi	Vinod Iyer	888 Maple Avenue, Mumbai	9.20	In Transit	TN789002	2023-04-08
6	6	6	6	22.00	2023-04-04	6	Rohit Deshmukh	999 Pine Street, Kolkata	Sneha Kapoor	111 Elm Street, Bangalore	6.80	Scheduled	TN345678	2023-04-10
7	7	7	7	30.00	2023-04-05	7	Raj Sharma	303 Oak Street, Hyderabad	Suman Mehra	404 Maple Avenue, Pune	5.30	Delivered	TN012345	2023-03-30
8	8	8	8	20.00	2023-04-06	8	Sangeeta Iyer	202 Elm Street, Chennai	Vivek Desai	303 Pine Street, Ahmedabad	8.00	In Transit	TN678901	2023-04-12

2.

```sql
SELECT p.*, l.*
FROM Payments p
JOIN Locations l ON p.LocationID = l.LocationID;
```

	PaymentID	CourierID	LocationID	Amount	PaymentDate	LocationID	LocationName	Address
1	1	1	1	20.00	2023-03-25	1	Main Office	123 Main Street, Delhi
2	2	2	2	30.00	2023-04-02	2	Branch Office	456 Oak Avenue, Mumbai
3	3	3	3	15.00	2023-04-01	3	Warehouse A	777 Pine Street, Hyderabad
4	4	4	4	25.00	2023-04-02	4	Warehouse B	888 Oak Street, Pune
5	5	5	5	18.00	2023-04-03	5	Branch Office 2	999 Elm Street, Bangalore
6	6	6	6	22.00	2023-04-04	6	Branch Office 3	101 Maple Avenue, Chennai
7	7	7	7	30.00	2023-04-05	7	Warehouse C	222 Oak Street, Kolkata
8	8	8	8	20.00	2023-04-06	8	Branch Office 4	333 Elm Street, Ahmedabad

3.

```sql
SELECT p.*, c.*, l.*
FROM Payments p
JOIN Couriers c ON p.CourierID = c.CourierID
JOIN Locations l ON p.LocationID = l.LocationID;
```

	PaymentID	CourierID	LocationID	Amount	PaymentDate	CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate	LocationID	LocationName	Address
1	1	1	1	20.00	2023-03-25	1	Raj Sharma	789 Pine Street, Delhi	Suresh Kumar	567 Elm Street, Mumbai	8.50	In Transit	TN123456	2023-04-01	1	Main Office	123 Ma
2	2	2	2	30.00	2023-04-02	2	Priya Patel	321 Oak Street, Kolkata	Anita Gupta	456 Maple Street, Bangalore	6.00	Delivered	TN789012	2023-03-28	2	Branch Office	456 Oa
3	3	3	3	15.00	2023-04-01	3	Jyoti Singh	111 Pine Street, Hyderabad	Alok Gupta	222 Oak Street, Chennai	7.00	In Transit	TN654321	2023-04-05	3	Warehouse A	777 Pin
4	4	4	4	25.00	2023-04-02	4	Arun Verma	505 Maple Avenue, Pune	Shweta Reddy	606 Elm Street, Ahmedabad	4.50	Delivered	TN987654	2023-04-02	4	Warehouse B	888 Oa
5	5	5	5	18.00	2023-04-03	5	Kavita Patel	777 Oak Street, Delhi	Vinod Iyer	888 Maple Avenue, Mumbai	9.20	In Transit	TN789002	2023-04-08	5	Branch Office 2	999 Elm
6	6	6	6	22.00	2023-04-04	6	Rohit Deshmukh	999 Pine Street, Kolkata	Sneha Kapoor	111 Elm Street, Bangalore	6.80	Scheduled	TN345678	2023-04-10	6	Branch Office 3	101 Ma
7	7	7	7	30.00	2023-04-05	7	Raj Sharma	303 Oak Street, Hyderabad	Suman Mehra	404 Maple Avenue, Pune	5.30	Delivered	TN012345	2023-03-30	7	Warehouse C	222 Oal
8	8	8	8	20.00	2023-04-06	8	Sangeeta Iyer	202 Elm Street, Chennai	Vivek Desai	303 Pine Street, Ahmedabad	8.00	In Transit	TN678901	2023-04-12	8	Branch Office 4	333 Elm

4.

```sql
SELECT p.*, c.*
FROM Payments p
LEFT JOIN Couriers c ON p.CourierID = c.CourierID;
```

100 %

Results | Messages

	PaymentID	CourierID	LocationID	Amount	PaymentDate	CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate
1	1	1	1	20.00	2023-03-25	1	Raj Sharma	789 Pine Street, Delhi	Suresh Kumar	567 Elm Street, Mumbai	8.50	In Transit	TN123456	2023-04-01
2	2	2	2	30.00	2023-04-02	2	Priya Patel	321 Oak Street, Kolkata	Anita Gupta	456 Maple Street, Bangalore	6.00	Delivered	TN789012	2023-03-28
3	3	3	3	15.00	2023-04-01	3	Jyoti Singh	111 Pine Street, Hyderabad	Alok Gupta	222 Oak Street, Chennai	7.00	In Transit	TN654321	2023-04-05
4	4	4	4	25.00	2023-04-02	4	Arun Verma	505 Maple Avenue, Pune	Shweta Reddy	606 Elm Street, Ahmedabad	4.50	Delivered	TN987654	2023-04-02
5	5	5	5	18.00	2023-04-03	5	Kavita Patel	777 Oak Street, Delhi	Vinod Iyer	888 Maple Avenue, Mumbai	9.20	In Transit	TN789002	2023-04-08
6	6	6	6	22.00	2023-04-04	6	Rohit Deshmukh	999 Pine Street, Kolkata	Sneha Kapoor	111 Elm Street, Bangalore	6.80	Scheduled	TN345678	2023-04-10
7	7	7	7	30.00	2023-04-05	7	Raj Sharma	303 Oak Street, Hyderabad	Suman Mehra	404 Maple Avenue, Pune	5.30	Delivered	TN012345	2023-03-30
8	8	8	8	20.00	2023-04-06	8	Sangeeta Iyer	202 Elm Street, Chennai	Vivek Desai	303 Pine Street, Ahmedabad	8.00	In Transit	TN678901	2023-04-12

