--TASK4 Inner Join,Full Outer Join, Cross Join, Left Outer Join,Right Outer Join

OUTPUT:

--23. Retrieve Payments with Courier Information

```sql
SELECT P.PaymentID, P.LocationID, P.Amount, P.PaymentDate,
C.CourierID, C.SenderName, C.ReceiverName, C.TrackingNumber,
C.Status
FROM Payment P JOIN Courier C ON P.CourierID = C.CourierID;
```

	PaymentID	LocationID	Amount	PaymentDate	CourierID	SenderName	ReceiverName	TrackingNumber	Status
1	1	1	100.00	2025-03-15	1	Makesh	Manoj	TRK123456	In Transit
2	2	2	250.00	2025-03-18	2	Priya	Arun	TRK789123	Delivered
3	3	3	500.00	2025-03-19	3	Arun	Priya	TRK321789	Pending

--24. Retrieve Payments with Location Information

```sql
SELECT P.PaymentID,P.Amount,P.PaymentDate,
L.LocationID,L.LocationName,L.Address
FROM Payment P JOIN  Location L ON P.LocationID=L.LocationID;
```

	PaymentID	Amount	PaymentDate	LocationID	LocationName	Address
1	1	100.00	2025-03-15	1	Chennai Hub	1st Floor, Chennai Street, Chennai
2	2	250.00	2025-03-18	2	Bangalore Hub	2nd Floor, Bangalore Street, Bangalore
3	3	500.00	2025-03-19	3	Mumbai Hub	3rd Floor, Mumbai Street, Mumbai

--25. Retrieve Payments with Courier and Location Information

```sql
SELECT P.PaymentID, P.Amount, P.PaymentDate, C.CourierID,
C.SenderName, C.ReceiverName, C.TrackingNumber, C.Status,
L.LocationID, L.LocationName, L.Address
FROM Payment P
JOIN Courier C ON P.CourierID = C.CourierID
JOIN Location L ON P.LocationID = L.LocationID;
```

	PaymentID	Amount	PaymentDate	CourierID	SenderName	ReceiverName	TrackingNumber	Status	LocationID	LocationName	Address
1	1	100.00	2025-03-15	1	Makesh	Manoj	TRK123456	In Transit	1	Chennai Hub	1st Floor, Chennai Stree
2	2	250.00	2025-03-18	2	Priya	Arun	TRK789123	Delivered	2	Bangalore Hub	2nd Floor, Bangalore St
3	3	500.00	2025-03-19	3	Arun	Priya	TRK321789	Pending	3	Mumbai Hub	3rd Floor, Mumbai Street

--26. List all payments with courier details

```sql
SELECT P.PaymentID, P.Amount, P.PaymentDate, C.CourierID,
C.SenderName, C.ReceiverName, C.TrackingNumber, C.Status
FROM Payment P
JOIN Courier C ON P.CourierID = C.CourierID;
```

	PaymentID	Amount	PaymentDate	CourierID	SenderName	ReceiverName	TrackingNumber	Status
1	1	100.00	2025-03-15	1	Makesh	Manoj	TRK123456	In Transit
2	2	250.00	2025-03-18	2	Priya	Arun	TRK789123	Delivered
3	3	500.00	2025-03-19	3	Arun	Priya	TRK321789	Pending

--27. Total payments received for each courier

```sql
SELECT C.CourierID,C.SenderName,P.Amount AS TOTAL_AMOUNT
FROM Courier C
JOIN Payment P ON C.CourierID=P.CourierID;
```

	CourierID	SenderName	TOTAL_AMOUNT
1	1	Makesh	100.00
2	2	Priya	250.00
3	3	Arun	500.00

--28. List payments made on a specific date

```sql
SELECT *
FROM Payment
WHERE PaymentDate='2025-03-15';
```

	PaymentID	CourierID	LocationID	Amount	PaymentDate
1	1	1	1	100.00	2025-03-15

```sql
--29. Get Courier Information for Each Payment

SELECT P.PaymentID, P.PaymentDate, P.Amount, C.CourierID,
C.TrackingNumber, C.SenderName, C.ReceiverName, C.Status,
C.DeliveryDate
FROM Payment P
JOIN Courier C ON P.CourierID = C.CourierID
ORDER BY P.PaymentDate DESC;
```

