Courier Management System

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.

This document provides SQL queries for various operations on the Courier Management System database.

These queries were executed on the schema designed in Task 1.

1. List all customers:

To list all customers, assuming **customers are stored in the User table**, you can use the following SQL query:

SELECT * FROM User;

Explanation: Retrieves all customer details from the User table.

Output :

UserID	Name	Email	Password	ContactNumber	Address
2	Alice Smith	alice@example.com	alicepass	8765432109	456 Elm St
3	Michael Brown	michael@example.com	mikepass	7654321098	789 Oak St
4	Emma Wilson	emma@example.com	emmapass	6543210987	321 Pine St
5	Daniel Lee	daniel@example.com	danpass	5432109876	654 Cedar St
6	Sophia Green	sophia@example.com	sophiapass	4321098765	987 Maple St
7	William Clark	william@example.com	willpass	3210987654	258 Birch St
8	Olivia Adams	olivia@example.com	oliviapass	2109876543	369 Walnut St
9	James Turner	james@example.com	jamespass	1098765432	741 Cherry St
10	Charlotte Evans	charlotte@example.com	charpass	1987654321	852 Willow St
11	Ethan Carter	ethan@example.com	ethanpass	9876543100	741 Hill St
12	Isabella Lewis	isabella@example.com	isapass	8765432200	852 Valley St
13	Liam Parker	liam@example.com	liampass	7654321300	963 River St
14	Ava Martinez	ava@example.com	avapass	6543210400	159 Lake St
15	Mason Scott	mason@example.com	masonpass	5432109500	357 Bay St
16	Sophia Johnson	sophia12@example.com	sophiapass	4321098600	246 Ocean St
17	Olivia Davis	olivia4@example.com	oliviapass	3210987700	753 Forest St
18	David Wilson	david@example.com	davidpass	2109876800	159 Canyon St
19	Emma Brown	emma1@example.com	emmapass	1098765900	357 Meadow St
20	Noah White	noah1@example.com	noahpass	1987654000	951 Cliff St

2. List all orders for a specific customer

Customers (senders) are stored in the Courier table under SenderName

To list all orders for a specific customer like David Lee:

SELECT * FROM Courier WHERE SenderName = 'David Lee';

Explanation: Fetches all orders where the sender is David Lee. Change the name as needed.

Output :

3. List all couriers

Couriers (shipments) are stored in the Courier table.

To list all couriers:

SELECT * FROM Courier;

Explanation: Retrieves all courier records.

Output :

---

4. List all packages for a specific order

Since packages are essentially couriers identified by TrackingNumber, we fetch all details for a specific order:

SELECT * FROM Courier WHERE TrackingNumber = 'TRK10012';

Explanation: Fetches all packages linked to the tracking number TRK100012. Modify as needed.

Output :

---

5. List all deliveries for a specific courier

Deliveries assigned to a courier can be identified using the **Status = 'Delivered'** condition.

To list all delivered packages:

SELECT * FROM Courier WHERE Status = 'Delivered';

Explanation: Retrieves all delivered courier records**.**

Output:

```
319 •    SELECT * FROM Courier WHERE Status = 'Delivered';
```

CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumbe
2	Alice Smith	456 Elm St	Michael Brown	789 Oak St	1.20	Delivered	TRK10002
6	Sophia Green	987 Maple St	William Clark	258 Birch St	1.90	Delivered	TRK10006
12	Isabella Lewis	852 Valley St	Liam Parker	963 River St	2.50	Delivered	TRK10012
16	Sophia Johnson	246 Ocean St	Olivia Davis	753 Forest St	3.60	Delivered	TRK10016
23	Michael Scott	Scranton, PA	Jim Halpert	Stamford, CT	5.00	Delivered	TRK1003
24	Pam Beesly	Scranton, PA	Dwight Schrute	Schrute Farms, PA	4.80	Delivered	TRK1004
31	David Lee	987 Park, TX	Eva Green	321 Blvd, CA	1.80	Delivered	TRK2006
32	David Lee	987 Park, TX	Sam Wilson	654 Ave, FL	2.10	Delivered	TRK2007
33	David Lee	987 Park, TX	Sarah Connor	Skynet, CA	2.80	Delivered	TRK2008
34	David Lee	987 Park, TX	John Wick	Continental Hotel, NY	3.00	Delivered	TRK2009

