

ASSIGNMENT-4(HEXA)

Task-1:Database Design

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Design a SQL schema for a Courier Management System with tables. Define the relationships between these tables using appropriate foreign keys.

Requirements:

- Define the Database Schema • Create SQL tables for entities
- Define relationships between these tables (**one-to-many, many-to-many, etc.**).
- **Populate Sample Data** • Insert sample data into the tables to simulate real-world scenarios.

```
-- Task-1
create database CourierManagement;
use CourierManagement;

7      -- Create User table
8 • CREATE TABLE Users
9      (
L0      UserID INT PRIMARY KEY,
L1      Name VARCHAR(255),
L2      Email VARCHAR(255) UNIQUE,
L3      Password VARCHAR(255),
L4      ContactNumber VARCHAR(20),
L5      Address TEXT
L6  );
-----+
INSERT INTO users (userID, Name, Email, Password, ContactNumber, Address)
VALUES
(1, 'Aarav Sharma', 'aaravsharma@example.com', 'pass123', '+91 9876543210', '123, ABC Street, City, State, India'),
(2, 'Diya Patel', 'diyapatel@example.com', 'mypass@321', '+91 8765432109', '456, XYZ Road, City, State, India'),
(3, 'Advik Singh', 'adviks@example.com', 'securepwd!', '+91 7654321098', '789, LMN Avenue, City, State, India'),
(4, 'Anaya Mishra', 'anayam@example.com', 'p@ssAnaya', '+91 6543210987', '1011, PQR Lane, City, State, India'),
(5, 'Vihaan Reddy', 'vihaanr@example.com', 'redvihaan22', '+91 5432109876', '1213, RST Boulevard, City, State, India'),
(6, 'Ishaan Kumar', 'ishaank@example.com', 'IshaanPass123', '+91 4321098765', '1415, UVW Lane, City, State, India'),
(7, 'Aadya Gupta', 'aadyag@example.com', 'GuptaPass@7', '+91 3210987654', '1617, XYZ Street, City, State, India'),
(8, 'Riya Verma', 'riyav@example.com', 'RiyaPass123', '+91 2109876543', '1819, MNO Avenue, City, State, India'),
(9, 'Arjun Rao', 'arjunr@example.com', 'RaoArjun@99', '+91 1098765432', '2021, PQR Road, City, State, India'),
(10, 'Sara Joshi', 'saraj@example.com', 'JoshiSara@22', '+91 9876543210', '2223, ABC Street, City, State, India')
;
```

```
-- Create Courier table
CREATE TABLE Courier (
    CourierID INT PRIMARY KEY,
    SenderName VARCHAR(255),
    SenderAddress TEXT,
    ReceiverName VARCHAR(255),
    ReceiverAddress TEXT,
    Weight DECIMAL(10, 2),
    Status VARCHAR(50),
    TrackingNumber VARCHAR(20) UNIQUE,
    DeliveryDate DATE
);

INSERT INTO courier (courierID, senderName, senderAddress, receiverName, receiverAddress, weight, Status, trackingNumber, DeliveryDate)
VALUES
(1, 'Aarav Sharma', '123, ABC Street, City, State, India', 'Zara Khan', '789, LMN Avenue, City, State, India', 1.5, 'In Transit', 'TN1234567890'),
(2, 'Advik Singh', '789, LMN Avenue, City, State, India', 'Vivaan Gupta', '1011, PQR Lane, City, State, India', 2.0, 'Pending', 'TN9876543210'),
(3, 'Vihaan Reddy', '1213, RST Boulevard, City, State, India', 'Myra Patel', '1415, UVW Lane, City, State, India', 1.8, 'Delivered', 'TN3210987654'),
(4, 'Aadya Gupta', '1617, XYZ Street, City, State, India', 'Kabir Mishra', '1819, MNO Avenue, City, State, India', 2.2, 'In Transit', 'TN4567890123'),
(5, 'Arjun Rao', '2021, PQR Road, City, State, India', 'Aanya Singh', '2223, ABC Street, City, State, India', 1.6, 'Pending', 'TN3692587432'),
(6, 'Riya Verma', '1819, MNO Avenue, City, State, India', 'Advik Singh', '789, LMN Avenue, City, State, India', 1.9, 'Delivered', 'TN5432109876'),
(7, 'Sara Joshi', '2223, ABC Street, City, State, India', 'Aarav Sharma', '123, ABC Street, City, State, India', 2.5, 'In Transit', 'TN6543210987'),
(8, 'Anaya Mishra', '1011, PQR Lane, City, State, India', 'Diya Patel', '456, XYZ Road, City, State, India', 1.7, 'Pending', 'TN6543219876'),
(9, 'Ishaan Kumar', '1415, UVW Lane, City, State, India', 'Vihaan Reddy', '1213, RST Boulevard, City, State, India', 2.3, 'In Transit', 'TN4567890123'),
(10, 'Arjun Rao', '2021, PQR Road, City, State, India', 'Aadya Gupta', '1617, XYZ Street, City, State, India', 2.1, 'Delivered', 'TN4567890123');
```

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

-- Create Employee table
CREATE TABLE Employee (
    EmployeeID INT PRIMARY KEY,
    Name VARCHAR(255),
    Email VARCHAR(255) UNIQUE,
    ContactNumber VARCHAR(20),
    Role VARCHAR(50),
    Salary DECIMAL(10, 2)
);
```

```

' INSERT INTO courierservices (ServiceID, ServiceName, Cost)
VALUES
(1, 'Standard', 50.00),
(2, 'Express', 80.00),
(3, 'Priority', 100.00),
(4, 'Economy', 40.00),
(5, 'Overnight', 120.00),
(6, 'International', 150.00),
(7, 'Same-day', 200.00),
(8, 'Next-day', 90.00),
(9, 'Two-day', 60.00),
(10, 'Local', 30.00);

