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COURIER MANAGEMENT SYSTEM

TASK 1

Objective:

- Design a SQL schema for a Courier Management System.
- Create tables for Customers, Couriers, Orders, and Parcels.
- Define relationships between these tables using appropriate foreign keys.
- Insert sample data into these tables.

Tables Created:

- User
- Courier
- CourierServices
- Employee
- Location
- Payment

tables created in the data base

```
mysql> SHOW TABLES;
+-----+
| Tables_in_courier_db |
+-----+
| courier |
| employee |
| location |
| payment |
| services |
| users |
+-----+
6 rows in set (0.00 sec)
```

1. courier table

mysql> S -> ;	ELECT * FROM courier			•					
	r_id sender_name employee_id location_	sender_address	receiver_name		weight		tracking_number	delivery_date	custo
· +	-	++							•
1	1 Alice	123 Main St	Bob	456 Elm St	2.5	In Transit	TRK123456	2025-03-20	
NULL	1	1 NULL							
Ι.	2 Charlie	789 Oak St	David	101 Pine St	1.8	Delivered	TRK789101	2025-03-15	
. NULL	1	1 NULL							
1	3 manoj	chennai	jeeva	elephant street	3.5	Delivered	TRK003	2025-03-22	
1	1 " T-= U	1 NULL	I Forms Waters	70 Fl. A		l To Toolook	I TRUCCU	2025 02 22	
2	4 Tom Hardy	56 Oak St 2 NULL	Emma Watson	78 Elm Ave	1 2	In Transit	TRKUU4	2025-03-23	
1	5 Nancy Drew	12 Cherry Ln	David Smith	89 Cedar Rd	l 5	Pending	TRK005	2025-03-24	
' 3 I	1	2 NULL	David Smitth	05 CCddi Nd		, rending	1 11111000	2020 03 24	'
1 .	6 Steve Rogers	9 Captain St	Tony Stark	Stark Tower, NY	10.5	Delivered	TRK006	2025-03-25	
4	2	2 NULL							
	7 Bruce Wayne	Wayne Manor	Clark Kent	Daily Planet, Metropolis	7	In Transit	TRK007	2025-03-26	
, 5 	2	3 NULL							
	8 Diana Prince	Themyscira	Barry Allen	Central City	4.5	Pending	TRK008	2025-03-27	
6	2	3 NULL							

3. Employee table

mysql> DESC empl	.oyee;						
Field	Type		Null	Key	De	fault	Extra
employee_id name email contact_number role salary	int varchar(25 varchar(26 varchar(20 varchar(50 decimal(10	55)))))	NO YES YES YES YES YES	PRI UNI	NU NU NU NU	ILL ILL ILL ILL ILL	
4. User table				+	T		
mysql> DESC users;							
Field	Type	Nu	 	+ /	ault	Extra	<u>.</u>
customer_id customer_name customer_address phone_number			s į	NULL NULL	-+ NULL NULL NULL NULL		increment
4 rows in set (0.0	-+ 0 sec)	+	+	+		+	+
5. Services table mysql> DESC servi	ces.						
+			-+	+	+		+
++- service_id	Type int varchar(100) varchar(100) decimal(10,2)	NUCC NO YES YES YES	Key -+ PRI 	Defau + NULL NULL NULL			ncrement
4 rows in set (0.	00 sec)						
6. Payment table							
mysql> DESC pay	ment; +	+		+	+		+
Field	Туре 		Null	Key	De	fault	Extra
payment_id courier_id location_id amount payment_date employee_id service_id +	date int int +	int int int decimal(10,2) date int		PRI MUL MUL	NU NU NU	LL LL LL	

7. Location table

mysql> DESC locat	mysql> DESC location;										
Field	Туре	Null	Key	Default	Extra						
	int varchar(100) text		PRI	NULL NULL NULL							
<pre>1</pre>											

relationships between these tables using appropriate foreign keys

mysql> DESC courier	mysql> DESC courier;										
Field	Type	Null	Кеу	Default	Extra						
courier_id sender_name sender_address receiver_name receiver_address weight status tracking_number delivery_date customer_id employee_id location_id service_id	int varchar(100) varchar(255) varchar(100) varchar(255) float varchar(50) varchar(50) int int int	NO YES	PRI	NULL NULL NULL NULL NULL NULL NULL NULL							

TASK 2

Objective:

• Perform SQL queries on the created database.

Queries Performed:

01. List all customers.

```
mysql> SELECT sender_name FROM courier;
  sender_name
  Alice
  Charlie
 manoj
  Tom Hardy
 Nancy Drew
  Steve Rogers
 Bruce Wayne
 Diana Prince
 Peter Parker
 Natasha Romanoff
 Clark Kent
  Thor Odinson
  subramani
13 rows in set (0.00 sec)
```

02. List all orders for a specific customer.

mysql> SELECI * FROM courie	er WHERE customer	_1d = 1; 	.			L
courier_id sender_name delivery_date customer_id		receiver_name	receiver_address	weight	status	tracking_number
						· · · · · · · · · · · · · · · · · · ·
	chennai	jeeva	elephant street	3.5	Delivered	TRK003
2025-03-22	l chennai 	swetha	bharathi street	4.5	In Transit	TRK014

03. List all couriers.

lysqer seeeer									
courier_id	sender_name	sender_address	receiver_name	receiver_address	weight	status	tracking_number	delivery_date	customer_id
1 2 3 4	Alice Charlie manoj Tom Hardy	123 Main St 789 Oak St chennai 56 Oak St	Bob David jeeva Emma Watson	456 Elm St 101 Pine St elephant street 78 Elm Ave		In Transit	TRK789101 TRK003 TRK004	2025-03-20 2025-03-15 2025-03-22 2025-03-23	NULL NULL 1 2
5 6 7 8	Nancy Drew Steve Rogers Bruce Wayne Diana Prince	12 Cherry Ln 9 Captain St Wayne Manor Themyscira	David Smith Tony Stark Clark Kent Barry Allen	89 Cedar Rd Stark Tower, NY Daily Planet, Metropolis Central City	10.5 7 4.5	Pending Delivered In Transit Pending	TRK005 TRK006 TRK007 TRK008	2025-03-24 2025-03-25 2025-03-26 2025-03-27	3 4 5 6
9 10 11 12	Peter Parker Natasha Romanoff Clark Kent Thor Odinson	20 Queens St Red Room Smallville Asgard	Mary Jane Hawkeye Lois Lane Loki Laufeyson	Brooklyn Avengers Facility Metropolis Jotunheim	2.5 8 1 6.5	Delivered In Transit	TRK009 TRK010 TRK011 TRK012	2025-03-28 2025-03-29 2025-03-30 2025-03-31	7 8 9 10
12 14 101	manoj subramani	Asgard chennai mogappair wast	Loki Laufeyson swetha saravana 	bharathi street padi	4.5		TRK014	2025-03-31 2025-03-25 2025-03-20	16 1 NULL
L4 rows in set	(0.00 sec)								

04. List all packages for a specific order.

mysql> SELECT *	FROM courier	WHERE courier_id	l = 3;	·			·	·			
+		sender_address	receiver_name	receiver_address	weight	status	tracking_number	delivery_da			
] 3 1	+ manoj 1	chennai	jeeva	elephant street	3.5	Delivered	TRK003	2025-03-22			
1 row in set (0	t										

05. List all deliveries for a specific courier:

n	mysql> SELECT * FROM courier WHERE status = 'Delivered' AND courier_id = 6;											
į	courier_id	sender_name	sender_address	receiver_name	receiver_address	weight	status	tracking_number	delivery_date	customer_id		
į	6	Steve Rogers	9 Captain St	Tony Stark	Stark Tower, NY	10.5	Delivered	TRK006	2025-03-25	4		
1	1 row in set (0.00 sec)											