6. List all undelivered packages

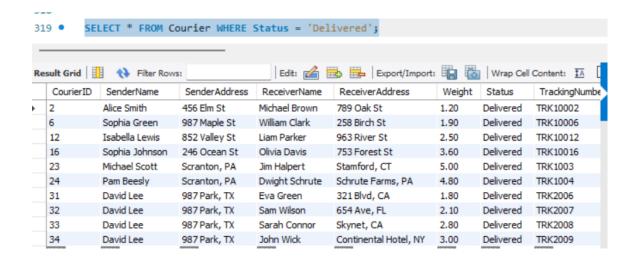Since undelivered packages will have a Status that is not 'Delivered', we filter them:

SELECT * FROM Courier WHERE Status != 'Delivered';

Or SELECT * FROM Courier WHERE Status IN ('Pending', 'In Transit');

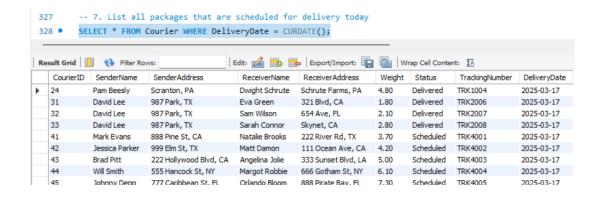**Explanation:** Fetches all packages that are not yet delivered.

Output :

CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate
1	John Doe	123 Main St	Alice Smith	456 Elm St	2.50	In Transit	TRK10001	2024-03-20
3	Michael Brown	789 Oak St	Emma Wilson	321 Pine St	3.00	Pending	TRK10003	2024-03-22
4	Emma Wilson	321 Pine St	Daniel Lee	654 Cedar St	2.80	In Transit	TRK10004	2024-03-21
5	Daniel Lee	654 Cedar St	Sophia Green	987 Maple St	4.10	Shipped	TRK10005	2024-03-19
7	William Clark	258 Birch St	Olivia Adams	369 Walnut St	2.20	Pending	TRK10007	2024-03-23
8	Olivia Adams	369 Walnut St	James Turner	741 Cherry St	3.50	Shipped	TRK10008	2024-03-20
9	James Turner	741 Cherry St	Charlotte Evans	852 Willow St	2.70	In Transit	TRK10009	2024-03-25
10	Charlotte Evans	852 Willow St	John Doe	123 Main St	5.00	Pending	TRK10010	2024-03-24
11	Ethan Carter	741 Hill St	Isabella Lewis	852 Valley St	3.20	In Transit	TRK10011	2024-03-26
13	Liam Parker	963 River St	Ava Martinez	159 Lake St	4.10	Pending	TRK10013	2024-03-28
14	Ava Martinez	159 Lake St	Mason Scott	357 Bay St	1.80	In Transit	TRK10014	2024-03-27
15	Mason Scott	357 Bay St	Sophia Johnson	246 Ocean St	5.00	Shipped	TRK10015	2024-03-25
17	Olivia Davis	753 Forest St	David Wilson	159 Canyon St	2.90	Pending	TRK10017	2024-03-29
18	David Wilson	159 Canyon St	Emma Brown	357 Meadow St	3.30	Shipped	TRK10018	2024-03-26
19	Emma Brown	357 Meadow St	Noah White	951 Cliff St	2.70	In Transit	TRK10019	2024-03-30
20	Noah White	951 Cliff St	John Doe	123 Main St	4.50	Pending	TRK10020	2024-03-31
21	Alice Johnson	123 Street, NY	Bob Smith	456 Lane, CA	2.50	In Transit	TRK1001	2025-03-18
22	Alice Johnson	123 Street, NY	Charlie Brown	789 Road, TX	3.20	Pending	TRK1002	2025-03-19
25	Stanley Hudson	Scranton, PA	Phyllis Vance	St. Louis, MO	3.50	Pending	TRK1005	NULL

7. List all packages that are scheduled for delivery today

To get all packages scheduled for delivery on today's

SELECT * FROM Courier WHERE DeliveryDate = CURDATE();

Explanation: Retrieves packages scheduled for delivery on the current date.