' INSERT INTO employee (EmployeeID, Name, Email, ContactNumber, Role, Salary)
VALUES
(1, 'Rahul Sharma', 'rahul@example.com', '+91 9876543210', 'Manager', 60000.00),
(2, 'Priya Verma', 'priya@example.com', '+91 8765432109', 'Sales Representative', 40000.00),
(3, 'Amit Singh', 'amit@example.com', '+91 7654321098', 'Marketing Coordinator', 45000.00),

```

```

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

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

```

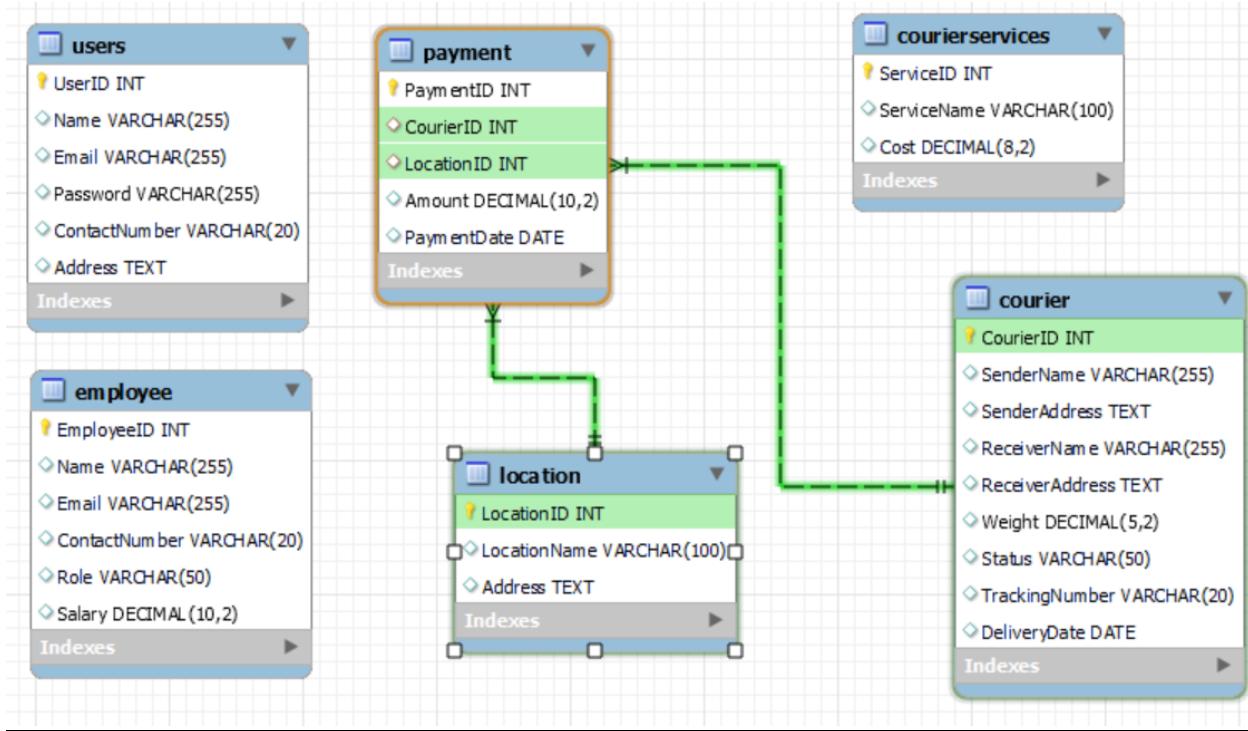
```

INSERT INTO location (LocationID, LocationName, Address)
VALUES
(1, 'Headquarters', '123, ABC Street, City, State, India'),
(2, 'Warehouse A', '456, XYZ Road, City, State, India'),
(3, 'Branch Office 1', '789, LMN Avenue, City, State, India'),
(4, 'Warehouse B', '1011, PQR Lane, City, State, India'),
(5, 'Branch Office 2', '1213, RST Boulevard, City, State, India'),
(6, 'Warehouse C', '1415, UVW Lane, City, State, India'),
(7, 'Branch Office 3', '1617, XYZ Street, City, State, India'),
(8, 'Warehouse D', '1819, MNO Avenue, City, State, India'),
(9, 'Branch Office 4', '2021, PQR Road, City, State, India'),
(10, 'Warehouse E', '2223, ABC Street, City, State, India');

INSERT INTO payment(PaymentID, CourierID, LocationID, Amount, PaymentDate)
VALUES
(1, 1, 3, 50.00, '2023-12-05'),
(2, 2, 1, 80.00, '2023-12-06'),
(3, 3, 5, 100.00, '2023-12-07'),

```

Relationship Model/ ERD:



Task-2: Select,Where

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

1. List all customers:
2. List all orders for a specific customer:
3. List all couriers:
4. List all packages for a specific order:
5. List all deliveries for a specific courier:
6. List all undelivered packages:
7. List all packages that are scheduled for delivery today:
8. List all packages with a specific status:
9. Calculate the total number of packages for each courier.
10. Find the average delivery time for each courier
11. List all packages with a specific weight range:
12. Retrieve employees whose names contain 'John'
13. Retrieve all courier records with payments greater than \$50.