	PaymentID	PaymentDate	Amount	CourierID	TrackingNumber	SenderName	ReceiverName	Status	DeliveryDate
1	3	2025-03-19	500.00	3	TRK321789	Arun	Priya	Pending	NULL
2	2	2025-03-18	250.00	2	TRK789123	Priya	Arun	Delivered	2025-03-18
3	1	2025-03-15	100.00	1	TRK123456	Makesh	Manoj	In Transit	2025-03-21

```sql
--30. Get Payment Details with Location

SELECT P.PaymentID,
       P.PaymentDate,
       P.Amount,
       L.LocationID,
       L.LocationName,
       L.Address
FROM Payment P
JOIN Location L ON P.LocationID = L.LocationID
ORDER BY P.PaymentDate DESC;
```

	PaymentID	PaymentDate	Amount	LocationID	LocationName	Address
1	3	2025-03-19	500.00	3	Mumbai Hub	3rd Floor, Mumbai Street, Mumbai
2	2	2025-03-18	250.00	2	Bangalore Hub	2nd Floor, Bangalore Street, Bangalore
3	1	2025-03-15	100.00	1	Chennai Hub	1st Floor, Chennai Street, Chennai

```sql
--31. Calculating Total Payments for Each Courier

SELECT C.CourierID, C.TrackingNumber,
       C.SenderName, C.ReceiverName,
       SUM(P.Amount) AS TotalPayment
FROM Payment P
JOIN Courier C ON P.CourierID = C.CourierID
GROUP BY C.CourierID, C.TrackingNumber, C.SenderName,
C.ReceiverName
ORDER BY TotalPayment DESC;
```

	CourierID	TrackingNumber	SenderName	ReceiverName	TotalPayment
1	3	TRK321789	Arun	Priya	500.00
2	2	TRK789123	Priya	Arun	250.00
3	1	TRK123456	Makesh	Manoj	100.00

```sql
--32. List Payments Within a Date Range


SELECT PaymentID, CourierID,
       Amount, PaymentDate
FROM Payment
WHERE PaymentDate BETWEEN '2025-03-10' AND '2025-03-20'
ORDER BY PaymentDate ASC;
```

	PaymentID	CourierID	Amount	PaymentDate
1	1	1	100.00	2025-03-15
2	2	2	250.00	2025-03-18
3	3	3	500.00	2025-03-19

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

```sql
SELECT U.UserID,  U.Name AS UserName,
       U.Email,  C.CourierID,
       C.TrackingNumber, C.SenderName,
       C.ReceiverName, C.Status
FROM Users U
FULL OUTER JOIN Courier C
ON U.Name = C.SenderName;
```
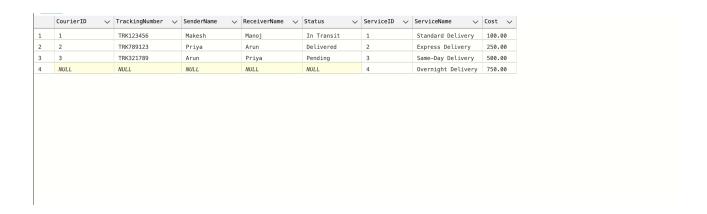
	UserID	UserName	Email	CourierID	TrackingNumber	SenderName	ReceiverName	Status
1	1	Makesh	makesh@hexa.com	1	TRK123456	Makesh	Manoj	In Transit
2	2	Manoj	manoj@hexa.com	NULL	NULL	NULL	NULL	NULL
3	3	Priya	priya@hexa.com	2	TRK789123	Priya	Arun	Delivered
4	4	Arun	arun@hexa.com	3	TRK321789	Arun	Priya	Pending

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

```sql
SELECT C.CourierID,  C.TrackingNumber,  C.SenderName,
C.ReceiverName,
       C.Status,  CS.ServiceID,  CS.ServiceName,  CS.Cost
FROM Courier C
FULL OUTER JOIN CourierServices CS
ON C.ServiceID = CS.ServiceID;
```

	CourierID	TrackingNumber	SenderName	ReceiverName	Status	ServiceID	ServiceName	Cost
1	1	TRK123456	Makesh	Manoj	In Transit	1	Standard Delivery	100.00
2	2	TRK789123	Priya	Arun	Delivered	2	Express Delivery	250.00
3	3	TRK321789	Arun	Priya	Pending	3	Same-Day Delivery	500.00
4	NULL	NULL	NULL	NULL	NULL	4	Overnight Delivery	750.00

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

```sql
SELECT E.EmployeeID,  E.Name AS EmployeeName,  E.Email,
       E.Role, P.PaymentID,  P.Amount,  P.PaymentDate
FROM Employee E
FULL OUTER JOIN Courier C ON E.EmployeeID = C.AssignedEmployeeID
FULL OUTER JOIN Payment P ON C.CourierID = P.CourierID
ORDER BY E.EmployeeID, P.PaymentDate;
```