Output :

```
327    -- 7. List all packages that are scheduled for delivery today
328 •  SELECT * FROM Courier WHERE DeliveryDate = CURDATE();
```

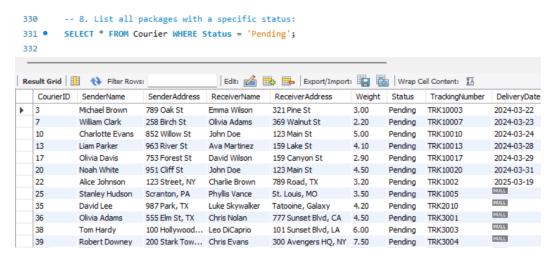|	CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate
▶	24	Pam Beesly	Scranton, PA	Dwight Schrute	Schrute Farms, PA	4.80	Delivered	TRK1004	2025-03-17
	31	David Lee	987 Park, TX	Eva Green	321 Blvd, CA	1.80	Delivered	TRK2006	2025-03-17
	32	David Lee	987 Park, TX	Sam Wilson	654 Ave, FL	2.10	Delivered	TRK2007	2025-03-17
	33	David Lee	987 Park, TX	Sarah Connor	Skynet, CA	2.80	Delivered	TRK2008	2025-03-17
	41	Mark Evans	888 Pine St, CA	Natalie Brooks	222 River Rd, TX	3.70	Scheduled	TRK4001	2025-03-17
	42	Jessica Parker	999 Elm St, TX	Matt Damon	111 Ocean Ave, CA	4.20	Scheduled	TRK4002	2025-03-17
	43	Brad Pitt	222 Hollywood Blvd, CA	Angelina Jolie	333 Sunset Blvd, LA	5.00	Scheduled	TRK4003	2025-03-17
	44	Will Smith	555 Hancock St, NY	Margot Robbie	666 Gotham St, NY	6.10	Scheduled	TRK4004	2025-03-17
	45	Johnny Depp	777 Caribbean St, FL	Orlando Bloom	888 Pirate Bay, FL	7.30	Scheduled	TRK4005	2025-03-17

8. List all packages with a specific status

To filter packages by status, such as "Pending":

SELECT * FROM Courier WHERE Status = 'Pending';

Output :

```
330    -- 8. List all packages with a specific status:
331 •  SELECT * FROM Courier WHERE Status = 'Pending';
332
```

	CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate
▶	3	Michael Brown	789 Oak St	Emma Wilson	321 Pine St	3.00	Pending	TRK10003	2024-03-22
	7	William Clark	258 Birch St	Olivia Adams	369 Walnut St	2.20	Pending	TRK10007	2024-03-23
	10	Charlotte Evans	852 Willow St	John Doe	123 Main St	5.00	Pending	TRK10010	2024-03-24
	13	Liam Parker	963 River St	Ava Martinez	159 Lake St	4.10	Pending	TRK10013	2024-03-28
	17	Olivia Davis	753 Forest St	David Wilson	159 Canyon St	2.90	Pending	TRK10017	2024-03-29
	20	Noah White	951 Cliff St	John Doe	123 Main St	4.50	Pending	TRK10020	2024-03-31
	22	Alice Johnson	123 Street, NY	Charlie Brown	789 Road, TX	3.20	Pending	TRK1002	2025-03-19
	25	Stanley Hudson	Scranton, PA	Phyllis Vance	St. Louis, MO	3.50	Pending	TRK1005	NULL
	35	David Lee	987 Park, TX	Luke Skywalker	Tatooine, Galaxy	4.20	Pending	TRK2010	NULL
	36	Olivia Adams	555 Elm St, TX	Chris Nolan	777 Sunset Blvd, CA	4.50	Pending	TRK3001	NULL
	38	Tom Hardy	100 Hollywood...	Leo DiCaprio	101 Sunset Blvd, LA	6.00	Pending	TRK3003	NULL
	39	Robert Downey	200 Stark Tow...	Chris Evans	300 Avengers HQ, NY	7.50	Pending	TRK3004	NULL