5.

```sql
SELECT c.CourierID, c.ReceiverName, SUM(p.Amount) AS TotalPayments
FROM Couriers c
LEFT JOIN Payments p ON c.CourierID = p.CourierID
GROUP BY c.CourierID, c.ReceiverName;
```

100 %

Results | Messages

	CourierID	ReceiverName	TotalPayments
1	1	Suresh Kumar	20.00
2	2	Anita Gupta	30.00
3	3	Alok Gupta	15.00
4	4	Shweta Reddy	25.00
5	5	Vinod Iyer	18.00
6	6	Sneha Kapoor	22.00
7	7	Suman Mehra	30.00
8	8	Vivek Desai	20.00

6.

```sql
SELECT * FROM Payments
WHERE PaymentDate = '2023-03-25';
```

100 %

Results | Messages

	PaymentID	CourierID	LocationID	Amount	PaymentDate
1	1	1	1	20.00	2023-03-25

7.

```sql
SELECT p.*, c.*
FROM Payments p
LEFT JOIN Couriers c ON p.CourierID = c.CourierID;
```

100 %

Results | Messages

	PaymentID	CourierID	LocationID	Amount	PaymentDate	CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate
1	1	1	1	20.00	2023-03-25	1	Raj Sharma	789 Pine Street, Delhi	Suresh Kumar	567 Elm Street, Mumbai	8.50	In Transit	TN123456	2023-04-01
2	2	2	2	30.00	2023-04-02	2	Priya Patel	321 Oak Street, Kolkata	Anita Gupta	456 Maple Street, Bangalore	6.00	Delivered	TN789012	2023-03-28
3	3	3	3	15.00	2023-04-01	3	Jyoti Singh	111 Pine Street, Hyderabad	Alok Gupta	222 Oak Street, Chennai	7.00	In Transit	TN654321	2023-04-05
4	4	4	4	25.00	2023-04-02	4	Arun Verma	505 Maple Avenue, Pune	Shweta Reddy	606 Elm Street, Ahmedabad	4.50	Delivered	TN987654	2023-04-02
5	5	5	5	18.00	2023-04-03	5	Kavita Patel	777 Oak Street, Delhi	Vinod Iyer	888 Maple Avenue, Mumbai	9.20	In Transit	TN789002	2023-04-08
6	6	6	6	22.00	2023-04-04	6	Rohit Deshmukh	999 Pine Street, Kolkata	Sneha Kapoor	111 Elm Street, Bangalore	6.80	Scheduled	TN345678	2023-04-10
7	7	7	7	30.00	2023-04-05	7	Raj Sharma	303 Oak Street, Hyderabad	Suman Mehra	404 Maple Avenue, Pune	5.30	Delivered	TN012345	2023-03-30
8	8	8	8	20.00	2023-04-06	8	Sangeeta Iyer	202 Elm Street, Chennai	Vivek Desai	303 Pine Street, Ahmedabad	8.00	In Transit	TN678901	2023-04-12

8.

```sql
SELECT p.*, l.*
FROM Payments p
LEFT JOIN Locations l ON p.LocationID = l.LocationID;
```

	PaymentID	CourierID	LocationID	Amount	PaymentDate	LocationID	LocationName	Address
1	1	1	1	20.00	2023-03-25	1	Main Office	123 Main Street, Delhi
2	2	2	2	30.00	2023-04-02	2	Branch Office	456 Oak Avenue, Mumbai
3	3	3	3	15.00	2023-04-01	3	Warehouse A	777 Pine Street, Hyderabad
4	4	4	4	25.00	2023-04-02	4	Warehouse B	888 Oak Street, Pune
5	5	5	5	18.00	2023-04-03	5	Branch Office 2	999 Elm Street, Bangalore
6	6	6	6	22.00	2023-04-04	6	Branch Office 3	101 Maple Avenue, Chennai
7	7	7	7	30.00	2023-04-05	7	Warehouse C	222 Oak Street, Kolkata
8	8	8	8	20.00	2023-04-06	8	Branch Office 4	333 Elm Street, Ahmedabad

9.

```sql
SELECT c.CourierID, c.ReceiverName, SUM(p.Amount) AS TotalPayments
FROM Couriers c
LEFT JOIN Payments p ON c.CourierID = p.CourierID
GROUP BY c.CourierID, c.ReceiverName;
```

	CourierID	ReceiverName	TotalPayments
1	1	Suresh Kumar	20.00
2	2	Anita Gupta	30.00
3	3	Alok Gupta	15.00
4	4	Shweta Reddy	25.00
5	5	Vinod Iyer	18.00
6	6	Sneha Kapoor	22.00
7	7	Suman Mehra	30.00
8	8	Vivek Desai	20.00