```
138 -- 1
139 • select * from users;
139
< Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content: 
| UserID | Name | Email | Password | ContactNumber | Address |
| 1 | Aarav Sharma | aaravsharma@example.com | pass123 | +91 9876543210 | 123, ABC Street, City, State, India |
| 2 | Diya Patel | diyapatel@example.com | mypass@321 | +91 8765432109 | 456, XYZ Road, City, State, India |
| 3 | Advik Singh | adviks@example.com | securepwd! | +91 7654321098 | 789, LMN Avenue, City, State, India |
| 4 | Anaya Mishra | anayam@example.com | p@ssAnaya | +91 6543210987 | 1011, PQR Lane, City, State, India |
| 5 | Vihaan Reddy | vihaanr@example.com | redvihaan22 | +91 5432109876 | 1213, RST Boulevard, City, State, India |
```



```
141 -- 2
142 • select * from Courier where SenderName='Advik Singh';
142
< Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content: 
| CourierID | SenderName | SenderAddress | ReceiverName | ReceiverAddress | Weight | Status | TrackingNumber | DeliveryDate |
| 2 | Advik Singh | 789, LMN Avenue, City, State, India | Vivaan Gupta | 1011, PQR Lane, City, State, India | 2.00 | Pending | TN987654321 | 2023-12-16 |
| * | NULL |
```



```
144 -- 3
145 • select * from Courier;
145
< Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content: 
| CourierID | SenderName | SenderAddress | ReceiverName | ReceiverAddress | Weight | Status | TrackingNumber | DeliveryDate |
| 1 | Aarav Sharma | 123, ABC Street, City, State, India | Zara Khan | 789, LMN Avenue, City, State, India | 1.50 | In Transit | TN123456789 | 2023-12-15 |
| 2 | Advik Singh | 789, LMN Avenue, City, State, India | Vivaan Gupta | 1011, PQR Lane, City, State, India | 2.00 | Pending | TN987654321 | 2023-12-16 |
| 3 | Vihaan Reddy | 1213, RST Boulevard, City, State, India | Myra Patel | 1415, UVW Lane, City, State, India | 1.80 | Delivered | TN246813579 | 2023-12-17 |
| 4 | Aadya Gupta | 1617, XYZ Street, City, State, India | Kabir Mishra | 1819, MNO Avenue, City, State, India | 2.20 | In Transit | TN135792468 | 2023-12-18 |
| 5 | Arjun Rao | 2021, PQR Road, City, State, India | Aanya Singh | 2223, ABC Street, City, State, India | 1.60 | Pending | TN369258147 | 2023-12-19 |
```

CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate
8	Anaya Mishra	1011, PQR Lane, City, State, India	Diya Patel	456, XYZ Road, City, State, India	1.70	Pending	TN654321987	2023-12-22

L53	-- 6							
L54 • select * from Courier where status<>'Delivered';								
L55								
Result Grid	Filter Rows:							
Edit: Export/Import: Wrap Cell Content:								
CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate
1	Aarav Sharma	123, ABC Street, City, State, India	Zara Khan	789, LMN Avenue, City, State, India	1.50	In Transit	TN123456789	2023-12-15
2	Advik Singh	789, LMN Avenue, City, State, India	Vivaan Gupta	1011, PQR Lane, City, State, India	2.00	Pending	TN987654321	2023-12-16
4	Aadya Gupta	1617, XYZ Street, City, State, India	Kabir Mishra	1819, MNO Avenue, City, State, India	2.20	In Transit	TN135792468	2023-12-18
5	Arjun Rao	2021, PQR Road, City, State, India	Aanya Singh	2223, ABC Street, City, State, India	1.60	Pending	TN369258147	2023-12-19
7	Sara Joshi	2223, ABC Street, City, State, India	Aarav Sharma	123, ABC Street, City, State, India	2.50	In Transit	TN987654322	2023-12-21

CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate
1	Aarav Sharma	123, ABC Street, City, State, India	Zara Khan	789, LMN Avenue, City, State, India	1.50	In Transit	TN123456789	2023-12-15
2	Advik Singh	789, LMN Avenue, City, State, India	Vivaan Gupta	1011, PQR Lane, City, State, India	2.00	Pending	TN987654321	2023-12-16
4	Aadya Gupta	1617, XYZ Street, City, State, India	Kabir Mishra	1819, MNO Avenue, City, State, India	2.20	In Transit	TN135792468	2023-12-18
5	Arjun Rao	2021, PQR Road, City, State, India	Aanya Singh	2223, ABC Street, City, State, India	1.60	Pending	TN369258147	2023-12-19
7	Sara Joshi	2223, ABC Street, City, State, India	Aarav Sharma	123, ABC Street, City, State, India	2.50	In Transit	TN987654322	2023-12-21

```

162      -- 9
163 •  select CourierID,Count(*) as total_Packages from Courier group by CourierID;
164

```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content: |

CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate
2	Advik Singh	789, LMN Avenue, City, State, India	Vivaan Gupta	1011, PQR Lane, City, State, India	2.00	Pending	TN987654321	2023-12-16
5	Arjun Rao	2021, PQR Road, City, State, India	Aanya Singh	2223, ABC Street, City, State, India	1.60	Pending	TN369258147	2023-12-19
8	Anaya Mishra	1011, PQR Lane, City, State, India	Diya Patel	456, XYZ Road, City, State, India	1.70	Pending	TN654321987	2023-12-22
*	HULL	HULL	HULL	HULL	HULL	HULL	HULL	HULL

```

165      -- 10

```

```

166 •  SELECT CourierID, AVG(DATEDIFF(DeliveryDate, CURDATE())) AS AvgDeliveryTime
167   FROM courier
168  GROUP BY CourierID;
169

```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: |

CourierID	AvgDeliveryTime
1	3.0000
2	4.0000
3	5.0000
4	6.0000
5	7.0000

```

170      -- 11

```

```

171 •  select * from Courier where Weight between 2.0 and 3.0;
172

```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content: |

CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate
2	Advik Singh	789, LMN Avenue, City, State, India	Vivaan Gupta	1011, PQR Lane, City, State, India	2.00	Pending	TN987654321	2023-12-16
4	Aadya Gupta	1617, XYZ Street, City, State, India	Kabir Mishra	1819, MNO Avenue, City, State, India	2.20	In Transit	TN135792468	2023-12-18
7	Sara Joshi	2223, ABC Street, City, State, India	Aarav Sharma	123, ABC Street, City, State, India	2.50	In Transit	TN987654322	2023-12-21
9	Ishaan Kumar	1415, UVW Lane, City, State, India	Vihaan Reddy	1213, RST Boulevard, City, State, India	2.30	In Transit	TN123987456	2023-12-23
10	Arjun Rao	2021, PQR Road, City, State, India	Aadya Gupta	1617, XYZ Street, City, State, India	2.10	Delivered	TN456789123	2023-12-24