06. List all undelivered packages.

ı	mysql> SELECT * FROM courier WHERE status NOT IN ('Delivered');											
Ì	courier_id	sender_name	sender_address	receiver_name	receiver_address	weight	status	tracking_number	delivery_date	customer_id		
Ì	1	Alice	123 Main St	Bob	456 Elm St	2.5	In Transit		2025-03-20	NULL		
- 1	4	Tom Hardy	56 Oak St	Emma Watson	78 Elm Ave	2	In Transit	TRK004	2025-03-23	2		
-1	5	Nancy Drew	12 Cherry Ln	David Smith	89 Cedar Rd	5	Pending	TRK005	2025-03-24	3		
-1	7	Bruce Wayne	Wayne Manor	Clark Kent	Daily Planet, Metropolis	7	In Transit	TRK007	2025-03-26	5		
-1	8	Diana Prince		Barry Allen	Central City	4.5	Pending	TRK008	2025-03-27	6		
ı	11	Clark Kent	Smallville	Lois Lane	Metropolis	1	In Transit	TRK011	2025-03-30	9		
ı	12	Thor Odinson	Asgard	Loki Laufeyson	Jotunheim	6.5	Pending	TRK012	2025-03-31	10		
ı	14	manoj	chennai	swetha	bharathi street	4.5	In Transit	TRK014	2025-03-25	1		
ı	22	Karthik Raja	Coimbatore	Suresh Iyer	Chennai	2.5	In Transit	TRK022	2025-03-30	4		
ı	23	Nisha Gupta	Lucknow	Arjun Reddy	Hyderabad	5.5	Pending	TRK023	2025-03-31	5		
ı	24	Anand Sharma	Bangalore	Deepak Jain	Kolkata	3.2	In Transit	TRK024	2025-03-19	6		
ı	25	Sita Devi	Patna	Ravi Kumar	Jaipur	2	In Transit	TRK025	2025-03-19	7		
ı	26	Rahul Mehta	Surat	Geeta Yadav	Noida	4.5	Pending	TRK026	2025-04-01	8		
ı	27	Priya Sharma	Nagpur	Vikas Kumar	Ranchi	6	In Transit	TRK027	2025-04-02	9		
ı	29	Akash Verma	Agra	Kiran Bedi	Varanasi	2.5	Pending	TRK029	2025-04-04	11		
J	101	subramani	mogappair wast	saravana	padi	10	In Transit	TRK001	2025-03-20	NULL		

07. List all packages scheduled for delivery today.

mysql> SELECT	ysql> SELECT * FROM courier WHERE delivery_date = CURDATE();											
courier_id	sender_name	sender_address	receiver_name	receiver_address	weight	status	tracking_number	delivery_date	customer_id			
	Anand Sharma Sita Devi		Deepak Jain Ravi Kumar	Kolkata Jaipur		In Transit In Transit		2025-03-19 2025-03-19	6 7			
++ 2 rows in set	(0.00 sec)		+	+	+	+		+	++			

08. List all packages with a specific status.

#		WHERE SCACUS		+	·	+	+	·	·+
courier_id	sender_name	sender_address	receiver_name	receiver_address	weight	status	tracking_number	delivery_date	customer_id
4 7 11 14 22 24 25	Bruce Wayne Clark Kent manoj Karthik Raja Anand Sharma	Bangalore Patna	Bob Emma Watson Clark Kent Lois Lane swetha Suresh Iyer Deepak Jain Ravi Kumar Vikas Kumar	456 Elm St 78 Elm Ave Daily Planet, Metropolis Metropolis bharathi street Chennai Kolkata Jaipur Ranchi	2 7 1 4.5 2.5 3.2	In Transit	TRK004 TRK007 TRK011 TRK014 TRK022 TRK024 TRK025	2025-03-20 2025-03-23 2025-03-26 2025-03-30 2025-03-30 2025-03-19 2025-03-19 2025-03-19	NULL 2 2 5 9 1 4 6 7 7 9 9
101	subramani	mogappair wast	saravana	padi	10	In Transit	TRK001	2025-03-20	NULL
10 rows in set	- (0 00 sec)	·	·	+		+	·	·	·+

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

mysql> SELECT courier_id, COUNT(*) AS total_packages FROM courier GROUP BY courier_id; courier_id | total_packages 1 1 24 rows in set (0.00 sec)

10. Find the average delivery time for each courier.

-> FROM CO	courier_id, AVG(DAT		NOW()))	AS avg_delivery_time
	avg_delivery_time			
1	1.0000	i		
2	-4.0000			
3	3.0000	l		
4	4.0000	İ		
5	5.0000	İ		
6	6.0000	İ		
7	7.0000	İ		
8	8.0000	İ		
j 9	9.0000	İ		
10	10.0000	İ		
11	11.0000	İ		
12	12.0000	İ		
14	6.0000	İ		
20	1.0000	İ		
21	2.0000	İ		
22	11.0000	İ		
23	12.0000	İ		
24	0.0000	l		
25	0.0000	İ		
26	13.0000			
27	14.0000	l		
28	15.0000			
29	16.0000			
101	1.0000			
24 rows in set	t t (0 02 sec)	+		
24 10M2 III 36	C (0.02 SEC)			

11. List all packages with a specific weight range.

courier_id	sender_name	sender_address	receiver_name	receiver_address	weight	status	tracking_number	delivery_date	customer_id
3	manoj	chennai	jeeva	elephant street	3.5	Delivered	TRK003	2025-03-22	1
5	Nancy Drew	12 Cherry Ln	David Smith	89 Cedar Rd	5	Pending	TRK005	2025-03-24	3
7	Bruce Wayne	Wayne Manor	Clark Kent	Daily Planet, Metropolis	7	In Transit	TRK007	2025-03-26	5
8	Diana Prince	Themyscira	Barry Allen	Central City	4.5	Pending	TRK008	2025-03-27	6
12	Thor Odinson	Asgard	Loki Laufeyson	Jotunheim	6.5	Pending	TRK012	2025-03-31	10
14	manoj	chennai	swetha	bharathi street	4.5	In Transit	TRK014	2025-03-25	1
20	Ajay Kumar	Delhi	Vijay Singh	Mumbai	3	Delivered	TRK020	2025-03-20	2
21	Meera Shah	Pune	Rohan Patel	Ahmedabad	4	Delivered	TRK021	2025-03-21	3
23	Nisha Gupta	Lucknow	Arjun Reddy	Hyderabad	5.5	Pending	TRK023	2025-03-31	5
24	Anand Sharma	Bangalore	Deepak Jain	Kolkata	3.2	In Transit	TRK024	2025-03-19	6
26	Rahul Mehta	Surat	Geeta Yadav	Noida	4.5	Pending	TRK026	2025-04-01	8
27	Priya Sharma	Nagpur	Vikas Kumar	Ranchi	6	In Transit	TRK027	2025-04-02	9

12. Retrieve employees whose names contain 'John'.

	mysql> SELECT +	FROM employee	WHERE name LIKE '%John%';			
ı	employee_id	name	email	contact_number	role	salary
	2	Johnny Depp	johnny.depp@example.com	9876543211	Delivery Executive	35000.00
		0.01 sec)			,	

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

cour	ier_id	sender_name	sender_address	receiver_name	receiver_address	weight	status	tracking_number	delivery_date	customer_id	payment_id	courier_id	location_id	amount	payment_date
		Alice	123 Main St	Bob	456 Elm St		In Transit		2025-03-20	. NULL		1			2025-03-21
		Charlie	789 Oak St	David	101 Pine St		Delivered	TRK789101	2025-03-15	NULL NULL	2	2	102	75.00	2025-03-16
		manoj	chennai	jeeva	elephant street	3.5	Delivered	TRK003	2025-03-22	ı					
		3 3		0 2025-03-23											
		Tom Hardy	56 Oak St	Emma Watson	78 Elm Ave	1 2	In Transit	TRK004	2025-03-23	1					
		4 4		0 2025-03-24 Tony Stark	Stark Tower, NY		Delivered	L TOUGGE	2025-03-25						
		Steve Rogers		10ny Stark 10 2025-03-26	Stark lower, NY	1 10.5	Delivered	INKUUD	2025-03-25						
		Bruce Wayne		Clark Kent	Daily Planet. Metropolis	1 7	In Transit	TDU007	2025-03-26						
		7 7		0 2025-03-27	Daity Ftamet, Netropotis	, ,	In Transit	IRROUT	2023-03-20						
		Diana Prince		Barry Allen	Central City	1 4.5	Pending	I TRK008	2025-03-27	1					
		8 8		0 2025-03-28			, remaining	1 1111000	1 2020 03 27						
		Natasha Romanoff		Hawkeye	Avengers Facility	1 8	Delivered	TRK010	2025-03-29	1					
		0 10		0 2025-03-30											
		Clark Kent		Lois Lane	Metropolis	1 1	In Transit	TRK011	2025-03-30	I					
1		1 11	101 95.6	0 2025-03-30											
	12	Thor Odinson	Asgard	Loki Laufeyson	Jotunheim	6.5	Pending	TRK012	2025-03-31	I					
1		.2 12	102 200.6	0 2025-03-31											
	20	Ajay Kumar	Delhi	Vijay Singh	Mumbai] 3	Delivered	TRK020	2025-03-20	I					
		.3 20		0 2025-03-20											
		Meera Shah	Pune	Rohan Patel	Ahmedabad	4	Delivered	TRK021	2025-03-21	ı					
		.4 21		0 2025-03-21											
		Nisha Gupta		Arjun Reddy	Hyderabad	5.5	Pending	TRK023	2025-03-31	ı					
		.6 23		0 2025-03-31	.l										
		Anand Sharma		Deepak Jain	Kolkata	3.2	In Transit	TRK024	2025-03-19	1					
		.7 24		0 2025-03-19 Ravi Kumar	2-1		1 7- 7	Lypunge	1 2025 02 10						
		Sita Devi .8 25		Ravi Kumar 0 2025-03-19	Jaipur	1 2	In Transit	TRK025	2025-03-19						
		.8 25 Rahul Mehta	Surat Surat	Geeta Yadav	Noida	1 4 5	Pending	I TRK026	2025-04-01						
		9 26		0 2025-04-01	Noida	1 4.5	Pending	IRKUZO	2025-04-01						
		Priya Sharma		Vikas Kumar	Ranchi	۱ ه	In Transit	I TRUBOT	2025-04-02						
		9 27		0 2025-04-02	I Railelli		III II alisit	11K027	2023 04 02						
		Rajesh Khanna		Sundar Iver	Mysore	1.5	Delivered	I TRK628	2025-04-03	ı					
		1 28 1		0 2025-04-03	1	1.0	, occavered		, 2020 01 03						
		Akash Verma		Kiran Bedi	Varanasi	1 2.5	Pending	I TRK029	2025-04-04	I					
		2 29 1		0 2025-04-04	1										