10.

```sql
SELECT u.*, c.*
FROM Users u JOIN Couriers c ON u.Name = c.SenderName OR u.Name=c.ReceiverName;
```

	UserID	Name	Email	Password	ContactNumber	Address	CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate
1	1	Raj Sharma	raj.sharma@email.com	password123	9876543210	123 Main Street, Delhi	1	Raj Sharma	789 Pine Street, Delhi	Suresh Kumar	567 Elm Street, Mumbai	8.50	In Transit	TN123456	2023-04-01
2	2	Priya Patel	priya.patel@email.com	pass456	7890123456	456 Oak Avenue, Mumbai	2	Priya Patel	321 Oak Street, Kolkata	Anita Gupta	456 Maple Street, Bangalore	6.00	Delivered	TN789012	2023-03-28
3	1	Raj Sharma	raj.sharma@email.com	password123	9876543210	123 Main Street, Delhi	7	Raj Sharma	303 Oak Street, Hyderabad	Suman Mehra	404 Maple Avenue, Pune	5.30	Delivered	TN012345	2023-03-30

11.

```sql
SELECT * FROM Payments
WHERE PaymentDate BETWEEN '2023-04-01' AND '2023-05-01';
```

	PaymentID	CourierID	LocationID	Amount	PaymentDate
1	2	2	2	30.00	2023-04-02
2	3	3	3	15.00	2023-04-01
3	4	4	4	25.00	2023-04-02
4	5	5	5	18.00	2023-04-03
5	6	6	6	22.00	2023-04-04
6	7	7	7	30.00	2023-04-05
7	8	8	8	20.00	2023-04-06

12.

```sql
SELECT c.*, cs.* FROM Couriers c
FULL JOIN CourierServices cs ON c.CourierID = cs.ServiceID;
```

	CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate	ServiceID	ServiceName	Cost
1	1	Raj Sharma	789 Pine Street, Delhi	Suresh Kumar	567 Elm Street, Mumbai	8.50	In Transit	TN123456	2023-04-01	1	Standard	10.00
2	2	Priya Patel	321 Oak Street, Kolkata	Anita Gupta	456 Maple Street, Bangalore	6.00	Delivered	TN789012	2023-03-28	2	Express	15.00
3	3	Jyoti Singh	111 Pine Street, Hyderabad	Alok Gupta	222 Oak Street, Chennai	7.00	In Transit	TN654321	2023-04-05	3	Next Day Delivery	20.00
4	4	Arun Verma	505 Maple Avenue, Pune	Shweta Reddy	606 Elm Street, Ahmedabad	4.50	Delivered	TN987654	2023-04-02	4	Two-Day Delivery	18.00
5	5	Kavita Patel	777 Oak Street, Delhi	Vinod Iyer	888 Maple Avenue, Mumbai	9.20	In Transit	TN789002	2023-04-08	5	Economy	12.00
6	6	Rohit Deshmukh	999 Pine Street, Kolkata	Sneha Kapoor	111 Elm Street, Bangalore	6.80	Scheduled	TN345678	2023-04-10	6	Same Day Delivery	25.00
7	7	Raj Sharma	303 Oak Street, Hyderabad	Suman Mehra	404 Maple Avenue, Pune	5.30	Delivered	TN012345	2023-03-30	7	Standard	15.00
8	8	Sangeeta Iyer	202 Elm Street, Chennai	Vivek Desai	303 Pine Street, Ahmedabad	8.00	In Transit	TN678901	2023-04-12	8	Express	22.00

13.

```sql
SELECT e.*, p.* FROM Employees e
CROSS JOIN Payments p;
```

	EmployeeID	Name	Email	ContactNumber	Role	Salary	PaymentID	CourierID	LocationID	Amount	PaymentDate
1	1	Rohan Gupta	rohan.gupta@email.com	111-222-3333	Delivery Driver	50000.00	1	1	1	20.00	2023-03-25
2	2	Chitra Iyer	chitra.iyer@email.com	444-333-5555	Customer Service	45000.00	1	1	1	20.00	2023-03-25
3	3	Vikram Singh	vikram.singh@email.com	777-888-1111	Warehouse Manager	55000.00	1	1	1	20.00	2023-03-25
4	4	Pooja Desai	pooja.desai@email.com	444-333-5555	Dispatcher	48000.00	1	1	1	20.00	2023-03-25
5	5	Kunal Kapoor	kunal.kapoor@email.com	111-222-3333	Delivery Driver	52000.00	1	1	1	20.00	2023-03-25
6	6	Aarti Singh	aarti.singh@email.com	666-555-7777	Customer Service	47000.00	1	1	1	20.00	2023-03-25
7	7	Rajat Mehta	rajat.mehta@email.com	888-999-1111	Warehouse Staff	45000.00	1	1	1	20.00	2023-03-25
8	8	Ananya Iyer	ananya.iyer@email.com	222-333-4444	Dispatcher	48000.00	1	1	1	20.00	2023-03-25
9	1	Rohan Gupta	rohan.gupta@email.com	111-222-3333	Delivery Driver	50000.00	2	2	2	30.00	2023-04-02
10	2	Chitra Iyer	chitra.iyer@email.com	444-333-5555	Customer Service	45000.00	2	2	2	30.00	2023-04-02
11	3	Vikram Singh	vikram.singh@email.com	777-888-1111	Warehouse Manager	55000.00	2	2	2	30.00	2023-04-02
12	4	Pooja Desai	pooja.desai@email.com	444-333-5555	Dispatcher	48000.00	2	2	2	30.00	2023-04-02
13	5	Kunal Kapoor	kunal.kapoor@email.com	111-222-3333	Delivery Driver	52000.00	2	2	2	30.00	2023-04-02
14	6	Aarti Singh	aarti.singh@email.com	666-555-7777	Customer Service	47000.00	2	2	2	30.00	2023-04-02
15	7	Rajat Mehta	rajat.mehta@email.com	888-999-1111	Warehouse Staff	45000.00	2	2	2	30.00	2023-04-02
16	8	Ananya Iyer	ananya.iyer@email.com	222-333-4444	Dispatcher	48000.00	2	2	2	30.00	2023-04-02