```

173      -- 12

```

```

174 •  select * from Employee where Name Like '%Sharma%';
175

```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content: |

CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate
2	Advik Singh	789, LMN Avenue, City, State, India	Vivaan Gupta	1011, PQR Lane, City, State, India	2.00	Pending	TN987654321	2023-12-16
4	Aadya Gupta	1617, XYZ Street, City, State, India	Kabir Mishra	1819, MNO Avenue, City, State, India	2.20	In Transit	TN135792468	2023-12-18
7	Sara Joshi	2223, ABC Street, City, State, India	Aarav Sharma	123, ABC Street, City, State, India	2.50	In Transit	TN987654322	2023-12-21
9	Ishaan Kumar	1415, UVW Lane, City, State, India	Vihaan Reddy	1213, RST Boulevard, City, State, India	2.30	In Transit	TN123987456	TN123987456
10	Arjun Rao	2021, PQR Road, City, State, India	Aadya Gupta	1617, XYZ Street, City, State, India	2.10	Delivered	TN456789123	2023-12-24

```

176    -- 13
177 • select c.* from Courier c inner join Payment p on c.CourierID=p.CourierID where p.amount>50;
178

```

Result Grid									
CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate	
2	Advik Singh	789, LMN Avenue, City, State, India	Vivaan Gupta	1011, PQR Lane, City, State, India	2.00	Pending	TN987654321	2023-12-16	
3	Vihaan Reddy	1213, RST Boulevard, City, State, India	Myra Patel	1415, UVW Lane, City, State, India	1.80	Delivered	TN246813579	2023-12-17	
5	Arjun Rao	2021, PQR Road, City, State, India	Aanya Singh	2223, ABC Street, City, State, India	1.60	Pending	TN369258147	2023-12-19	
6	Riya Verma	1819, MNO Avenue, City, State, India	Advik Singh	789, LMN Avenue, City, State, India	1.90	Delivered	TN579312468	2023-12-20	
7	Sara Joshi	2223, ABC Street, City, State, India	Aarav Sharma	123, ABC Street, City, State, India	2.50	In Transit	TN987654322	2023-12-21	

Result 86 x

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

14. Find the total number of couriers handled by each employee.
15. Calculate the total revenue generated by each location
16. Find the total number of couriers delivered to each location.
17. Find the courier with the highest average delivery time:
18. Find Locations with Total Payments Less Than a Certain Amount
19. Calculate Total Payments per Location
20. Retrieve couriers who have received payments totaling more than \$1000 in a specific location (LocationID = X):
21. Retrieve couriers who have received payments totaling more than \$1000 after a certain date (PaymentDate > 'YYYY-MM-DD'):
22. Retrieve locations where the total amount received is more than \$5000 before a certain date (PaymentDate > 'YYYY-MM-DD')

```

180      -- Task-3
181
182      -- 1
183 • select employeeID, Name, Count(CourierID) as TotalCourierHandeled
184     from employee
185     left join Courier on employee.EmployeeID=Courier.CourierID
186     group by employee.EmployeeID,employee.Name;
187

```

Result Grid		
employeeID	Name	TotalCourierHandeled
1	Rahul Sharma	1
2	Priya Verma	1
3	Amit Singh	1
4	Kavita Reddy	1
5	Neha Patel	1

```

188      -- 2
189 •  select l.locationID,l.locationName,sum(p.amount) as TotalRevenue
190   from location l
191   left join payment p on l.locationID=p.locationID
192   group by l.locationID,l.LocationName;
193
<

```

Result Grid | Filter Rows: Export: Wrap Cell Content:

	locationID	locationName	TotalRevenue
▶	1	Headquarters	80.00
	2	Warehouse A	40.00
	3	Branch Office 1	50.00
	4	Warehouse B	150.00
	5	Branch Office 2	100.00

```

194      -- 3
195 •  select l.locationID,l.locationName, count(c.CourierID) as TotalCouriersDelievered
196   from location l
197   left join payment p on l.locationID=p.locationID
198   left join Courier c on p.courierID=c.CourierID
199   where c.status='Delivered'
200   group by l.locationID,l.LocationName;
201
<

```

Result Grid | Filter Rows: Export: Wrap Cell Content:

	locationID	locationName	TotalCouriersDelievered
▶	5	Branch Office 2	1
	4	Warehouse B	1
	8	Warehouse D	1

```

202      -- 4
203 •  select l.locationID,l.locationName, coalesce(sum(p.amount),0) as totalPayment
204   from location l
205   join payment p on l.locationID=p.locationID
206   group by l.locationID,l.locationName
207   having coalesce(sum(p.amount),0) <100;
208
<

```

Result Grid | Filter Rows: Export: Wrap Cell Content:

	locationID	locationName	totalPayment
▶	1	Headquarters	80.00
	2	Warehouse A	40.00
	3	Branch Office 1	50.00
	6	Warehouse C	60.00
	8	Warehouse D	30.00

```

209      -- 5
210 •  select l.locationID,l.locationName, coalesce(sum(p.amount),0) as totalPayment
211   from location l
212   join payment p on l.locationID=p.locationID
213   group by l.locationID,l.locationName;
214

```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

	locationID	locationName	totalPayment
▶	1	Headquarters	80.00
	2	Warehouse A	40.00
	3	Branch Office 1	50.00
	4	Warehouse B	150.00
	5	Branch Office 2	100.00

```

215      -- 6
216 •  select c.* from Courier c
217   join payment p on c.courierID=p.courierID
218   join location l on p.locationID=l.locationID
219   where p.amount>100 and l.locationID =4;
220

```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

	CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate
▶	6	Riya Verma	1819, MNO Avenue, City, State, India	Advik Singh	789, LMN Avenue, City, State, India	1.90	Delivered	TN579312468	2023-12-20