TASK 3

GroupBy, Aggregate Functions, Having, Order By, where

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

mysql> SELECT *

20 rows in set (0.01 sec)

15. Calculate the total revenue generated by each location

```
mysql> SELECT location_id, SUM(amount) AS total_revenue
    -> FROM payment
    -> GROUP BY location_id;
  location_id |
                total_revenue
          101
                        455.00
          102
                         525.00
           103
                         580.00
          104
                         145.00
           105
                          90.00
          106
                         175.00
           107
                         155.00
           108
                         240.00
                        165.00
           109
           110
                         175.00
  rows in set (0.00 sec)
```

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

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

```
mysql> SELECT location_id, SUM(amount) AS total_payment
    -> FROM payment
    -> GROUP BY location_id
    -> HAVING total_payment < 200;
  location_id | total_payment
          104
                        145.00
          105
                         90.00
                        175.00
          106
          107
                        155.00
          109
                        165.00
                        175.00
          110
```

19. Calculate Total Payments per Location

```
-> FROM payment
   -> GROUP BY location_id;
 location_id
            total_payments
        101
                   455.00
        102
                   525.00
        103
                   580.00
        104
                   145.00
                    90.00
        105
        106
                   175.00
        107
                   155.00
                   240.00
        108
                   165.00
        109
                   175.00
        110
```

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

	, .,.						
ľ	ysql> SELECT	* FROM paymer	nt WHERE amount	> 1000;			
Ì	payment_id	courier_id	location_id	amount	payment_date	employee_id	service_id
	101 102	:			2025-03-10 2025-03-12	NULL NULL	
	rows in set	(0.00 sec)					

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

TASK 4

23. Retrieve Payments with Courier Information

	JOIN courier o				+			+	+	+		+			+	,
				payment_date					receiver_address	weight		tracking_number				
	1	101		2025-03-21	1	Alice	123 Main St	Bob	456 Elm St		In Transit		2025-03-20	NULL	1	1
	2	102		2025-03-16	2	Charlie	789 Oak St	David	101 Pine St	1.8	Delivered		2025-03-15	NULL	1 1	1
	3	103	200.00	2025-03-23] 3	manoj	chennai	jeeva	elephant street	3.5	Delivered	TRK663	2025-03-22		1	1
	4	104	90.00	2025-03-24	4	Tom Hardy	56 Oak St	Emma Watson	78 Elm Ave		In Transit	TRK664	2025-03-23		1	2
	5	105	50.00	2025-03-25	5	Nancy Drew	12 Cherry Ln	David Smith	89 Cedar Rd		Pending	TRK665	2025-03-24		1 1	2
	6	106	110.00	2025-03-26	6	Steve Rogers	9 Captain St	Tony Stark	Stark Tower, NY	10.5	Delivered	TRK666	2025-03-25		2	2
	7	107	60.00	2025-03-27	1 7	Bruce Wayne	Wayne Manor	Clark Kent	Daily Planet, Metropolis		In Transit	TRK667	2025-03-26		2	3
	8	108	130.00	2025-03-28	8	Diana Prince	Themyscira	Barry Allen	Central City	4.5	Pending	TRK668	2025-03-27		2	3
	9	189	45.00	2025-03-29	9	Peter Parker	20 Queens St	Mary Jane	Brooklyn	2.5	Delivered	TRK669	2025-03-28		2	3
10	10	110	70.00	2025-03-30	10	Natasha Romanoff	Red Room	Hawkeye	Avengers Facility		Delivered	TRK010	2025-03-29		2	4
	11	101	95.66	2025-03-30	11	Clark Kent	Smallville	Lois Lane	Metropolis		In Transit	TRK011	2025-03-30		3	4
	12	102	200.00	2025-03-31	12	Ther Odinson	Asgard	Loki Laufeyson	Jotunheim	6.5	Pending	TRK012	2025-03-31	10	3	4
	20	103	80.00	2025-03-20	20	Ajay Kumar	Delhi	Vijay Singh	Mumbai		Delivered	TRK626	2025-03-20		3	5
	21	184	55.00	2025-03-21	21	Meera Shah	Pune	Rohan Patel	Ahmedabad		Delivered	TRK021	2025-03-21		3	5
	22	105		2025-03-30	22	Karthik Raja	Coimbatore	Suresh Iyer	Chennai	2.5	In Transit	TRK022	2025-03-30		1	6
16	23	106	65.00	2025-03-31	23	Nisha Gupta	Lucknow	Arjun Reddy	Hyderabad	5.5	Pending	TRK023	2025-03-31		1	6
	24	107		2025-03-19		Anand Sharma	Bangalore	Deepak Jain	Kolkata	3.2	In Transit		2025-03-19		2	6
	25	108		2025-03-19		Sita Devi	Patna	Ravi Kumar	Jaipur		In Transit	TRK025	2025-03-19		2	7
19	26	109		2025-04-01	26	Rahul Mehta	Surat	Geeta Yadav	Noida	4.5	Pending	TRK026	2025-04-01		2	7
20	27	110	105.00	2025-04-02		Priya Sharma	Nagpur	Vikas Kumar	Ranchi		In Transit	TRK627	2025-04-02		3	7
	28	101		2025-04-03		Rajesh Khanna	Chandigarh	Sundar Iyer	Mysore	1.5	Delivered	TRK028	2025-04-03	10	3	8
	29	102	250.00	2025-04-04	29	Akash Verma	Agra	Kiran Bedi	Varanasi	2.5	Pending	TRK629	2025-04-04		3	8
	101	103	300.00	2025-03-20	101	subramani	mogappair wast	saravana	padi	10	In Transit	TRK661	2025-03-20	NULL	3	8

24. Retrieve Payments with Location Information

mysql> SELECT p.*, l.*
 -> FROM payment p
 -> INNER JOIN location l ON p.location_id = l.location_id;

+	 +	<u></u>	<u></u> -	<u>-</u>	+ <u></u>	+ <u></u>	+ <u></u>
payment_id	courier_id	location_id	amount	payment_date	location_id	location_name	address
1 1	1	101	150.00	2025-03-21	101	Chennai	Anna Nagar, Chennai
11	11	101	95.00	2025-03-30	101	Chennai	Anna Nagar, Chennai
21	28	101	210.00	2025-04-03	101	Chennai	Anna Nagar, Chennai
2	2	102	75.00	2025-03-16	102	Bangalore	MG Road, Bangalore
12	12	102	200.00	2025-03-31	102	Bangalore	MG Road, Bangalore
22	29	102	250.00	2025-04-04	102	Bangalore	MG Road, Bangalore
3	3	103	200.00	2025-03-23	103	Delhi	Connaught Place, Delhi
13	20	103	80.00	2025-03-20	103	Delhi	Connaught Place, Delhi
23	101	103	300.00	2025-03-20	103	Delhi	Connaught Place, Delhi
4	4	104	90.00	2025-03-24	104	Mumbai	Marine Drive, Mumbai
14	21	104	55.00	2025-03-21	104	Mumbai	Marine Drive, Mumbai
5	5	105	50.00	2025-03-25	105	Pune	FC Road, Pune
15	22	105	40.00	2025-03-30	105	Pune	FC Road, Pune
6	6	106	110.00	2025-03-26	106	Kolkata	Park Street, Kolkata
16	23	106	65.00	2025-03-31	106	Kolkata	Park Street, Kolkata
7	7	107	60.00	2025-03-27	107	Hyderabad	Banjara Hills, Hyderabad
17	24	107	95.00	2025-03-19	107	Hyderabad	Banjara Hills, Hyderabad
8	8	108	130.00	2025-03-28	108	Coimbatore	Gandhipuram, Coimbatore
18	25	108	110.00	2025-03-19	108	Coimbatore	Gandhipuram, Coimbatore
9	9	109	45.00	2025-03-29	109	Jaipur	MI Road, Jaipur
19	26	109	120.00	2025-04-01	109	Jaipur	MI Road, Jaipur
10	10	110	70.00	2025-03-30	110	Lucknow	Hazratganj, Lucknow
20	27	110	105.00	2025-04-02	110	Lucknow	Hazratganj, Lucknow
1					+	+	+