14.

```sql
SELECT u.*, cs.*
FROM Users u
CROSS JOIN CourierServices cs;
```

100 %

Results | Messages

	UserID	Name	Email	Password	ContactNumber	Address	ServiceID	ServiceName	Cost
1	1	Raj Sharma	raj.sharma@email.com	password123	9876543210	123 Main Street, Delhi	1	Standard	10.00
2	2	Priya Patel	priya.patel@email.com	pass456	7890123456	456 Oak Avenue, Mumbai	1	Standard	10.00
3	3	Amit Verma	amit.verma@email.com	amit123	8765432109	789 Elm Street, Bangalore	1	Standard	10.00
4	4	Neha Reddy	neha.reddy@email.com	neha456	7654321098	101 Pine Avenue, Hyderabad	1	Standard	10.00
5	5	Rahul Kapoor	rahul.kapoor@email.com	rahul567	6543210987	202 Oak Street, Kolkata	1	Standard	10.00
6	6	Anjali Desai	anjali.desai@email.com	anjali456	5432109876	303 Maple Avenue, Chennai	1	Standard	10.00
7	7	Sanjay Mehra	sanjay.mehra@email.com	sanjay789	4321098765	404 Elm Street, Pune	1	Standard	10.00
8	8	Meera Iyer	meera.iyer@email.com	meera987	3210987654	505 Pine Avenue, Ahmedabad	1	Standard	10.00
9	1	Raj Sharma	raj.sharma@email.com	password123	9876543210	123 Main Street, Delhi	2	Express	15.00
10	2	Priya Patel	priya.patel@email.com	pass456	7890123456	456 Oak Avenue, Mumbai	2	Express	15.00
11	3	Amit Verma	amit.verma@email.com	amit123	8765432109	789 Elm Street, Bangalore	2	Express	15.00
12	4	Neha Reddy	neha.reddy@email.com	neha456	7654321098	101 Pine Avenue, Hyderabad	2	Express	15.00
13	5	Rahul Kapoor	rahul.kapoor@email.com	rahul567	6543210987	202 Oak Street, Kolkata	2	Express	15.00
14	6	Anjali Desai	anjali.desai@email.com	anjali456	5432109876	303 Maple Avenue, Chennai	2	Express	15.00
15	7	Sanjay Mehra	sanjay.mehra@email.com	sanjay789	4321098765	404 Elm Street, Pune	2	Express	15.00
16	8	Meera Iyer	meera.iyer@email.com	meera987	3210987654	505 Pine Avenue, Ahmedabad	2	Express	15.00

15.

```sql
SELECT e.*, l.*
FROM Employees e
CROSS JOIN Locations l;
```

100 %

Results | Messages

	EmployeeID	Name	Email	ContactNumber	Role	Salary	LocationID	LocationName	Address
1	1	Rohan Gupta	rohan.gupta@email.com	111-222-3333	Delivery Driver	50000.00	1	Main Office	123 Main Street, Delhi
2	2	Chitra Iyer	chitra.iyer@email.com	444-333-5555	Customer Service	45000.00	1	Main Office	123 Main Street, Delhi
3	3	Vikram Singh	vikram.singh@email.com	777-888-1111	Warehouse Manager	55000.00	1	Main Office	123 Main Street, Delhi
4	4	Pooja Desai	pooja.desai@email.com	444-333-5555	Dispatcher	48000.00	1	Main Office	123 Main Street, Delhi
5	5	Kunal Kapoor	kunal.kapoor@email.com	111-222-3333	Delivery Driver	52000.00	1	Main Office	123 Main Street, Delhi
6	6	Aarti Singh	aarti.singh@email.com	666-555-7777	Customer Service	47000.00	1	Main Office	123 Main Street, Delhi
7	7	Rajat Mehta	rajat.mehta@email.com	888-999-1111	Warehouse Staff	45000.00	1	Main Office	123 Main Street, Delhi
8	8	Ananya Iyer	ananya.iyer@email.com	222-333-4444	Dispatcher	48000.00	1	Main Office	123 Main Street, Delhi
9	1	Rohan Gupta	rohan.gupta@email.com	111-222-3333	Delivery Driver	50000.00	2	Branch Office	456 Oak Avenue, Mumbai
10	2	Chitra Iyer	chitra.iyer@email.com	444-333-5555	Customer Service	45000.00	2	Branch Office	456 Oak Avenue, Mumbai
11	3	Vikram Singh	vikram.singh@email.com	777-888-1111	Warehouse Manager	55000.00	2	Branch Office	456 Oak Avenue, Mumbai
12	4	Pooja Desai	pooja.desai@email.com	444-333-5555	Dispatcher	48000.00	2	Branch Office	456 Oak Avenue, Mumbai
13	5	Kunal Kapoor	kunal.kapoor@email.com	111-222-3333	Delivery Driver	52000.00	2	Branch Office	456 Oak Avenue, Mumbai
14	6	Aarti Singh	aarti.singh@email.com	666-555-7777	Customer Service	47000.00	2	Branch Office	456 Oak Avenue, Mumbai
15	7	Rajat Mehta	rajat.mehta@email.com	888-999-1111	Warehouse Staff	45000.00	2	Branch Office	456 Oak Avenue, Mumbai
16	8	Ananya Iyer	ananya.iyer@email.com	222-333-4444	Dispatcher	48000.00	2	Branch Office	456 Oak Avenue, Mumbai