```

221      -- 7
222 •  select c.* from Courier c
223   join payment p on c.courierID=p.courierID
224   where p.amount>1000 and p.PaymentDate>'2023-12-06';
225

```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

	CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate
◀									

```

226      -- 8
227 •  select l.locationID, l.locationName
228   from location l
229   join payment p on l.locationID=p.locationID
230   where p.paymentDate<'2023-12-06'
231   group by l.locationID,l.locationName
232   having (sum(p.amount))>80;
233

```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

	locationID	locationName
◀		

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

23. Retrieve Payments with Courier Information
24. Retrieve Payments with Location Information
25. Retrieve Payments with Courier and Location Information
26. List all payments with courier details
27. Total payments received for each courier
28. List payments made on a specific date

29. Get Courier Information for Each Payment
30. Get Payment Details with Location
31. Calculating Total Payments for Each Courier
32. List Payments Within a Date Range
33. Retrieve a list of all users and their corresponding courier records, including cases where there are no matches on either side
34. Retrieve a list of all couriers and their corresponding services, including cases where there are no matches on either side
35. Retrieve a list of all employees and their corresponding payments, including cases where there are no matches on either side
36. List all users and all courier services, showing all possible combinations.
37. List all employees and all locations, showing all possible combinations:
38. Retrieve a list of couriers and their corresponding sender information (if available)
39. Retrieve a list of couriers and their corresponding receiver information (if available):
40. Retrieve a list of couriers along with the courier service details (if available):
41. Retrieve a list of employees and the number of couriers assigned to each employee:
42. Retrieve a list of locations and the total payment amount received at each location:
43. Retrieve all couriers sent by the same sender (based on SenderName).
44. List all employees who share the same role.
45. Retrieve all payments made for couriers sent from the same location.
46. Retrieve all couriers sent from the same location (based on SenderAddress).
47. List employees and the number of couriers they have delivered:
48. Find couriers that were paid an amount greater than the cost of their respective courier services

```
234      -- Task -4
235
236      -- 1
237 •  select * from payment
238      join courier c on c.courierID=payment.paymentID;
<
```

	PaymentID	CourierID	LocationID	Amount	PaymentDate	CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress
▶	1	1	3	50.00	2023-12-05	1	Aarav Sharma	123, ABC Street, City, State, India	Zara Khan	789, LMN Avenue, City, State, India
	2	2	1	80.00	2023-12-06	2	Advik Singh	789, LMN Avenue, City, State, India	Vivaan Gupta	1011, PQR Lane, City, State, India
	3	3	5	100.00	2023-12-07	3	Vihaan Reddy	1213, RST Boulevard, City, State, India	Myra Patel	1415, UVW Lane, City, State, India
	4	4	2	40.00	2023-12-08	4	Aadya Gupta	1617, XYZ Street, City, State, India	Kabir Mishra	1819, MNO Avenue, City, State, India
	5	5	7	120.00	2023-12-09	5	Arjun Rao	2021, PQR Road, City, State, India	Aanya Singh	2223, ABC Street, City, State, India
	6	6	4	150.00	2023-12-10	6	Riva Verma	1819, MNO Avenue, City, State, India	Advik Singh	789, LMN Avenue, City, State, India

```

240    -- 2
241 • select * from payment
242     join location l on l.locationID=payment.locationID;

```

Result Grid | Filter Rows: Export: Wrap Cell Content:

	PaymentID	CourierID	LocationID	Amount	PaymentDate	LocationID	LocationName	Address
▶	1	1	3	50.00	2023-12-05	3	Branch Office 1	789, LMN Avenue, City, State, India
	2	2	1	80.00	2023-12-06	1	Headquarters	123, ABC Street, City, State, India
	3	3	5	100.00	2023-12-07	5	Branch Office 2	1213, RST Boulevard, City, State, India
	4	4	2	40.00	2023-12-08	2	Warehouse A	456, XYZ Road, City, State, India
	5	5	7	120.00	2023-12-09	7	Branch Office 3	1617, XYZ Street, City, State, India
	6	6	4	150.00	2023-12-10	4	Warehouse B	1011, PQR Lane, City, State, India
	7	7	10	200.00	2023-12-11	10	Warehouse E	2223, ABC Street, City, State, India

Result 96 ×

```

244    -- 3
245 • select * from payment p
246     join location l on l.locationID=p.locationID
247     join courier c on c.courierID=p.paymentID;

```

Result Grid | Filter Rows: Export: Wrap Cell Content:

	PaymentID	CourierID	LocationID	Amount	PaymentDate	LocationID	LocationName	Address	CourierID	SenderName	SenderAddress
▶	1	1	3	50.00	2023-12-05	3	Branch Office 1	789, LMN Avenue, City, State, India	1	Aarav Sharma	123, ABC Street, City
	2	2	1	80.00	2023-12-06	1	Headquarters	123, ABC Street, City, State, India	2	Advik Singh	789, LMN Avenue, Ci
	3	3	5	100.00	2023-12-07	5	Branch Office 2	1213, RST Boulevard, City, State, India	3	Vihaan Reddy	1213, RST Boulevard
	4	4	2	40.00	2023-12-08	2	Warehouse A	456, XYZ Road, City, State, India	4	Aadya Gupta	1617, XYZ Street, Cit
	5	5	7	120.00	2023-12-09	7	Branch Office 3	1617, XYZ Street, City, State, India	5	Arjun Rao	2021, PQR Road, Cit
	6	6	4	150.00	2023-12-10	4	Warehouse B	1011, PQR Lane, City, State, India	6	Riva Verma	1819, MNO Avenue, I

Result 97 ×