25. Retrieve Payments with Courier and Location Information

-> INNER J	yment p IOIN courier o IOIN location	ON p.courier	on_id = l	l.location_id;															
+			+	+	+											+	+		+
ddress				payment_date					receiver_address		status	tracking_number							
+			+					+					+			+	+		
1 1			150.00	2025-03-21			123 Main St	Bob	456 Elm St	2.5	In Transit	TRK123456	2025-03-20	NULL			101	Chennai	A
nna Nagar, Che	nnai 11	101	05.00	2025-03-30		Clark Kent	Smallville	Lois Lane	Metropolis		In Transit	I TOWALL	2025-03-30	1 9	1 3	1 4	1 101	Chennai	I A
nna Nagar, Che								, LUIS LENG											' ^
nna Nagar, Che	28	101	210.00	2025-04-03		Rajesh Khanna	Chandigarh	Sundar Iyer	Mysore	1.5	Delivered	TRK028	2025-04-03		3	8	101	Chennai	A
I a Nagar, Cne	2	102	75.00	2025-03-16		Charlie	789 Oak St	David	101 Pine St	1.8	Delivered	TRK789101	2025-03-15	NULL	1	1 1	102	Bangalore	I M
G Road, Bangal																			
G Road, Bangal	12	102	200.00	2025-03-31		! Ther Odinson	Asgard	Loki Laufeyson	Jotunheim	6.5	Pending	TRK012	2025-03-31] 3	1 4	102	Bangalore	l M
22	29	102	250.00	2025-04-04		Akash Verma	Agra	Kiran Bedi	Varanasi	2.5	Pending	TRK629	2025-04-04				102	Bangalore	
G Road, Bangal	ore	102	1 200 00	2025-03-23		manoi	chennai	leeva	elephant street		Delivered	TRK863	2025-03-22		1	1 1	1 103	Delhi	I c
onnaught Place	, Delhi	103	200.00	2025-03-23		manoj	Chennal	Jeeva	ecephant street		Decivered	IRROUS	2025-03-22				103	Dethi	1 .
13	20	103	80.00	2025-03-20		Ajay Kumar	Delhi	Vijay Singh	Mumbai		Delivered	TRK020	2025-03-20				103	Delhi	l c
onnaught Place	, Delhi 101	183	1 388 88	2025-03-20	1 10	subramani	mogappair wast	Sarayana	l padi	10	In Transit	I TRK661	2025-03-20	I NULL	1 3	1 8	1 103	Delhi	l c
onnaught Place																			
arine Drive, M	4	104	90.00	2025-03-24		Tom Hardy	56 Oak St	Emma Watson	78 Elm Ave		In Transit	TRK664	2025-03-23		1		104	Mumbai	l M
14	21	184	55.00	2025-03-21	2	Meera Shah	Pune	Rohan Patel	Ahmedabad		Delivered	TRK021	2025-03-21		3	5	104	Mumbai	l M
arine Drive, M	lumbai																		
C Road. Pune	8 1	105	50.00	2025-03-25		Nancy Drew	12 Cherry Ln	David Smith	89 Cedar Rd		Pending	TRK665	2025-03-24			2	105	Pune	F
15	22	105	40.00	2025-03-30		Karthik Raja	Coimbatore	Suresh Iyer	Chennai	2.5	In Transit	TRK022	2025-03-30				105	Pune	
C Road, Pune	! .	101		2025-03-26			9 Captain St	Tony Stark	Stark Tower, NY		Baldwane d	I TOWARD	2025-03-25	1 4	1 2	1 2		Kolkata	l P
ark Street, Ko	lkata	160	110.00	1 2023-03-26		Steve Rogers	9 Captain St	Tony Stark	Stark Tower, NY	10.5	Delivered	INNOGO	2023-03-25	. 4	2	2	160	RUCKATA	- P
16	23	106	65.00	2025-03-31		Nisha Gupta	Lucknow	Arjun Reddy	Hyderabad	5.5	Pending	TRK023	2025-03-31				106	Kolkata	

26. List all payments with courier details same as 23rd question

27. Total payments received for each courier

```
mysql> SELECT courier_id, SUM(amount) AS total_payments
    -> FROM payment
    -> GROUP BY courier_id;
  courier_id | total_payments
            1
                         150.00
            2
                          75.00
            3
                         200.00
            4
                          90.00
            5
                          50.00
            6
                         110.00
            7
                          60.00
            8
                         130.00
            9
                          45.00
           10
                          70.00
           11
                          95.00
           12
                         200.00
           20
                          80.00
           21
                          55.00
           22
                          40.00
           23
                          65.00
           24
                          95.00
           25
                         110.00
           26
                         120.00
           27
                         105.00
           28
                         210.00
           29
                         250.00
          101
                         300.00
23 rows in set (0.02 sec)
```

28. List payments made on a specific date

```
mysql> SELECT * FROM payment WHERE payment_date = '2025-03-15';
Empty set (0.01 sec)
mysql> SELECT * FROM payment WHERE payment_date = '2025-03-21';
  payment_id |
               courier_id |
                            location_id
                                                     payment_date
                                           amount
           1
                                           150.00
                         1
                                     101
                                                     2025-03-21
          14
                                     104
                        21
                                            55.00
                                                     2025-03-21
2 rows in set (0.00 sec)
```

29. Get Courier Information for Each Payment

mysql> SELECT -> FROM pa -> LEFT JO		DN p.courier_	id = c.co	urier_id:												
payment_id	courier_id	location_id	amount	payment_date	courier_id	sender_name	sender_address	receiver_name	receiver_address	weight	status	tracking_number	delivery_date	customer_id	employee_id	location_id
1 1	1			2025-03-21	1	Alice	123 Main St	Bob	456 Elm St		In Transit	TRK123456	2025-03-20	NULL	1	1
2	2	102	75.00	2025-03-16		Charlie	789 Oak St	David	101 Pine St	1.8	Delivered	TRK789101	2025-03-15	NULL	1	1
3	3	103	200.00	2025-03-23	3	manoj	chennai	jeeva	elephant street	3.5	Delivered	TRK663	2025-03-22	1	1	1
4	4	164	90.00	2025-03-24		Tom Hardy	56 Oak St	Emma Watson	78 Elm Ave	2	In Transit	TRK884	2025-03-23	2	1	2
5	5	105	50.00	2025-03-25		Nancy Drew	12 Cherry Ln	David Smith	89 Cedar Rd	5	Pending	TRK885	2025-03-24] 3	1	2
6	6	106	110.00	2025-03-26		Steve Rogers	9 Captain St	Tony Stark	Stark Tower, NY	10.5	Delivered	TRK666	2025-03-25	4	2	2
7	7	107	60.00	2025-03-27		Bruce Wayne	Wayne Manor	Clark Kent	Daily Planet, Metropolis	7	In Transit	TRK667	2025-03-26	5	2	3
8	8	108	130.00	2025-03-28		Diana Prince	Themyscira	Barry Allen	Central City	4.5	Pending	TRK888	2025-03-27	6	2	3
9	9	169	45.00	2025-03-29		Peter Parker	20 Queens St	Mary Jane	Brooklyn	2.5	Delivered	TRK889	2025-03-28	7	2	3
10	10	110	70.00	2025-03-30		Natasha Romanoff	Red Room	Hawkeye	Avengers Facility	8	Delivered	TRK010	2025-03-29	8	2	4
11	11	101	95.00	2025-03-30		Clark Kent	Smallville	Lois Lane	Metropolis	1	In Transit	TRK011	2025-03-30	9	3	4
12	12	102	200.00	2025-03-31		Ther Odinson	Asgard	Loki Laufeyson	Jotunheim	6.5	Pending	TRK012	2025-03-31	10	3	4
13	20	103	80.00	2025-03-20		Ajay Kumar	Delhi	Vijay Singh	Mumbai] 3	Delivered	TRK020	2025-03-20		3	5
14	21	104	55.00	2025-03-21		Meera Shah	Pune	Rohan Patel	Ahmedabad	4	Delivered	TRK021	2025-03-21		3	5
15	22	105	40.00	2025-03-30			Coimbatore	Suresh Iyer	Chennai	2.5	In Transit	TRK022	2025-03-30		1	6
16	23	106	65.00	2025-03-31		Nisha Gupta	Lucknow	Arjun Reddy	Hyderabad	5.5	Pending	TRK023	2025-03-31	5	1	6
17	24	107	95.00	2025-03-19	24	Anand Sharma	Bangalore	Deepak Jain	Kolkata	3.2	In Transit	TRK024	2025-03-19	6	2	6
18	25	108	110.00	2025-03-19		Sita Devi	Patna	Ravi Kumar	Jaipur	2	In Transit	TRK025	2025-03-19		2	7
19	26	109	120.00	2025-04-01	26	Rahul Mehta	Surat	Geeta Yadav	Noida	4.5	Pending	TRK026	2025-04-01	8	2	7
20	27	110	105.00	2025-04-02		Priya Sharma	Nagpur	Vikas Kumar	Ranchi	6	In Transit	TRK027	2025-04-02	9	3	7
21	28	101	210.00	2025-04-03		Rajesh Khanna	Chandigarh	Sundar Iyer	Mysore	1.5	Delivered	TRK028	2025-04-03	10	3	8
22	29	102	250.00	2025-04-04	29	Akash Verma	Agra	Kiran Bedi	Varanasi	2.5	Pending	TRK029	2025-04-04	11	3	8
23	101		300.00		101	subramani	mogappair wast		padi	10	In Transit		2025-03-20	NULL	3	8
23 rows in set			,	+	*		+	,		•				*		•