9. Calculate the total number of packages for each courier

Since each courier (sender) may have multiple packages, count them:

SELECT SenderName, COUNT(*) AS TotalPackages FROM Courier GROUP BY SenderName;

This gives each sender's total package count.

Output :

SenderName	TotalPackages
John Doe	1
Alice Smith	1
Michael Brown	1
Emma Wilson	1
Daniel Lee	1
Sophia Green	1
William Clark	1
Olivia Adams	2

SenderName	TotalPackages
James Turner	1
Charlotte Evans	1
Ethan Carter	2
Isabella Lewis	1
Liam Parker	1
Ava Martinez	1
Mason Scott	1
Sophia Johnson	1
Olivia Davis	1
David Wilson	1
Emma Brown	1

SenderName	TotalPackages
Sophia Johnson	1
Olivia Davis	1
David Wilson	1
Emma Brown	1
Noah White	1
Alice Johnson	2
Michael Scott	1
Pam Beesly	1
Stanley Hudson	1
David Lee	5

SenderName	TotalPackages
Tom Hardy	1
Robert Downey	1
Scarlett Johans...	1
Mark Evans	1
Jessica Parker	1
Brad Pitt	1
Will Smith	1
Johnny Depp	1

10. Find the average delivery time for each courier

If we assume we have OrderDate and DeliveryDate columns, we can calculate the average delivery time:

SELECT c.SenderName, AVG(DATEDIFF(c.DeliveryDate, p.PaymentDate)) AS AvgDeliveryTime

FROM Courier c

JOIN Payment p ON c.CourierID = p.CourierID

WHERE c.DeliveryDate IS NOT NULL AND p.PaymentDate IS NOT NULL

GROUP BY c.SenderName;

This calculates the average delivery duration for each sender.

SenderName	AvgDeliveryTime
John Doe	242.0000
Alice Smith	274.5000
Michael Brown	241.6667
Emma Wilson	182.0000
Daniel Lee	183.5000
Sophia Green	187.5000
William Clark	6.0000
Olivia Adams	5.0000
James Turner	1.0000
Charlotte Evans	2.0000
Ethan Carter	1.0000
Isabella Lewis	1.0000
Liam Parker	1.0000
Ava Martinez	1.0000
Mason Scott	1.0000
Sophia Johnson	1.0000
Olivia Davis	1.0000
David Wilson	1.0000
Emma Brown	1.0000

11. List all packages with a specific weight range

To list all packages between 2.0 kg and 4.0 kg:

SELECT * FROM Courier WHERE Weight BETWEEN 2.0 AND 4.0;

Explanation: Retrieves packages with weight between 2.0 kg and 4.0 kg.

Output :

12. Retrieve employees whose names contain 'John'

To filter names containing 'John':

<div align="center">

SELECT * FROM Employee WHERE Name LIKE '%John%';

</div>

- %John% → Matches anywhere in the name (e.g., John Doe, Michael Johnson).

- 'John%' → Matches names starting with 'John' (e.g., John Smith).

- '%John' → Matches names ending with 'John' (e.g., Michael John).

Output :

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

The Payment table stores courier payments, we need to join it with the Courier table:

SELECT c.*

FROM Courier c

JOIN Payment p ON c.CourierID = p.CourierID

WHERE p.Amount > 50;

This retrieves all Courier records where the payment amount is greater than $50.