✔ Query executed successfully. | DESKTOP-8BVTURD (16.0 RTM)

16.

```sql
SELECT c.*, u.Name AS SenderName, u.Address AS SenderAddress
FROM Couriers c JOIN Users u ON u.Name = c.SenderName ;
```

100 %

Results | Messages

	CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate	SenderName	SenderAddress
1	1	Raj Sharma	789 Pine Street, Delhi	Suresh Kumar	567 Elm Street, Mumbai	8.50	In Transit	TN123456	2023-04-01	Raj Sharma	123 Main Street, Delhi
2	2	Priya Patel	321 Oak Street, Kolkata	Anita Gupta	456 Maple Street, Bangalore	6.00	Delivered	TN789012	2023-03-28	Priya Patel	456 Oak Avenue, Mumbai
3	7	Raj Sharma	303 Oak Street, Hyderabad	Suman Mehra	404 Maple Avenue, Pune	5.30	Delivered	TN012345	2023-03-30	Raj Sharma	123 Main Street, Delhi

17.

```sql
SELECT c.*, u.Name AS SenderName, u.Address AS SenderAddress
FROM Couriers c JOIN Users u ON u.Name = c.SenderName ;
```

100 %

Results | Messages

	CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate	SenderName	SenderAddress
1	1	Raj Sharma	789 Pine Street, Delhi	Suresh Kumar	567 Elm Street, Mumbai	8.50	In Transit	TN123456	2023-04-01	Raj Sharma	123 Main Street, Delhi
2	2	Priya Patel	321 Oak Street, Kolkata	Anita Gupta	456 Maple Street, Bangalore	6.00	Delivered	TN789012	2023-03-28	Priya Patel	456 Oak Avenue, Mumbai
3	7	Raj Sharma	303 Oak Street, Hyderabad	Suman Mehra	404 Maple Avenue, Pune	5.30	Delivered	TN012345	2023-03-30	Raj Sharma	123 Main Street, Delhi

18.

```sql
SELECT c.*, u.Name AS ReceiverName, u.Address AS ReceiverAddress
FROM Couriers c JOIN Users u ON u.Name = c.ReceiverName;
```

100 %

Results | Messages

	CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate	ReceiverName	ReceiverAddress

19.

```sql
SELECT c.*, cs.*
FROM Couriers c
LEFT JOIN CourierServices cs ON c.CourierID = cs.ServiceID;
```

100 %

Results | Messages

	CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate	ServiceID	ServiceName	Cost
1	1	Raj Sharma	789 Pine Street, Delhi	Suresh Kumar	567 Elm Street, Mumbai	8.50	In Transit	TN123456	2023-04-01	1	Standard	10.00
2	2	Priya Patel	321 Oak Street, Kolkata	Anita Gupta	456 Maple Street, Bangalore	6.00	Delivered	TN789012	2023-03-28	2	Express	15.00
3	3	Jyoti Singh	111 Pine Street, Hyderabad	Alok Gupta	222 Oak Street, Chennai	7.00	In Transit	TN654321	2023-04-05	3	Next Day Delivery	20.00
4	4	Arun Verma	505 Maple Avenue, Pune	Shweta Reddy	606 Elm Street, Ahmedabad	4.50	Delivered	TN987654	2023-04-02	4	Two-Day Delivery	18.00
5	5	Kavita Patel	777 Oak Street, Delhi	Vinod Iyer	888 Maple Avenue, Mumbai	9.20	In Transit	TN789002	2023-04-08	5	Economy	12.00
6	6	Rohit Deshmukh	999 Pine Street, Kolkata	Sneha Kapoor	111 Elm Street, Bangalore	6.80	Scheduled	TN345678	2023-04-10	6	Same Day Delivery	25.00
7	7	Raj Sharma	303 Oak Street, Hyderabad	Suman Mehra	404 Maple Avenue, Pune	5.30	Delivered	TN012345	2023-03-30	7	Standard	15.00
8	8	Sangeeta Iyer	202 Elm Street, Chennai	Vivek Desai	303 Pine Street, Ahmedabad	8.00	In Transit	TN678901	2023-04-12	8	Express	22.00