->	FROM payment p				
->	RIGHT JOIN location	ON p.location	$_{id} =$	l.location	_id;

+	+	+	·		+	·	·	+
ļ	payment_id	courier_id	location_id	amount	payment_date	location_id	location_name	address
į	1	1	101	150.00	2025-03-21	101	Chennai	Anna Nagar, Chennai
- 1	11	11	101	95.00	2025-03-30	101	Chennai	Anna Nagar, Chennai
- 1	21	28	101	210.00	2025-04-03	101	Chennai	Anna Nagar, Chennai
- 1	2	2	102	75.00	2025-03-16	102	Bangalore	MG Road, Bangalore
- 1	12	12	102	200.00	2025-03-31	102	Bangalore	MG Road, Bangalore
- 1	22	29	102	250.00	2025-04-04	102	Bangalore	MG Road, Bangalore
- 1	3	3	103	200.00	2025-03-23	103	Delhi	Connaught Place, Delhi
- 1	13	20	103	80.00	2025-03-20	103	Delhi	Connaught Place, Delhi
- 1	23	101	103	300.00	2025-03-20	103	Delhi	Connaught Place, Delhi
- 1	4	4	104	90.00	2025-03-24	104	Mumbai	Marine Drive, Mumbai
- 1	14	21	104	55.00	2025-03-21	104	Mumbai	Marine Drive, Mumbai
- 1	5	5	105	50.00	2025-03-25	105	Pune	FC Road, Pune
- 1	15	22	105	40.00	2025-03-30	105	Pune	FC Road, Pune
- 1	6	6	106	110.00	2025-03-26	106	Kolkata	Park Street, Kolkata
- 1	16	23	106	65.00	2025-03-31	106	Kolkata	Park Street, Kolkata
- 1	7	7	107	60.00	2025-03-27	107	Hyderabad	Banjara Hills, Hyderabad
ı	17	24	107	95.00	2025-03-19	107	Hyderabad	Banjara Hills, Hyderabad
- 1	8	8	108	130.00	2025-03-28	108	Coimbatore	Gandhipuram, Coimbatore
	18	25	108	110.00	2025-03-19	108	Coimbatore	Gandhipuram, Coimbatore
- 1	9	9	109	45.00	2025-03-29	109	Jaipur	MI Road, Jaipur
ı	19	26	109	120.00	2025-04-01	109	Jaipur	MI Road, Jaipur
- 1	10	10	110	70.00	2025-03-30	110	Lucknow	Hazratganj, Lucknow
İ	20	27	110	105.00	2025-04-02	110	Lucknow	Hazratganj, Lucknow
+	+	+						+

31. Calculating Total Payments for Each Courier

mysql> SELECT courier_id, SUM(amount) AS total_payments
 -> FROM payment
 -> GROUP BY courier_id;

+		
courier	_id	total_payments
i	1	150.00
	2	75.00
	3	200.00
	4	90.00
	5	50.00
	6	110.00
	7	60.00
	8	130.00
	9	45.00
	10	70.00
	11	95.00
	12	200.00
	20	80.00
	21	55.00
	22	40.00
	23	65.00
	24	95.00
	25	110.00
	26	120.00
ļ	27	105.00
ļ	28	210.00
ļ	29	250.00
!	101	300.00
23 rows i	in set	(0.02 sec)

32. List Payments Within a Date Range

mysql> SELECT	* FROM paymer	nt WHERE paymer	nt_date Bl	ETWEEN '2025-03-	-01' AND '2025-03-31';
payment_id	courier_id	location_id	amount	payment_date	
1	1	101	150.00	2025-03-21	ĺ
2	2	102	75.00	2025-03-16	
3	3	103	200.00	2025-03-23	
4	4	104	90.00	2025-03-24	
5	5	105	50.00	2025-03-25	
6	6	106	110.00	2025-03-26	
7	7	107	60.00	2025-03-27	
8	8	108	130.00	2025-03-28	
9	9	109	45.00	2025-03-29	
10	10	110	70.00	2025-03-30	
11	11	101	95.00	2025-03-30	
12	12	102	200.00	2025-03-31	
13	20	103	80.00	2025-03-20	
14	21	104	55.00	2025-03-21	
15	22	105	40.00	2025-03-30	
16	23	106	65.00	2025-03-31	
17	24	107	95.00	2025-03-19	
18	25	108	110.00	2025-03-19	
23 +	101 	103 +	300.00 +	2025-03-20 +	+

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

19 rows in set (0.01 sec)

-> UNION -> SELECT u -> FROM use -> RIGHT JO	ers'u (N courier c ON u.c 1.*, c.* ers u DIN courier c ON u.a	ustomer_id = c.custo	tomer_id;												
customer_id	customer_name	customer_address	phone_number	courier_id	sender_name	sender_address	receiver_name	receiver_address	weight	status	tracking_number	delivery_date	customer_id	employee_id	location_id
	Manoj	Chennai	9876543210		manoj	chennai	jeeva	elephant street		Delivered	TRK003	2025-03-22	1	1	1
1	Manoj	Chennai	9876543210	14	manoj	chennai	swetha	bharathi street	4.5	In Transit	TRK014	2025-03-25			5
2	Tom Hardy	56 Oak St	8765432109	4	Tom Hardy	56 Oak St	Emma Watson	78 Elm Ave	j 2	In Transit	TRK664	2025-03-23			2
2	Tom Hardy	56 Oak St	8765432109	20	Ajay Kumar	Delhi	Vijay Singh	Mumbai	j 3	Delivered	TRK020	2025-03-20			5
3	Nancy Drew	12 Cherry Ln	7654321098	5	Nancy Drew	12 Cherry Ln	David Smith	89 Cedar Rd	5	Pending	TRK665	2025-03-24			2
3	Nancy Drew	12 Cherry Ln	7654321098	21	Meera Shah	Pune	Rohan Patel	Ahmedabad	4	Delivered	TRK021	2025-03-21			5
4	Steve Rogers	9 Captain St	6543210987	6	Steve Rogers	9 Captain St	Tony Stark	Stark Tower, NY	10.5	Delivered	TRK666	2025-03-25	4] 2	2
4	Steve Rogers	9 Captain St	6543210987	22	Karthik Raja	Coimbatore	Suresh Iyer	Chennai	2.5	In Transit	TRK022	2025-03-30	4		6
5	Bruce Wayne	Wayne Manor	5432169876	7	Bruce Wayne	Wayne Manor	Clark Kent	Daily Planet, Metropolis	7	In Transit	TRK667	2025-03-26	5		3
5	Bruce Wayne	Wayne Manor	5432109876	23	Nisha Gupta	Lucknow	Ariun Reddy	Hyderabad	5.5	Pending	TRK023	2025-03-31	5		6
6	Diana Prince	Themyscira	4321098765	8	Diana Prince	Themyscira	Barry Allen	Central City	4.5	Pending	TRK668	2025-03-27	6		3
6	Diana Prince	Themyscira	4321098765	24	Anand Sharma	Bangalore	Deepak Jain	Kolkata	3.2	In Transit	TRK624	2025-03-19	6		6
7	Peter Parker	20 Queens St	3210987654	9	Peter Parker	20 Queens St	Mary Jane	Brooklyn	2.5	Delivered	TRK669	2025-03-28			3
7	Peter Parker	20 Queens St	3210987654	25	Sita Devi	Patna	Ravi Kumar	Jaipur	j 2	In Transit	TRK625	2025-03-19			7 [
8	Natasha Romanoff	Red Room	2109876543	10	Natasha Romanoff	Red Room	Hawkeye	Avengers Facility	j 8	Delivered	TRK010	2025-03-29	. 8	j 2	4 1
8	Natasha Romanoff	Red Room	2109876543	26	Rahul Mehta	Surat	Geeta Yadav	Noida	4.5	Pending	TRK026	2025-04-01	. 8	j 2	7
9	Clark Kent	Smallville	1098765432	11	Clark Kent	Smallville	Lois Lane	Metropolis	1	In Transit	TRK011	2025-03-30	j 9] 3	4 1
9	Clark Kent	Smallville	1098765432	27	Priva Sharma	Nagour	Vikas Kumar	Ranchi	6	In Transit	TRK027	2025-04-02	9	i 3	7 1
10	Thor Odinson	Asgard	0987654321	12	Thor Odinson	Asgard	Loki Laufeyson	Jotunheim	6.5	Pending	TRK012	2025-03-31	10	3	4 1
10	Thor Odinson	Asgard	0987654321	28	Rajesh Khanna	Chandigarh	Sundar Iver	Mysore	1.5	Delivered	TRK028	2025-04-03	10	j 3	8 1
11	Akash Verma	Agra	8765432101	29	Akash Verma	Agra	Kiran Bedi	Varanasi	2.5	Pending	TRK029	2025-04-04	11	j 3	8 1
12	Ajay Kumar	Delhi	9876543201	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
	Meera Shah	Pune	8765432190	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
14	Karthik Raja	Coimbatore	7654321689	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
15	Nisha Gupta	Lucknow	6543210988	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
16	Anand Sharma	Bangalore	5432109877	NULL	NULL	NULL	NULL	NULL	i NULL	NULL	NULL	NULL	NULL	i NULL	NULL I
17	Sita Devi	Patna	4321898766	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
	Rahul Mehta	Surat	3210987655	NULL		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
	Priya Sharma	Nagpur	2109876544	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
	Rajesh Khanna	Chandigarh	1098765433	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
NULL		NULL	NULL	1	Alice	123 Main St	Bob	456 Elm St		In Transit	TRK123456	2025-03-20	NULL	1	1
NULL		NULL	NULL	2	Charlie	789 Oak St	David	101 Pine St	1.8	Delivered	TRK789101	2025-03-15	NULL		1
	NULL	NULL	NULL	101	subramani	mogappair wast		padi	10		TRK661	2025-03-20	NULL		8