Output :

```
349        -- 13. Retrieve all courier records with payments greater than $50.
350  •     SELECT c.*
351        FROM Courier c
352        JOIN Payment p ON c.CourierID = p.CourierID
353        WHERE p.Amount > 50;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: $\overline{I}A$

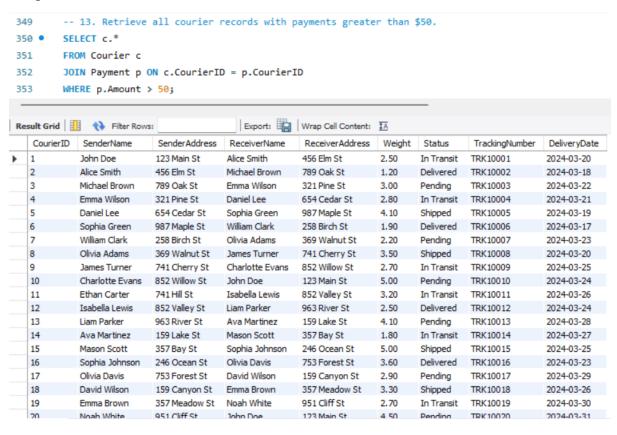| CourierID	SenderName	SenderAddress	ReceiverName	ReceiverAddress	Weight	Status	TrackingNumber	DeliveryDate
1	John Doe	123 Main St	Alice Smith	456 Elm St	2.50	In Transit	TRK10001	2024-03-20
2	Alice Smith	456 Elm St	Michael Brown	789 Oak St	1.20	Delivered	TRK10002	2024-03-18
3	Michael Brown	789 Oak St	Emma Wilson	321 Pine St	3.00	Pending	TRK10003	2024-03-22
4	Emma Wilson	321 Pine St	Daniel Lee	654 Cedar St	2.80	In Transit	TRK10004	2024-03-21
5	Daniel Lee	654 Cedar St	Sophia Green	987 Maple St	4.10	Shipped	TRK10005	2024-03-19
6	Sophia Green	987 Maple St	William Clark	258 Birch St	1.90	Delivered	TRK10006	2024-03-17
7	William Clark	258 Birch St	Olivia Adams	369 Walnut St	2.20	Pending	TRK10007	2024-03-23
8	Olivia Adams	369 Walnut St	James Turner	741 Cherry St	3.50	Shipped	TRK10008	2024-03-20
9	James Turner	741 Cherry St	Charlotte Evans	852 Willow St	2.70	In Transit	TRK10009	2024-03-25
10	Charlotte Evans	852 Willow St	John Doe	123 Main St	5.00	Pending	TRK10010	2024-03-24
11	Ethan Carter	741 Hill St	Isabella Lewis	852 Valley St	3.20	In Transit	TRK10011	2024-03-26
12	Isabella Lewis	852 Valley St	Liam Parker	963 River St	2.50	Delivered	TRK10012	2024-03-24
13	Liam Parker	963 River St	Ava Martinez	159 Lake St	4.10	Pending	TRK10013	2024-03-28
14	Ava Martinez	159 Lake St	Mason Scott	357 Bay St	1.80	In Transit	TRK10014	2024-03-27
15	Mason Scott	357 Bay St	Sophia Johnson	246 Ocean St	5.00	Shipped	TRK10015	2024-03-25
16	Sophia Johnson	246 Ocean St	Olivia Davis	753 Forest St	3.60	Delivered	TRK10016	2024-03-23
17	Olivia Davis	753 Forest St	David Wilson	159 Canyon St	2.90	Pending	TRK10017	2024-03-29
18	David Wilson	159 Canyon St	Emma Brown	357 Meadow St	3.30	Shipped	TRK10018	2024-03-26
19	Emma Brown	357 Meadow St	Noah White	951 Cliff St	2.70	In Transit	TRK10019	2024-03-30
20	Noah White	951 Cliff St	John Doe	123 Main St	4.50	Pending	TRK10020	2024-03-31

Conclusion

This document covers SQL queries for retrieving various details in the **Courier Management System**. The queries can be modified based on different filter criteria to get specific results.