20.

```sql
SELECT u.*, cs.*
FROM Users u
CROSS JOIN CourierServices cs;
```

100 %

Results | Messages

	UserID	Name	Email	Password	ContactNumber	Address	ServiceID	ServiceName	Cost
1	1	Raj Sharma	raj.sharma@email.com	password123	9876543210	123 Main Street, Delhi	1	Standard	10.00
2	2	Priya Patel	priya.patel@email.com	pass456	7890123456	456 Oak Avenue, Mumbai	1	Standard	10.00
3	3	Amit Verma	amit.verma@email.com	amit123	8765432109	789 Elm Street, Bangalore	1	Standard	10.00
4	4	Neha Reddy	neha.reddy@email.com	neha456	7654321098	101 Pine Avenue, Hyderabad	1	Standard	10.00
5	5	Rahul Kapoor	rahul.kapoor@email.com	rahul567	6543210987	202 Oak Street, Kolkata	1	Standard	10.00
6	6	Anjali Desai	anjali.desai@email.com	anjali456	5432109876	303 Maple Avenue, Chennai	1	Standard	10.00
7	7	Sanjay Mehra	sanjay.mehra@email.com	sanjay789	4321098765	404 Elm Street, Pune	1	Standard	10.00
8	8	Meera Iyer	meera.iyer@email.com	meera987	3210987654	505 Pine Avenue, Ahmedabad	1	Standard	10.00
9	1	Raj Sharma	raj.sharma@email.com	password123	9876543210	123 Main Street, Delhi	2	Express	15.00
10	2	Priya Patel	priya.patel@email.com	pass456	7890123456	456 Oak Avenue, Mumbai	2	Express	15.00
11	3	Amit Verma	amit.verma@email.com	amit123	8765432109	789 Elm Street, Bangalore	2	Express	15.00
12	4	Neha Reddy	neha.reddy@email.com	neha456	7654321098	101 Pine Avenue, Hyderabad	2	Express	15.00
13	5	Rahul Kapoor	rahul.kapoor@email.com	rahul567	6543210987	202 Oak Street, Kolkata	2	Express	15.00
14	6	Anjali Desai	anjali.desai@email.com	anjali456	5432109876	303 Maple Avenue, Chennai	2	Express	15.00
15	7	Sanjay Mehra	sanjay.mehra@email.com	sanjay789	4321098765	404 Elm Street, Pune	2	Express	15.00
16	8	Meera Iyer	meera.iyer@email.com	meera987	3210987654	505 Pine Avenue, Ahmedabad	2	Express	15.00

21.

```sql
SELECT c.*, cs.*
FROM Couriers c
LEFT JOIN CourierServices cs ON c.CourierID = cs.ServiceID;
```

100 %

Results | **Messages**

	CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate	ServiceID	ServiceName	Cost
1	1	Raj Sharma	789 Pine Street, Delhi	Suresh Kumar	567 Elm Street, Mumbai	8.50	In Transit	TN123456	2023-04-01	1	Standard	10.00
2	2	Priya Patel	321 Oak Street, Kolkata	Anita Gupta	456 Maple Street, Bangalore	6.00	Delivered	TN789012	2023-03-28	2	Express	15.00
3	3	Jyoti Singh	111 Pine Street, Hyderabad	Alok Gupta	222 Oak Street, Chennai	7.00	In Transit	TN654321	2023-04-05	3	Next Day Delivery	20.00
4	4	Arun Verma	505 Maple Avenue, Pune	Shweta Reddy	606 Elm Street, Ahmedabad	4.50	Delivered	TN987654	2023-04-02	4	Two-Day Delivery	18.00
5	5	Kavita Patel	777 Oak Street, Delhi	Vinod Iyer	888 Maple Avenue, Mumbai	9.20	In Transit	TN789002	2023-04-08	5	Economy	12.00
6	6	Rohit Deshmukh	999 Pine Street, Kolkata	Sneha Kapoor	111 Elm Street, Bangalore	6.80	Scheduled	TN345678	2023-04-10	6	Same Day Delivery	25.00
7	7	Raj Sharma	303 Oak Street, Hyderabad	Suman Mehra	404 Maple Avenue, Pune	5.30	Delivered	TN012345	2023-03-30	7	Standard	15.00
8	8	Sangeeta Iyer	202 Elm Street, Chennai	Vivek Desai	303 Pine Street, Ahmedabad	8.00	In Transit	TN678901	2023-04-12	8	Express	22.00

22.

```sql
SELECT c.*, u.Name AS SenderName
FROM Couriers c JOIN Users u ON u.Name = c.SenderName
WHERE c.SenderName IS NOT NULL;
```

100 %

Results | **Messages**

	CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate	SenderName
1	1	Raj Sharma	789 Pine Street, Delhi	Suresh Kumar	567 Elm Street, Mumbai	8.50	In Transit	TN123456	2023-04-01	Raj Sharma
2	2	Priya Patel	321 Oak Street, Kolkata	Anita Gupta	456 Maple Street, Bangalore	6.00	Delivered	TN789012	2023-03-28	Priya Patel
3	7	Raj Sharma	303 Oak Street, Hyderabad	Suman Mehra	404 Maple Avenue, Pune	5.30	Delivered	TN012345	2023-03-30	Raj Sharma

23.

```sql
SELECT e1.*, e2.* FROM Employees e1
JOIN Employees e2 ON e1.Role = e2.Role AND e1.EmployeeID <> e2.EmployeeID;
```

100 %

Results | **Messages**

	EmployeeID	Name	Email	ContactNumber	Role	Salary	EmployeeID	Name	Email	ContactNumber	Role	Salary
1	1	Rohan Gupta	rohan.gupta@email.com	111-222-3333	Delivery Driver	50000.00	5	Kunal Kapoor	kunal.kapoor@email.com	111-222-3333	Delivery Driver	52000.00
2	2	Chitra Iyer	chitra.iyer@email.com	444-333-5555	Customer Service	45000.00	6	Aarti Singh	aarti.singh@email.com	666-555-7777	Customer Service	47000.00
3	4	Pooja Desai	pooja.desai@email.com	444-333-5555	Dispatcher	48000.00	8	Ananya Iyer	ananya.iyer@email.com	222-333-4444	Dispatcher	48000.00
4	5	Kunal Kapoor	kunal.kapoor@email.com	111-222-3333	Delivery Driver	52000.00	1	Rohan Gupta	rohan.gupta@email.com	111-222-3333	Delivery Driver	50000.00
5	6	Aarti Singh	aarti.singh@email.com	666-555-7777	Customer Service	47000.00	2	Chitra Iyer	chitra.iyer@email.com	444-333-5555	Customer Service	45000.00
6	8	Ananya Iyer	ananya.iyer@email.com	222-333-4444	Dispatcher	48000.00	4	Pooja Desai	pooja.desai@email.com	444-333-5555	Dispatcher	48000.00