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

-> FRO	ECT c.*, s.* M courier c HT JOIN services s ON	c service id = s	service id:										
++				+		·	+	+					
	id sender_name service_name servic		receiver_name	receiver_address	weight	status	tracking_number	delivery_date	customer_id	employee_id	location_id	service_id	se
+				+		·	+	+	·	·		·	
+	 1 Alice	+ 123 Main St	l Bob	456 Elm St	1 25	In Transit	TBU122456	2025-03-20	NULL	1 1	1	NULL	
NULL		NULL	1 800	430 Etm 30	2.5	III II alisic	TRK123456	2023-03-20	NOLL	1 1	1	NOLL	
I	2 Charlie	789 Oak St	David	101 Pine St	1.8	Delivered	TRK789101	2025-03-15	NULL	1		NULL	
NULL	NULL NULL 3 manoj	NULL chennai	jeeva	elephant street	3.5	Delivered	I тккөөз	2025-03-22	1	1 1			
1	NULL	NULL NULL	NULL	NULL									
·	4 Tom Hardy	56 Oak St	Emma Watson	78 Elm Ave	2	In Transit	TRK004	2025-03-23	2	1		NULL	
NULL	NULL NULL 5 Nancy Drew	NULL 12 Cherry Ln	David Smith	89 Cedar Rd	5	Pendina	I TRK005	2025-03-24	3	1 1	2	NULL	
NULL	NULL NULL	NULL											
I NULL I	6 Steve Rogers NULL NULL	9 Captain St NULL	Tony Stark	Stark Tower, NY	10.5	Delivered	TRK006	2025-03-25	4	2		NULL	
1	7 Bruce Wayne	Wayne Manor	Clark Kent	Daily Planet, Metropolis	7	In Transit	TRK007	2025-03-26	5	2		NULL	
NULL		NULL											
I NULL I	8 Diana Prince NULL NULL	Themyscira NULL	Barry Allen	Central City	4.5	Pending	TRK008	2025-03-27	6	2		NULL	
1	9 Peter Parker	20 Queens St	Mary Jane	Brooklyn	2.5	Delivered	TRK009	2025-03-28	7	2		NULL	
NULL		NULL	Lucutaria	1 = -474+			LTDUGTO	1 2025 02 20					
NULL I	10 Natasha Romanoff NULL NULL	Red Room NULL	Hawkeye	Avengers Facility	8	Delivered	TRK010	2025-03-29	8	2		NULL	
	11 Clark Kent	Smallville	Lois Lane	Metropolis	1	In Transit	TRK011	2025-03-30	9] 3		NULL	
NULL		NULL	Loki Laufeyson	l Jahrahain		Pending	TRK012	2025-03-31	10	3	4		
NULL I	12 Thor Odinson NULL NULL	Asgard NULL	LOKI LAUTEYSON	Jocunneim	0.5	Penaing	IRRUIZ	2025-03-31	10	3	4	NULL	
	14 manoj	chennai	swetha	bharathi street	4.5	In Transit	TRK014	2025-03-25	1	3		NULL	
NULL	NULL NULL 20 Ajay Kumar	NULL Delhi	Vijay Singh	Mumbai		Delivered	I TRUCA	2025-03-20	2	3	5	NULL	
' NULL I		NULL	VIJAY SINGN	Humbai	, ,	Detivered	IRR020	2025-03-20	2	3 1	5	NOLL	
	21 Meera Shah	Pune	Rohan Patel	Ahmedabad	4	Delivered	TRK021	2025-03-21	3	3		NULL	
NULL	NULL NULL 22 Karthik Raja	NULL Coimbatore	Suresh Iver	Chennai	1 25	In Transit	I TRUBSS	2025-03-30	4	1 1	6	NULL	
' NULL		NULL	Julesh Tyel	Chemial	2.5	III II alisic	TRR022	2025-05-50	7	1	U	NOLL	
	23 Nisha Gupta	Lucknow	Arjun Reddy	Hyderabad	5.5	Pending	TRK023	2025-03-31	5	1		NULL	
NULL	NULL NULL 24 Anand Sharma	NULL Bangalore	Deepak Jain	Kolkata	1 3 2	In Transit	I TRUBOU	2025-03-19	6	2	6	NULL	
' NULL		NULL	Deepar Sain	Notraca				1 2020 03 13					
	25 Sita Devi	Patna	Ravi Kumar	Jaipur	2	In Transit	TRK025	2025-03-19	7	2		NULL	
NULL	NULL NULL 26 Rahul Mehta	NULL Surat	Geeta Yadav	Noida	4.5	Pending	I TRKθ26	2025-04-01	8	2	7	NULL	
NULL	NULL NULL	NULL											
	27 Priya Sharma	Nagpur	Vikas Kumar	Ranchi	6	In Transit	TRK027	2025-04-02	9	3		NULL	

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

mysql> SELECT e.*, p.*

-> FROM employee e

-> LEFT JOIN payment p ON e.employee_id = p.employee_id

-> UNION

-> SELECT e.*, p.*

-> FROM employee e

-> RIGHT JOIN payment p ON e.employee_id = p.employee_id;

uysql> SELECT c.*, s.*
 -> FROM courier c
 -> LEFT JOIN services s ON c.service_id = s.service_id

employee_id	name	email	contact_number	role	salary	payment_id	courier_id	location_id	amount	payment_date	employee_id
1	1 Subramani bvineeth2108@gmail.com 9876543210 Manager		Manager	60000.00	22	29	102	250.00	2025-04-04	1	
1	Subramani	bvineeth2108@gmail.com	9876543210	Manager	60000.00	20	27	110	105.00	2025-04-02	1
1	Subramani	bvineeth2108@gmail.com	9876543210	Manager	60000.00	18	25	108	110.00	2025-03-19	1
1	Subramani	bvineeth2108@gmail.com	9876543210	Manager	60000.00	16	23	106	65.00	2025-03-31	1
1	Subramani	bvineeth2108@gmail.com	9876543210	Manager	60000.00	14	21	104	55.00	2025-03-21	1
1	Subramani	bvineeth2108@gmail.com	9876543210	Manager	60000.00	12	12	102	200.00	2025-03-31	1
1	Subramani	bvineeth2108@gmail.com	9876543210	Manager	60000.00	10	10	110	70.00	2025-03-30	1
1	Subramani	bvineeth2108@gmail.com	9876543210	Manager	60000.00	8	8	108	130.00	2025-03-28	1
1	Subramani	bvineeth2108@gmail.com	9876543210	Manager	60000.00	6	6	106	110.00	2025-03-26	1
1	Subramani	bvineeth2108@gmail.com	9876543210	Manager	60000.00	4	4	194	90.00	2025-03-24	1
1	Subramani	bvineeth2108@gmail.com	9876543210	Manager	60000.00	2	2	102	75.00	2025-03-16	1
2	Johnny Depp	johnny.depp@example.com	9876543211	Delivery Executive	35000.00	23	101	103	300.00	2025-03-20	2
2	Johnny Depp	johnny.depp@example.com	9876543211	Delivery Executive	35000.00	21	28	101	210.00	2025-04-03	2
2	Johnny Depp	johnny.depp@example.com	9876543211	Delivery Executive	35000.00	19	26	109	120.00	2025-04-01	2
2	Johnny Depp	johnny.depp@example.com	9876543211	Delivery Executive	35000.00	17	24	107	95.00	2025-03-19	2
2	Johnny Depp	johnny.depp@example.com	9876543211	Delivery Executive	35000.00	15	22	105	40.00	2025-03-30	2
2	Johnny Depp	johnny.depp@example.com	9876543211	Delivery Executive	35000.00	13	20	103	80.00	2025-03-20	2
2	Johnny Depp	johnny.depp@example.com	9876543211	Delivery Executive	35000.00	11	11	101	95.00	2025-03-30	2
2	Johnny Depp	johnny.depp@example.com	9876543211	Delivery Executive	35000.00	9	9	109	45.00	2025-03-29	2
2	Johnny Depp	johnny.depp@example.com	9876543211	Delivery Executive	35000.00	7	7	107	60.00	2025-03-27	2
2	Johnny Depp	johnny.depp@example.com	9876543211	Delivery Executive	35000.00	5	5	105	50.00	2025-03-25	2
2	Johnny Depp	johnny.depp@example.com	9876543211	Delivery Executive	35000.00	3	3	103	200.00	2025-03-23	2
2	Johnny Depp	johnny.depp@example.com	9876543211	Delivery Executive	35000.00	1	1	101	150.00	2025-03-21	2
3	jeeva	rdj@example.com	9876543212	Senior Engineer	50000.00	NULL	NULL	NULL	NULL	NULL	NULL
4	mothesh	chris.evans@example.com	9876543213	Delivery Executive	35000.00	NULL	NULL	NULL	NULL	NULL	NULL
5	andrew	scarlett.j@example.com	9876543214	HR Manager	55000.00	NULL	NULL	NULL	NULL	NULL	NULL
6	manoj	tom.h@example.com	9876543215	Junior Engineer	40000.00	NULL	NULL	NULL	NULL	NULL	NULL