```

249    -- 4
250 • select * from payment p
251     join courier c on c.courierID=p.paymentID;
252

```

Result Grid | Filter Rows: Export: Wrap Cell Content:

	PaymentID	CourierID	LocationID	Amount	PaymentDate	CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress
▶	1	1	3	50.00	2023-12-05	1	Aarav Sharma	123, ABC Street, City, State, India	Zara Khan	789, LMN Avenue, City, State, India
	2	2	1	80.00	2023-12-06	2	Advik Singh	789, LMN Avenue, City, State, India	Vivaan Gupta	1011, PQR Lane, City, State, India
	3	3	5	100.00	2023-12-07	3	Vihaan Reddy	1213, RST Boulevard, City, State, India	Myra Patel	1415, UVW Lane, City, State, India
	4	4	2	40.00	2023-12-08	4	Aadya Gupta	1617, XYZ Street, City, State, India	Kabir Mishra	1819, MNO Avenue, City, State, Indi
	5	5	7	120.00	2023-12-09	5	Arjun Rao	2021, PQR Road, City, State, India	Aanya Singh	2223, ABC Street, City, State, India
	6	6	4	150.00	2023-12-10	6	Riva Verma	1819, MNO Avenue, City, State, India	Advik Singh	789, LMN Avenue, City, State, India

```

253      -- 5
254 •   select c.courierID,c.senderName,sum(p.amount) as totalpayment
255     from courier c
256     join payment p on c.courierID=p.paymentID
257     group by c.courierID, c.senderName;

```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: □

	courierID	senderName	totalpayment
▶	1	Aarav Sharma	50.00
	2	Advik Singh	80.00
	3	Vihaan Reddy	100.00
	4	Aadya Gupta	40.00
	5	Arjun Rao	120.00
	6	Riya Verma	150.00
	7	Sara Joshi	200.00

```

259      -- 6
260 •   select * from payment
261     where paymentDate='2023-12-06';
262

```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content: □

	PaymentID	CourierID	LocationID	Amount	PaymentDate
▶	2	2	1	80.00	2023-12-06
*	HULL	HULL	HULL	HULL	HULL

```

263      -- 7
264 •   select paymentID,paymentDate,c.*
265     from payment p
266     left join courier c on c.courierID=p.courierID;

```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: □

	paymentID	paymentDate	CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	Tracking
▶	1	2023-12-05	1	Aarav Sharma	123, ABC Street, City, State, India	Zara Khan	789, LMN Avenue, City, State, India	1.50	In Transit	TN12345
	2	2023-12-06	2	Advik Singh	789, LMN Avenue, City, State, India	Vivaan Gupta	1011, PQR Lane, City, State, India	2.00	Pending	TN98765
	3	2023-12-07	3	Vihaan Reddy	1213, RST Boulevard, City, State, India	Myra Patel	1415, UVW Lane, City, State, India	1.80	Delivered	TN24681
	4	2023-12-08	4	Aadya Gupta	1617, XYZ Street, City, State, India	Kabir Mishra	1819, MNO Avenue, City, State, India	2.20	In Transit	TN13579
	5	2023-12-09	5	Arjun Rao	2021, PQR Road, City, State, India	Aanya Singh	2223, ABC Street, City, State, India	1.60	Pending	TN36925
	6	2023-12-10	6	Riya Verma	1819, MNO Avenue, City, State, India	Advik Singh	789, LMN Avenue, City, State, India	1.90	Delivered	TN57931

```

268      -- 8
269 •  select p.* ,l.*
270   from payment p
271   left join location l on p.locationID=l.locationID;
272

```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

	PaymentID	CourierID	LocationID	Amount	PaymentDate	LocationID	LocationName	Address
▶	1	1	3	50.00	2023-12-05	3	Branch Office 1	789, LMN Avenue, City, State, India
	2	2	1	80.00	2023-12-06	1	Headquarters	123, ABC Street, City, State, India
	3	3	5	100.00	2023-12-07	5	Branch Office 2	1213, RST Boulevard, City, State, India
	4	4	2	40.00	2023-12-08	2	Warehouse A	456, XYZ Road, City, State, India
	5	5	7	120.00	2023-12-09	7	Branch Office 3	1617, XYZ Street, City, State, India
	6	6	4	150.00	2023-12-10	4	Warehouse B	1011, PQR Lane, City, State, India
	7	7	10	200.00	2023-12-11	10	Warehouse E	2223, ABC Street, City, State, India

```

273      -- 9
274 •  select c.courierID,c.senderName,sum(p.amount) as totalpayment
275   from courier c
276   join payment p on c.courierID=p.paymentID
277   group by c.courierID, c.senderName;

```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

	courierID	senderName	totalpayment
▶	1	Aarav Sharma	50.00
	2	Advik Singh	80.00
	3	Vihaan Reddy	100.00
	4	Aadya Gupta	40.00
	5	Arjun Rao	120.00
	6	Riya Verma	150.00
	7	Sara Joshi	200.00

```

279      -- 10
280 •   select * from payment
281     where paymentDate between '2023-12-01' and '2023-12-31';

```

Result Grid | Filter Rows: | Edit: | Export/Import: | V

	PaymentID	CourierID	LocationID	Amount	PaymentDate
▶	1	1	3	50.00	2023-12-05
	2	2	1	80.00	2023-12-06
	3	3	5	100.00	2023-12-07
	4	4	2	40.00	2023-12-08
	5	5	7	120.00	2023-12-09
	6	6	4	150.00	2023-12-10
	7	7	10	200.00	2023-12-11