24.

```sql
SELECT e1.*, e2.* FROM Employees e1
JOIN Employees e2 ON e1.Role = e2.Role AND e1.EmployeeID <> e2.EmployeeID;
```

100 %

Results | **Messages**

	EmployeeID	Name	Email	ContactNumber	Role	Salary	EmployeeID	Name	Email	ContactNumber	Role	Salary
1	1	Rohan Gupta	rohan.gupta@email.com	111-222-3333	Delivery Driver	50000.00	5	Kunal Kapoor	kunal.kapoor@email.com	111-222-3333	Delivery Driver	52000.00
2	2	Chitra Iyer	chitra.iyer@email.com	444-333-5555	Customer Service	45000.00	6	Aarti Singh	aarti.singh@email.com	666-555-7777	Customer Service	47000.00
3	4	Pooja Desai	pooja.desai@email.com	444-333-5555	Dispatcher	48000.00	8	Ananya Iyer	ananya.iyer@email.com	222-333-4444	Dispatcher	48000.00
4	5	Kunal Kapoor	kunal.kapoor@email.com	111-222-3333	Delivery Driver	52000.00	1	Rohan Gupta	rohan.gupta@email.com	111-222-3333	Delivery Driver	50000.00
5	6	Aarti Singh	aarti.singh@email.com	666-555-7777	Customer Service	47000.00	2	Chitra Iyer	chitra.iyer@email.com	444-333-5555	Customer Service	45000.00
6	8	Ananya Iyer	ananya.iyer@email.com	222-333-4444	Dispatcher	48000.00	4	Pooja Desai	pooja.desai@email.com	444-333-5555	Dispatcher	48000.00

25.

```sql
SELECT p.*, l.LocationName
FROM Payments p
LEFT JOIN Locations l ON p.LocationID = l.LocationID
WHERE p.LocationID IS NOT NULL;
```

100 %

Results | Messages

	PaymentID	CourierID	LocationID	Amount	PaymentDate	LocationName
1	1	1	1	20.00	2023-03-25	Main Office
2	2	2	2	30.00	2023-04-02	Branch Office
3	3	3	3	15.00	2023-04-01	Warehouse A
4	4	4	4	25.00	2023-04-02	Warehouse B
5	5	5	5	18.00	2023-04-03	Branch Office 2
6	6	6	6	22.00	2023-04-04	Branch Office 3
7	7	7	7	30.00	2023-04-05	Warehouse C
8	8	8	8	20.00	2023-04-06	Branch Office 4

26.

```sql
SELECT c.*, l.LocationName AS SenderLocation
FROM Couriers c
LEFT JOIN Locations l ON c.CourierID = l.LocationID
WHERE c.CourierID IS NOT NULL;
```

100 %

Results | Messages

	CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate	SenderLocation
1	1	Raj Sharma	789 Pine Street, Delhi	Suresh Kumar	567 Elm Street, Mumbai	8.50	In Transit	TN123456	2023-04-01	Main Office
2	2	Priya Patel	321 Oak Street, Kolkata	Anita Gupta	456 Maple Street, Bangalore	6.00	Delivered	TN789012	2023-03-28	Branch Office
3	3	Jyoti Singh	111 Pine Street, Hyderabad	Alok Gupta	222 Oak Street, Chennai	7.00	In Transit	TN654321	2023-04-05	Warehouse A
4	4	Arun Verma	505 Maple Avenue, Pune	Shweta Reddy	606 Elm Street, Ahmedabad	4.50	Delivered	TN987654	2023-04-02	Warehouse B
5	5	Kavita Patel	777 Oak Street, Delhi	Vinod Iyer	888 Maple Avenue, Mumbai	9.20	In Transit	TN789002	2023-04-08	Branch Office 2
6	6	Rohit Deshmukh	999 Pine Street, Kolkata	Sneha Kapoor	111 Elm Street, Bangalore	6.80	Scheduled	TN345678	2023-04-10	Branch Office 3
7	7	Raj Sharma	303 Oak Street, Hyderabad	Suman Mehra	404 Maple Avenue, Pune	5.30	Delivered	TN012345	2023-03-30	Warehouse C
8	8	Sangeeta Iyer	202 Elm Street, Chennai	Vivek Desai	303 Pine Street, Ahmedabad	8.00	In Transit	TN678901	2023-04-12	Branch Office 4

27.

```sql
SELECT c.*, p.Amount, cs.Cost AS ServiceCost
FROM Couriers c
LEFT JOIN Payments p ON c.CourierID = p.CourierID
LEFT JOIN CourierServices cs ON c.CourierID = cs.ServiceID
WHERE p.Amount > cs.Cost;
```