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

mysql> SELECT * FROM users CROSS JOIN services; customer_id | customer_address customer_name phone_number service_id service name | service_type cost Chennai 9876543210 Reverse Logistics 9876543210 9876543210 Live Package Updates Heavy Load Transport Mano Chennai 9 Tracking 30.00 8 7 Freight Logistics 450.00 Mano Chennai Warehouse Storage Same-Day Delivery Insurance Coverage Package Tracking 9876543210 Mano Chennai 300.00 9876543210 Chennai 6 Shipping 200.00 Mano 75.00 20.00 9876543210 Security Chennai Manoi 9876543210 Manoj Tracking Chennai 9876543210 International Shipping 500.00 Manoj Chennai Shipping Manoj Chennai 9876543210 Standard Delivery Shipping 100.00 Manoj Chennai 9876543210 Express Delivery Shipping 150.00 Tom Hardy Reverse Logistics Tracking 56 Oak St 8765432109 10 Return Service 50.00 56 Oak St 8765432109 Tom Hardy 9 Live Package Updates 30.00 Heavy Load Transport Warehouse Storage 450.00 Tom Hardy 56 Oak St 8765432109 8 7 Freight 8765432109 Tom Hardy 56 Oak St Logistics 300.00 Same-Day Delivery Insurance Coverage 6 Tom Hardy 56 Oak St 8765432109 Shipping 200.00 75.00 20.00 Tom Hardy 56 Oak St 8765432109 Security Package Tracking International Shipping 56 Oak St 8765432109 Tom Hardy Tracking Tom Hardy 56 Oak St 8765432109 Shipping 500.00 Tom Hardy 56 Oak St 8765432109 Standard Delivery Shipping 100.00 Tom Hardy 56 Oak St 8765432109 Express Delivery Shipping 150.00 12 Cherry Ln 12 Cherry Ln 12 Cherry Ln 10 50.00 Nancy Drew 7654321098 Return Service Reverse Logistics Nancy Drew Nancy Drew 7654321098 Tracking 9 Live Package Updates 30.00 Heavy Load Transport Warehouse Storage Same-Day Delivery Freight Logistics Shipping 450.00 7654321098 8 7 6 12 Cherry Ln 12 Cherry Ln Nancy Drew Nancy Drew 7654321098 300.00 200.00 7654321098 Nancy Drew Nancy Drew 12 Cherry Ln 7654321098 Insurance Coverage Security 75.00 12 Cherry Ln 7654321098 Package Tracking Tracking 20.00 Nancy Drew 12 Cherry Ln 7654321098 International Shipping Shipping 500.00

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

employee_id	name	email	contact_number		 salary	location_id	location_name	address
6	manoj	tom.h@example.com	 9876543215	+ Junior Engineer	+ 40000.00	101	Chennai	+ Anna Nagar, Chennai
5	andrew	scarlett.j@example.com	9876543214	HR Manager	55000.00	101	Chennai	Anna Nagar, Chennai
й	mothesh	chris.evans@example.com	9876543213	Delivery Executive	35000.00	101	Chennai	Anna Nagar, Chennai
3	ieeva	rdj@example.com	9876543212	Senior Engineer	50000.00	101	Chennai	Anna Nagar, Chennai
2	Johnny Depp	johnny.depp@example.com	9876543211	Delivery Executive	35000.00	101	Chennai	Anna Nagar, Chennai
1	Subramani	bvineeth2108@gmail.com	9876543210	Manager	60000.00	101	Chennai	Anna Nagar, Chennai
6	manoj	tom.h@example.com	9876543215	Junior Engineer	40000.00	102	Bangalore	MG Road, Bangalore
5	andrew	scarlett.j@example.com	9876543214	HR Manager	55000.00	102	Bangalore	MG Road, Bangalore
ш	mothesh	chris.evans@example.com	9876543213	Delivery Executive	35000.00	102	Bangalore	MG Road, Bangalore
3	ieeva	rdi@example.com	9876543212	Senior Engineer	50000.00	102	Bangalore	MG Road, Bangalore
2	Johnny Depp	johnny.depp@example.com	9876543211	Delivery Executive	35000.00	102	Bangalore	MG Road, Bangalore
1	Subramani	bvineeth2108@gmail.com	9876543210	Manager	60000.00	102	Bangalore	MG Road, Bangalore
6	manoj	tom.h@example.com	9876543215	Junior Engineer	40000.00	103	Delhi	Connaught Place, Delhi
5	andrew	scarlett.j@example.com	9876543214	HR Manager	55000.00	103	Delhi	Connaught Place, Delhi
ц	mothesh	chris.evans@example.com	9876543213	Delivery Executive	35000.00	103	Delhi	Connaught Place, Delhi
3	jeeva	rdj@example.com	9876543212	Senior Engineer	50000.00	103	Delhi	Connaught Place, Delhi
2	Johnny Depp	johnny.depp@example.com	9876543211	Delivery Executive	35000.00	103	Delhi	Connaught Place, Delhi
ī	Subramani	bvineeth2108@gmail.com	9876543210	Manager	60000.00	103	Delhi	Connaught Place, Delhi
6	manoj	tom.h@example.com	9876543215	Junior Engineer	40000.00	104	Mumbai	Marine Drive, Mumbai
5	andrew	scarlett.j@example.com	9876543214	HR Manager	55000.00	104	Mumbai	Marine Drive, Mumbai
4	mothesh	chris.evans@example.com	9876543213	Delivery Executive	35000.00	104	Mumbai	Marine Drive, Mumbai
3	jeeva	rdj@example.com	9876543212	Senior Engineer	50000.00	104	Mumbai	Marine Drive, Mumbai
2	Johnny Depp	johnny.depp@example.com	9876543211	Delivery Executive	35000.00	104	Mumbai	Marine Drive, Mumbai
1	Subramani	bvineeth2108@gmail.com	9876543210	Manager	60000.00	104	Mumbai	Marine Drive, Mumbai
6	manoj	tom.h@example.com	9876543215	Junior Engineer	40000.00	105	Pune	FC Road, Pune
5	andrew	scarlett.j@example.com	9876543214	HR Manager	55000.00	105	Pune	FC Road, Pune
4	mothesh	chris.evans@example.com	9876543213	Delivery Executive	35000.00	105	Pune	FC Road, Pune
3	jeeva	rdj@example.com	9876543212	Senior Engineer	50000.00	105	Pune	FC Road, Pune
2	Johnny Depp	johnny.depp@example.com	9876543211	Delivery Éxecutive	35000.00	105	Pune	FC Road, Pune
1	Subramani		9876543210	Manager	60000.00	105	Pune	FC Road. Pune

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

		_name, sender_address FROM courie
courier_id	sender_name	sender_address
+	Alice Charlie manoj Tom Hardy Nancy Drew Steve Rogers Bruce Wayne Diana Prince Peter Parker Natasha Romanoff Clark Kent Thor Odinson manoj Ajay Kumar Meera Shah Karthik Raja Nisha Gupta Anand Sharma Sita Devi Rahul Mehta Priya Sharma Rajesh Khanna	123 Main St 789 Oak St chennai 56 Oak St 12 Cherry Ln 9 Captain St Wayne Manor Themyscira 20 Queens St Red Room Smallville Asgard chennai Delhi Pune Coimbatore Lucknow Bangalore Patna Surat Nagpur Chandigarh
29 101 +	Akash Verma subramani 	Agra mogappair wast
24 rows in set	t (0.00 sec)	