```

283      -- 11
284 •   select u.* ,cs.*
285   from users u
286   cross join courierservices cs;
287

```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: | V

	UserID	Name	Email	Password	ContactNumber	Address	ServiceID	ServiceName	Cost
▶	10	Sara Joshi	saraj@example.com	JoshiSara@22	+91 9876543210	2223, ABC Street, City, State, India	1	Standard	50.00
	9	Arjun Rao	arjunr@example.com	RaoArjun@99	+91 1098765432	2021, PQR Road, City, State, India	1	Standard	50.00
	8	Riya Verma	riyav@example.com	RiyaPass123	+91 2109876543	1819, MNO Avenue, City, State, India	1	Standard	50.00
	7	Aadya Gupta	aadyag@example.com	GuptaPass@7	+91 3210987654	1617, XYZ Street, City, State, India	1	Standard	50.00
	6	Ishaan Kumar	ishaank@example.com	IshaanPass123	+91 4321098765	1415, UVW Lane, City, State, India	1	Standard	50.00
	5	Vihaan Reddy	vihaanr@example.com	redvihaan22	+91 5432109876	1213, RST Boulevard, City, State, India	1	Standard	50.00
	4	Anaya Mishra	anavam@example.com	o@ssAnava	+91 6543210987	1011, POR Lane, City, State, India	1	Standard	50.00

```

288      -- 12
289 •   select courierID, senderName, senderAddress from courier;

```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: | V

	courierID	senderName	senderAddress
▶	1	Aarav Sharma	123, ABC Street, City, State, India
	2	Advik Singh	789, LMN Avenue, City, State, India
	3	Vihaan Reddy	1213, RST Boulevard, City, State, India
	4	Aadya Gupta	1617, XYZ Street, City, State, India
	5	Arjun Rao	2021, PQR Road, City, State, India
	6	Riya Verma	1819, MNO Avenue, City, State, India
	7	Sara Joshi	2223, ABC Street, City, State, India
	8	Anaya Mishra	1011, POR Lane, City, State, India
	9	Ishaan Kumar	1415, UVW Lane, City, State, India

```
291      -- 13
```

```
292 •   select courierID,receiverName,receiverAddress from courier;
```

< >

Result Grid | Filter Rows: Export: Wrap Cell Content:

	courierID	receiverName	receiverAddress
▶	1	Zara Khan	789, LMN Avenue, City, State, India
	2	Vivaan Gupta	1011, PQR Lane, City, State, India
	3	Myra Patel	1415, UVW Lane, City, State, India
	4	Kabir Mishra	1819, MNO Avenue, City, State, India
	5	Aanya Singh	2223, ABC Street, City, State, India
	6	Advik Singh	789, LMN Avenue, City, State, India
	7	Aarav Sharma	123, ABC Street, City, State, India
	8	Diya Patel	456, XYZ Road, City, State, India
	9	Vihaan Reddy	1213, RST Boulevard, City, State, India

```
294      -- 14
```

```
295 •   select c.* ,cs.*  
296     from courier c  
297   join courierservices cs on c.courierID=cs.serviceID;
```

< >

Result Grid | Filter Rows: Export: Wrap Cell Content:

CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate	ServiceID
1	Aarav Sharma	123, ABC Street, City, State, India	Zara Khan	789, LMN Avenue, City, State, India	1.50	In Transit	TN123456789	2023-12-15	1
2	Advik Singh	789, LMN Avenue, City, State, India	Vivaan Gupta	1011, PQR Lane, City, State, India	2.00	Pending	TN987654321	2023-12-16	2
3	Vihaan Reddy	1213, RST Boulevard, City, State, India	Myra Patel	1415, UVW Lane, City, State, India	1.80	Delivered	TN246813579	2023-12-17	3
4	Aadya Gupta	1617, XYZ Street, City, State, India	Kabir Mishra	1819, MNO Avenue, City, State, India	2.20	In Transit	TN135792468	2023-12-18	4
5	Arjun Rao	2021, PQR Road, City, State, India	Aanya Singh	2223, ABC Street, City, State, India	1.60	Pending	TN369258147	2023-12-19	5
6	Riya Verma	1819, MNO Avenue, City, State, India	Advik Singh	789, LMN Avenue, City, State, India	1.90	Delivered	TN579312468	2023-12-20	6
7	Sara Joshi	2223, ABC Street, City, State, India	Aarav Sharma	123, ABC Street, City, State, India	2.50	In Transit	TN987654322	2023-12-21	7
8	Anaya Mishra	1011, PQR Lane, City, State, India	Diya Patel	456, XYZ Road, City, State, India	1.70	Pending	TN654321987	2023-12-22	8

```
299      -- 15
```

```
300 •   select e.employeeID,e.name as empName, count(courierID) as courier_assigned  
301     from employee e  
302   left join courier c on e.employeeID=c.courierID  
303   group by e.employeeID,e.name;
```

< >

Result Grid | Filter Rows: Export: Wrap Cell Content:

employeeID	empName	courier_assigned
1	Rahul Sharma	1
2	Priya Verma	1
3	Amit Singh	1
4	Kavita Reddy	1
5	Neha Patel	1
6	Ravi Kumar	1
7	Sneha Gupta	1
8	Aryan Sharma	1
9	Pooja Mishra	1

```

305      -- 16
306 •  select l.locationId,l.locationName,sum(p.amount) as totalPayment
307   from location l
308 left join payment p on l.locationID=p.locationID
309 group by l.locationID,l.locationName;

```

Result Grid | Filter Rows: Export: Wrap Cell Content:

	locationId	locationName	totalPayment
▶	1	Headquarters	80.00
	2	Warehouse A	40.00
	3	Branch Office 1	50.00
	4	Warehouse B	150.00
	5	Branch Office 2	100.00
	6	Warehouse C	60.00
	7	Branch Office 3	120.00
	8	Warehouse D	30.00
	9	Branch Office 4	90.00

```

311      -- 17
312 •  SELECT c1.*
313   FROM courier c1
314 JOIN courier c2 ON c1.senderName = c2.senderName
315 WHERE c2.CourierID <> c1.CourierID;

```

Result Grid | Filter Rows: Export: Wrap Cell Content:

CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate
▶ 10	Arjun Rao	2021, PQR Road, City, State, India	Aadya Gupta	1617, XYZ Street, City, State, India	2.10	Delivered	TN456789123	2023-12-24
5	Arjun Rao	2021, PQR Road, City, State, India	Aanya Singh	2223, ABC Street, City, State, India	1.60	Pending	TN369258147	2023-12-19