	EmployeeID	EmployeeName	Email	Role	PaymentID	Amount	PaymentDate
1	1	Michael	michael@courier.com	Delivery Executive	1	100.00	2025-03-15
2	2	Sarah	sarah@courier.com	Manager	2	250.00	2025-03-18
3	3	John Abraham	john@courier.com	Assistant Manager	3	500.00	2025-03-19
4	4	Rahul	rahul@courier.com	Delivery Executive	NULL	NULL	NULL
5	5	Anjali	anjali@courier.com	Customer Support	NULL	NULL	NULL

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

```sql
SELECT U.UserID, U.Name AS UserName, CS.ServiceID, CS.ServiceName,
CS.Cost
FROM Users U
CROSS JOIN CourierServices CS;
```

	UserID	UserName	ServiceID	ServiceName	Cost
1	1	Makesh	1	Standard Delivery	100.00
2	2	Manoj	1	Standard Delivery	100.00
3	3	Priya	1	Standard Delivery	100.00
4	4	Arun	1	Standard Delivery	100.00
5	1	Makesh	2	Express Delivery	250.00
6	2	Manoj	2	Express Delivery	250.00
7	3	Priya	2	Express Delivery	250.00
8	4	Arun	2	Express Delivery	250.00
9	1	Makesh	3	Same-Day Delivery	500.00
10	2	Manoj	3	Same-Day Delivery	500.00
11	3	Priya	3	Same-Day Delivery	500.00
12	4	Arun	3	Same-Day Delivery	500.00
13	1	Makesh	4	Overnight Delivery	750.00
14	2	Manoj	4	Overnight Delivery	750.00
15	3	Priya	4	Overnight Delivery	750.00
16	4	Arun	4	Overnight Delivery	750.00

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

```
SELECT E.EmployeeID, E.Name AS EmployeeName, L.LocationID,
L.LocationName
FROM Employee E
CROSS JOIN Location L;
```

	EmployeeID	EmployeeName	LocationID	LocationName
1	1	Michael	1	Chennai Hub
2	2	Sarah	1	Chennai Hub
3	3	John Abraham	1	Chennai Hub
4	4	Rahul	1	Chennai Hub
5	5	Anjali	1	Chennai Hub
6	1	Michael	2	Bangalore Hub
7	2	Sarah	2	Bangalore Hub
8	3	John Abraham	2	Bangalore Hub
9	4	Rahul	2	Bangalore Hub
10	5	Anjali	2	Bangalore Hub
11	1	Michael	3	Mumbai Hub
12	2	Sarah	3	Mumbai Hub
13	3	John Abraham	3	Mumbai Hub
14	4	Rahul	3	Mumbai Hub
15	5	Anjali	3	Mumbai Hub
16	1	Michael	4	Delhi Hub

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

```
SELECT C.CourierID, C.TrackingNumber, U.UserID, U.Name AS
SenderName, U.Email
FROM Courier C
LEFT JOIN Users U ON C.SenderName = U.Name;
```

	CourierID	TrackingNumber	UserID	SenderName	Email
1	1	TRK123456	1	Makesh	makesh@hexa.com
2	2	TRK789123	3	Priya	priya@hexa.com
3	3	TRK321789	4	Arun	arun@hexa.com

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

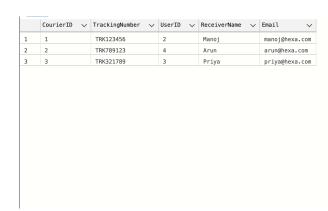SELECT C.CourierID, C.TrackingNumber, U.UserID, U.Name AS
ReceiverName, U.Email
FROM Courier C
LEFT JOIN Users U ON C.ReceiverName = U.Name;

	CourierID	TrackingNumber	UserID	ReceiverName	Email
1	1	TRK123456	2	Manoj	manoj@hexa.com
2	2	TRK789123	4	Arun	arun@hexa.com
3	3	TRK321789	3	Priya	priya@hexa.com

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

SELECT C.CourierID, C.TrackingNumber, CS.ServiceID,
CS.ServiceName, CS.Cost
FROM Courier C
LEFT JOIN CourierServices CS ON C.ServiceID = CS.ServiceID;

	CourierID	TrackingNumber	ServiceID	ServiceName	Cost
1	1	TRK123456	1	Standard Delivery	100.00
2	2	TRK789123	2	Express Delivery	250.00
3	3	TRK321789	3	Same-Day Delivery	500.00