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

mysql> SELECT	courier_id, recei	iver_name, receiver_address	FROM courier;
courier_id	receiver_name	receiver_address	
1	Bob	456 Elm St	i
2	David	101 Pine St	
3	jeeva	elephant street	
j 4	Émma Watson	78 Elm Ave	
5	David Smith	89 Cedar Rd	
6	Tony Stark	Stark Tower, NY	
7	Clark Kent	Daily Planet, Metropolis	
8	Barry Allen	Central City	
9	Mary Jane	Brooklyn	
10	Hawkeye	Avengers Facility	
11	Lois Ĺane	Metropolis	
12	Loki Laufeyson	Jotunheim	
14	swetha	bharathi street	
20	Vijay Singh	Mumbai	
21	Rohan Patel	Ahmedabad	
22	Suresh Iyer	Chennai	
23	Arjun Reddy	Hyderabad	
24	Deepak Jain	Kolkata	
25	Ravi Kumar	Jaipur	
26	Geeta Yadav	Noida	
27	Vikas Kumar	Ranchi	
28	Sundar Iyer	Mysore	
29	Kiran Bedi	Varanasi	
101	saravana	padi	
24 rows in set	(0.00 sec)		r

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

-> FRO	OM courier c T JOIN services s ON o	c.service id =	s.service id:												
										+	+	+			
courier_ ervice_typ	++ .id sender_name se cost	sender_addre	ss receiver_name	receiver_address	weight	status	tracking_number	delivery_date	customer_id	employee_id	location_id	service_id	service_id	service_name	
										+	+	+			
		1 ann m-/- no	1.0.1	Luce et		1	I TOURSONES	1 0005 00 00							
1 1	1 Alice NULL NULL M	123 Main St	Bob NULL NULL	456 Elm St	2.5	In Transit	TRK123456	2025-03-20	NULL	1	ı				
1 '	2 Charlie	789 Oak St	David	101 Pine St	1.8	Delivered	TRK789101	2025-03-15	I NULL	1	I				
1	NULL NULL I		NULL NULL												
1	3 manoj	chennai	jeeva	elephant street	3.5	Delivered	TRK003	2025-03-22							
1	NULL NULL I		NULĻ NULL												
'	4 Tom Hardy	56 Oak St	Emma Watson	78 Elm Ave		In Transit	TRK004	2025-03-23	2	1	ı				
2	NULL NULL 1 5 Nancy Drew		NULL NULL David Smith	89 Cedar Rd	1 5	Pending	I TRK005	2025-03-24	l 3	1					
2	NULL NULL I		NULL NULL	by cedar kd		Feliating	IRROUS	2023-03-24							
1 '	6 Steve Rogers		Tony Stark	Stark Tower, NY	10.5	Delivered	TRK006	2025-03-25		1 2	I				
2	NULL NULL I	NULL	NULL NULL												
1	7 Bruce Wayne	Wayne Manor		Daily Planet, Metropolis	7	In Transit	TRK007	2025-03-26	5		I				
3	NULL NULL I		NULL NULL	L Gardenal Giber		Laurettee	I TRK008	1 2025 02 25							
3	8 Diana Prince NULL NULL 1	Themyscira	Barry Allen NULL NULL	Central City	4.5	Pending	TRK008	2025-03-27		2					
1 '	9 Peter Parker	20 Queens St		Brooklyn	1 2.5	Delivered	TRK009	2025-03-28		1 2	I				
3	NULL NULL I		NULL NULL												
1	10 Natasha Romanoff	Red Room	Hawkeye	Avengers Facility		Delivered	TRK010	2025-03-29		2					
.4	NULL NULL I		NULL NULL												
4 1	11 Clark Kent	Smallville	Lois Lane	Metropolis	1	In Transit	TRK011	2025-03-30	9] 3	ı				
	NULL NULL 1 12 Thor Odinson	Asgard	NULL NULL Loki Laufeyson	 Jotunheim	1 65	Pending	I TRK012	2025-03-31	l 10] 3					
4 1	NULL NULL I		NULL NULL	Socialite III	0.5	Felialing	TRRUIZ	2020-03-31	1 10						
	14 manoj	chennai	swetha	bharathi street	4.5	In Transit	TRK014	2025-03-25] 3	I				
5	NULL NULL 1	NULL	NULL NULL												
	20 Ajay Kumar	Delhi	Vijay Singh	Mumbai] 3	Delivered	TRK020	2025-03-20			I				
5	NULL NULL I	NULL Pune	NULL NULL Rohan Patel	 Ahmedabad		Delivered	L TRUCAS	1 2025 02 21	l 3						
5	21 Meera Shah NULL NULL 1		NULL NULL	Alliledabad		Decivered	IRROZI	2025-03-21] 3	'				
	22 Karthik Raja	Coimbatore	Suresh Iver	Chennai	1 2.5	In Transit	I TRK022	2025-03-30	1 4	1	ı				
6	NULL NULL I		NULL NULL												
	23 Nisha Gupta	Lucknow	Arjun Reddy	Hyderabad	5.5	Pending	TRK023	2025-03-31		1	I				
_. 6	NULL NULL I		NULL INULL												
1 6 l	24 Anand Sharma NULL NULL I	Bangalore	Deepak Jain NULL NULL	Kolkata	3.2	In Transit	TRK024	2025-03-19		2					
	NULL NULL 1 25 Sita Devi	NULL	NULL NULL Ravi Kumar	 Jaipur		In Transit	I TPVA25	2025-03-19] 2	ı				
7 1	NULL NULL I		NULL I NULL	i		,		, 2020 03 17							
	26 Rahul Mehta	Surat	Geeta Yadav	Noida	4.5	Pending	TRK026	2025-04-01		2	I				
7	NULL NULL I		NULL NULL												
	27 Priya Sharma	Nagpur	Vikas Kumar	Ranchi	6	In Transit	TRK027	2025-04-02] 3					
7	NULL NULL I		NULL NULL	Mysene	1 1-5	Dolivored	I TRUGOS	1 2025-011-02	1 -10] 3					
١, ١	28 Rajesh Khanna	Chandigarh	Sundar Iyer	Mysore	1.5	Delivered	T TRKUZO	2025-04-03	10	3					

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:

```
mysql> SELECT location_id, SUM(amount) AS total_payments
    -> FROM payment
    -> GROUP BY location_id;
  location_id | total_payments
          101
                         455.00
          102
                         525.00
          103
                         580.00
          104
                         145.00
                          90.00
          105
          106
                         175.00
          107
                         155.00
          108
                         240.00
          109
                         165.00
          110
                         175.00
10 rows in set (0.01 sec)
```

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

```
mysql> SELECT sender_name, COUNT(*) AS total_couriers
    -> FROM courier
    -> GROUP BY sender_name
    -> HAVING COUNT(*) > 1;
+------+
| sender_name | total_couriers |
+------+
| manoj | 2 |
+------+
1 row in set (0.00 sec)
```

44. List all employees who share the same role.

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

```
mysql> SELECT c.sender_address, SUM(p.amount) AS total_payments
   -> FROM payment p
   -> JOIN courier c ON p.courier_id = c.courier_id
   -> GROUP BY c.sender_address
   -> HAVING COUNT(*) > 1;
Empty set (0.00 sec)
```

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

```
mysql> SELECT sender_address, COUNT(*) AS total_couriers
    -> FROM courier
     -> GROUP BY sender_address
     -> HAVING COUNT(*) > 1;
  sender_address | total_couriers
                                   2
  chennai
1 row in set (0.00 sec)
47. List employees and the number of couriers they have delivered:
mysql> SELECT e.employee_id, e.name AS employee_name, COUNT(c.courier_id) AS total_deliveries
    -> FROM employee e
    -> LEFT JOIN courier c ON e.employee_id = c.employee_id
    -> WHERE c.status = 'Delivered'
    -> GROUP BY e.employee_id, e.name;
  employee_id | employee_name | total_deliveries
            1
               Subramani
                                              2
            2
               Johnny Depp
                                              3
            3
               jeeva
                                              3
48. Find couriers that were paid an amount greater than the cost of their respective courier services
mysql> SELECT p.courier_id, p.amount AS payment_amount, s.cost AS service_cost
    -> FROM payment p
    -> JOIN services s ON p.service_id = s.service_id
    -> WHERE p.amount > s.cost;
  courier_id | payment_amount | service_cost
            4
                            90.00
                                             20.00
            9
                           45.00
                                             30.00
           10
                            70.00
                                             50.00
           12
                          200.00
                                            150.00
           23
                           65.00
                                             30.00
```

60.00

150.00

100.00

27

28

29

8 rows in set (0.00 sec)

105.00

210.00

250.00