```

317      -- 18
318 •  SELECT e1.*
319   FROM employee e1
320 JOIN employee e2 ON e1.Role = e2.Role
321 WHERE e1.EmployeeID <> e2.EmployeeID
322 ORDER BY e1.Role, e1.EmployeeID;

```

Result Grid | Filter Rows: Export: Wrap Cell Content:

	EmployeeID	Name	Email	ContactNumber	Role	Salary
▶ 1	Rahul Sharma	rahul@example.com	+91 9876543210	Manager	60000.00	
11	Shanvi Rathore	sahnvi@example.com	+91 1234567890	Manager	90000.00	

```

324    -- 19
325 •  SELECT c1.*
326   FROM courier c1
327   JOIN courier c2 ON c1.SenderAddress = c2.SenderAddress
328   WHERE c1.CourierID <> c2.CourierID
329   ORDER BY c1.SenderAddress, c1.CourierID;

```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate
5	Arjun Rao	2021, PQR Road, City, State, India	Aanya Singh	2223, ABC Street, City, State, India	1.60	Pending	TN369258147	2023-12-19
10	Arjun Rao	2021, PQR Road, City, State, India	Aadya Gupta	1617, XYZ Street, City, State, India	2.10	Delivered	TN456789123	2023-12-24

```

331    -- 20
332 •  SELECT e.EmployeeID, e.Name, COUNT(c.CourierID) AS DeliveredCouriers
333   FROM employee e
334   LEFT JOIN courier c ON e.Name = c.ReceiverName
335   GROUP BY e.EmployeeID, e.Name
336   ORDER BY e.EmployeeID;

```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

EmployeeID	Name	DeliveredCouriers
1	Rahul Sharma	0
2	Priya Verma	0
3	Amit Singh	0
4	Kavita Reddy	0
5	Neha Patel	0
6	Ravi Kumar	0
7	Sneha Gupta	0
8	Aryan Sharma	0
9	Pooja Mishra	0

```

338    -- 21
339 •  SELECT c.*
340   FROM courier c
341   JOIN payment p ON c.CourierID = p.CourierID
342   JOIN courierservices cs ON c.CourierID = cs.ServiceID
343   WHERE p.Amount > cs.Cost;

```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate
-----------	------------	---------------	--------------	-----------------	--------	--------	----------------	--------------

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
50. Find the names of all employees who have a salary greater than the average salary:
51. Find the total cost of all courier services where the cost is less than the maximum cost
52. Find all couriers that have been paid for
53. Find the locations where the maximum payment amount was made
54. Find all couriers whose weight is greater than the weight of all couriers sent by a specific sender (e.g., 'SenderName'):

```
345      -- Scope: Inner Queries, Non Equi Joins, Equi joins, Exist, Any, All
346
347      -- 1
348 •   select courierID, weight from courier
349     where weight > (select avg(weight)from courier);
```

	courierID	weight
▶	2	2.00
	4	2.20
	7	2.50
	9	2.30
	10	2.10

```
351      -- 2
352 •   select name from employee
353     where salary > (select avg(salary) from employee);
```

	name
▶	Rahul Sharma
	Aryan Sharma
	Vikram Singh
	Shanvi Rathore

```
355      -- 3
356 •   select sum(Cost) as totalCost
357     from courierservices
358     where cost< (select max(cost) from courierservices);
```

	totalCost
▶	720.00

```
360     -- 4
361 • select c.*  
362   from courier c  
363   join payment p on c.courierID=p.courierID;  
364
```

Result Grid		Filter Rows:	Export:	Wrap Cell Content:						
CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate		
1	Aarav Sharma	123, ABC Street, City, State, India	Zara Khan	789, LMN Avenue, City, State, India	1.50	In Transit	TN123456789	2023-12-15		
2	Advik Singh	789, LMN Avenue, City, State, India	Vivaan Gupta	1011, PQR Lane, City, State, India	2.00	Pending	TN987654321	2023-12-16		
3	Vihaan Reddy	1213, RST Boulevard, City, State, India	Myra Patel	1415, UWV Lane, City, State, India	1.80	Delivered	TN246813579	2023-12-17		
4	Aadya Gupta	1617, XYZ Street, City, State, India	Kabir Mishra	1819, MNO Avenue, City, State, India	2.20	In Transit	TN135792468	2023-12-18		
5	Arjun Rao	2021, PQR Road, City, State, India	Aanya Singh	2223, ABC Street, City, State, India	1.60	Pending	TN369258147	2023-12-19		
6	Riya Verma	1819, MNO Avenue, City, State, India	Advik Singh	789, LMN Avenue, City, State, India	1.90	Delivered	TN579312468	2023-12-20		
7	Sara Joshi	2223, ABC Street, City, State, India	Aarav Sharma	123, ABC Street, City, State, India	2.50	In Transit	TN987654322	2023-12-21		
8	Anaya Mishra	1011, PQR Lane, City, State, India	Diya Patel	456, XYZ Road, City, State, India	1.70	Pending	TN654321987	2023-12-22		
9	Ishaan Kumar	1415, UWV Lane, City, State, India	Vihaan Reddy	1213, RST Boulevard, City, State, India	2.30	In Transit	TN123987456	2023-12-23		

```
365      -- 5
366 •   select l.*
367     from location l
368     join payment p on p.locationId=l.locationID
369     where p.amount=(select max(amount) from payment);
```

Result Grid			
		Filter Rows:	
		Export:	
		Wrap Cell Content:	
LocationID	LocationName	Address	
10	Warehouse E	2223, ABC Street, City, State, India	

```
371    -- 6
372 • select * from courier
373 where weight > (select sum(weight) from courier where senderName='Advik Singh')
```