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

SELECT E.EmployeeID, E.Name AS EmployeeName, COUNT(C.CourierID) AS
TotalCouriersAssigned
FROM Employee E
LEFT JOIN Courier C ON E.EmployeeID = C.AssignedEmployeeID
GROUP BY E.EmployeeID, E.Name
ORDER BY TotalCouriersAssigned DESC;
```

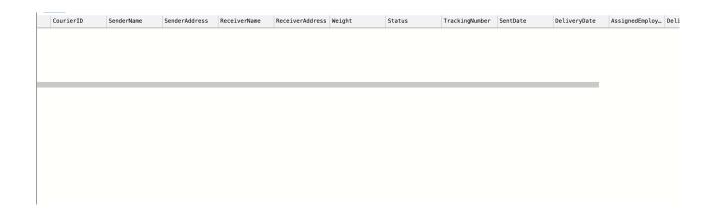|	EmployeeID	EmployeeName	TotalCouriersAssigned
1	1	Michael	1
2	2	Sarah	1
3	3	John Abraham	1
4	4	Rahul	0
5	5	Anjali	0

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


SELECT L.LocationID, L.LocationName, COALESCE(SUM(P.Amount), 0) AS
TotalPayments
FROM Location L
LEFT JOIN Payment P ON L.LocationID = P.LocationID
GROUP BY L.LocationID, L.LocationName
ORDER BY TotalPayments DESC;
```
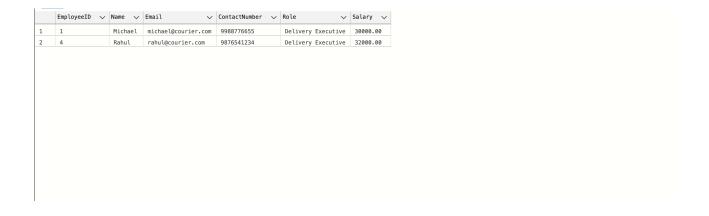
	LocationID	LocationName	TotalPayments
1	3	Mumbai Hub	500.00
2	2	Bangalore Hub	250.00
3	1	Chennai Hub	100.00
4	4	Delhi Hub	0.00

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

```sql
SELECT C1.*
FROM Courier C1
WHERE C1.SenderName IN (SELECT SenderName FROM Courier GROUP BY SenderName HAVING COUNT(*) > 1)
ORDER BY C1.SenderName;
```

CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	SentDate	DeliveryDate	AssignedEmploy...	Deli

--44. List all employees who share the same role.

```sql
SELECT E1.*
FROM Employee E1
WHERE E1.Role IN (SELECT Role FROM Employee GROUP BY Role HAVING COUNT(*) > 1)
ORDER BY E1.Role;
```

	EmployeeID	Name	Email	ContactNumber	Role	Salary
1	1	Michael	michael@courier.com	9988776655	Delivery Executive	30000.00
2	4	Rahul	rahul@courier.com	9876541234	Delivery Executive	32000.00

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

```sql
SELECT P.*
FROM Payment P
JOIN Courier C ON P.CourierID = C.CourierID
WHERE C.SenderAddress IN (SELECT SenderAddress FROM Courier GROUP
BY SenderAddress HAVING COUNT(*) > 1);
```

PaymentID	CourierID	LocationID	Amount	PaymentDate

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

```sql
SELECT C1.*
FROM Courier C1
WHERE C1.SenderAddress IN (SELECT SenderAddress FROM Courier GROUP
BY SenderAddress HAVING COUNT(*) > 1)
ORDER BY C1.SenderAddress;
```

CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	SentDate	DeliveryDate	AssignedEmploy…	Deli

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

```sql
SELECT E.EmployeeID, E.Name AS EmployeeName, COUNT(C.CourierID) AS TotalDeliveries
FROM Employee E
LEFT JOIN Courier C ON E.EmployeeID = C.AssignedEmployeeID
GROUP BY E.EmployeeID, E.Name
ORDER BY TotalDeliveries DESC;
```

	EmployeeID	EmployeeName	TotalCouriersAssigned
1	1	Michael	1
2	2	Sarah	1
3	3	John Abraham	1
4	4	Rahul	0
5	5	Anjali	0

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

```sql
SELECT C.CourierID, C.TrackingNumber, CS.ServiceName, CS.Cost, P.Amount AS PaymentAmount
FROM Courier C
JOIN Payment P ON C.CourierID = P.CourierID
JOIN CourierServices CS ON C.ServiceID = CS.ServiceID
WHERE P.Amount > CS.Cost;
```

CourierID	TrackingNumber	ServiceName	Cost	PaymentAmount