100 %

Results | Messages

	CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate	Amount	ServiceCost
1	1	Raj Sharma	789 Pine Street, Delhi	Suresh Kumar	567 Elm Street, Mumbai	8.50	In Transit	TN123456	2023-04-01	20.00	10.00
2	2	Priya Patel	321 Oak Street, Kolkata	Anita Gupta	456 Maple Street, Bangalore	6.00	Delivered	TN789012	2023-03-28	30.00	15.00
3	4	Arun Verma	505 Maple Avenue, Pune	Shweta Reddy	606 Elm Street, Ahmedabad	4.50	Delivered	TN987654	2023-04-02	25.00	18.00
4	5	Kavita Patel	777 Oak Street, Delhi	Vinod Iyer	888 Maple Avenue, Mumbai	9.20	In Transit	TN789002	2023-04-08	18.00	12.00
5	7	Raj Sharma	303 Oak Street, Hyderabad	Suman Mehra	404 Maple Avenue, Pune	5.30	Delivered	TN012345	2023-03-30	30.00	15.00

Task 5: Scope: Inner Queries, Non Equi. Joins, Equi joins, Exist, Any, All

1.

```sql
SELECT * FROM Couriers
WHERE Weight > (SELECT AVG(Weight) FROM Couriers);
```

	CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate
1	1	Raj Sharma	789 Pine Street, Delhi	Suresh Kumar	567 Elm Street, Mumbai	8.50	In Transit	TN123456	2023-04-01
2	3	Jyoti Singh	111 Pine Street, Hyderabad	Alok Gupta	222 Oak Street, Chennai	7.00	In Transit	TN654321	2023-04-05
3	5	Kavita Patel	777 Oak Street, Delhi	Vinod Iyer	888 Maple Avenue, Mumbai	9.20	In Transit	TN789002	2023-04-08
4	8	Sangeeta Iyer	202 Elm Street, Chennai	Vivek Desai	303 Pine Street, Ahmedabad	8.00	In Transit	TN678901	2023-04-12

2.

```sql
SELECT Name FROM Employees
WHERE Salary > (SELECT AVG(Salary) FROM Employees);
```

	Name
1	Rohan Gupta
2	Vikram Singh
3	Kunal Kapoor

3.

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

	TotalCost
1	132.00

4.

```sql
SELECT c.*
FROM Couriers c
INNER JOIN Payments p ON c.CourierID = p.CourierID;
```

	CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate
1	1	Raj Sharma	789 Pine Street, Delhi	Suresh Kumar	567 Elm Street, Mumbai	8.50	In Transit	TN123456	2023-04-01
2	2	Priya Patel	321 Oak Street, Kolkata	Anita Gupta	456 Maple Street, Bangalore	6.00	Delivered	TN789012	2023-03-28
3	3	Jyoti Singh	111 Pine Street, Hyderabad	Alok Gupta	222 Oak Street, Chennai	7.00	In Transit	TN654321	2023-04-05
4	4	Arun Verma	505 Maple Avenue, Pune	Shweta Reddy	606 Elm Street, Ahmedabad	4.50	Delivered	TN987654	2023-04-02
5	5	Kavita Patel	777 Oak Street, Delhi	Vinod Iyer	888 Maple Avenue, Mumbai	9.20	In Transit	TN789002	2023-04-08
6	6	Rohit Deshmukh	999 Pine Street, Kolkata	Sneha Kapoor	111 Elm Street, Bangalore	6.80	Scheduled	TN345678	2023-04-10
7	7	Raj Sharma	303 Oak Street, Hyderabad	Suman Mehra	404 Maple Avenue, Pune	5.30	Delivered	TN012345	2023-03-30
8	8	Sangeeta Iyer	202 Elm Street, Chennai	Vivek Desai	303 Pine Street, Ahmedabad	8.00	In Transit	TN678901	2023-04-12

5.

```sql
SELECT l.LocationName FROM Locations l
WHERE LocationID = (SELECT TOP 1 LocationID FROM Payments ORDER BY Amount DESC);
```

	LocationName
1	Branch Office

6.

```sql
SELECT c.* FROM Couriers c
WHERE Weight > ALL (SELECT Weight FROM Couriers WHERE SenderName = 'Shweta Reddy');
```

	CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate
1	1	Raj Sharma	789 Pine Street, Delhi	Suresh Kumar	567 Elm Street, Mumbai	8.50	In Transit	TN123456	2023-04-01
2	2	Priya Patel	321 Oak Street, Kolkata	Anita Gupta	456 Maple Street, Bangalore	6.00	Delivered	TN789012	2023-03-28
3	3	Jyoti Singh	111 Pine Street, Hyderabad	Alok Gupta	222 Oak Street, Chennai	7.00	In Transit	TN654321	2023-04-05
4	4	Arun Verma	505 Maple Avenue, Pune	Shweta Reddy	606 Elm Street, Ahmedabad	4.50	Delivered	TN987654	2023-04-02
5	5	Kavita Patel	777 Oak Street, Delhi	Vinod Iyer	888 Maple Avenue, Mumbai	9.20	In Transit	TN789002	2023-04-08
6	6	Rohit Deshmukh	999 Pine Street, Kolkata	Sneha Kapoor	111 Elm Street, Bangalore	6.80	Scheduled	TN345678	2023-04-10
7	7	Raj Sharma	303 Oak Street, Hyderabad	Suman Mehra	404 Maple Avenue, Pune	5.30	Delivered	TN012345	2023-03-30
8	8	Sangeeta Iyer	202 Elm Street, Chennai	Vivek Desai	303 Pine Street, Ahmedabad	8.00	In Transit	TN678901	2023-04-12