



UNIVERSITY OF ENGINEERING AND TECHNOLOGY, PESHAWAR

DEPARTMENT OF COMPUTER SYSTEMS ENGINEERING

SPRING 2025

CSE-403L DATABASE MANAGEMENT SYSTEM LAB

KEY MILESTONE 03

Submitted to:

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Section: A

User:

Column	Type	Key	Description
id	INT	PK	Unique ID for the user
name	VARCHAR		Full name
email	VARCHAR	UNIQUE	User's unique email
password	VARCHAR		Encrypted password
created_at	DATETIME		Account creation timestamp
updated_at	DATETIME		Last update timestamp

Passengers:

Column	Type	Key	Description
id	INT	PK, FK→USERS.id	Passenger's user ID

Drivers:

Column	Type	Key	Description
Id	INT	PK, FK→USERS.id	Driver's user ID
license_number	VARCHAR		License details
experience_years	INT		Driving experience

Vehicles:

Column	Type	Key	Description
Id	INT	PK	Vehicle ID

driver_id	INT	FK→DRIVERS.id	Driver owning the vehicle
Make	VARCHAR		Manufacturer (e.g., Toyota)
Model	VARCHAR		Model name
Year	INT		Model year
plate_number	VARCHAR	UNIQUE	License plate
Capacity	INT		Number of seats

Trip request:

Column	Type	Key	Description
Id	INT	PK	Request ID
passenger_id	INT	FK→PASSENGERS.id	Requesting user
pickup_location	TEXT		Starting point
dropoff_location	TEXT		Destination point
request_time	DATETIME		Timestamp of request
Status	INT		(-1: Declined, 0: Pending, 1: Approved)
Seats	INT		Number of seats requested
estimated_fare	DECIMAL		Estimated cost

Trips:

Column	Type	Key	Description
Id	INT	PK	Trip ID
request_id	INT	FK→TRIP_REQUESTS.id	Linked request
driver_id	INT	FK→DRIVERS.id	Driver of the trip
start_time	DATETIME		Trip start

end_time	DATETIME		Trip end
Fare	DECIMAL		Actual fare
Tip	DECIMAL		Optional tip paid

PAYMENTS:

Column	Type	Key	Description
Id	INT	PK	Payment ID
trip_id	INT	FK→TRIPS.id	Paid trip
Amount	DECIMAL		Amount paid
Method	VARCHAR		(e.g., Card, Cash)
paid_at	DATETIME		Timestamp of payment

REVIEWS:

Column	Type	Key	Description
Id	INT	PK	Review ID
trip_id	INT	FK→TRIPS.id	Reviewed trip
passenger_id	INT	FK→PASSENGERS.id	Reviewer
driver_id	INT	FK→DRIVERS.id	Reviewee (driver)
Rating	INT		Score (e.g., 1–5 stars)
Comment	TEXT		Review comments

Sample SQL Queries

```

SELECT T.id, T.start_time, T.end_time, D.id AS driver_id, V.make, V.model
FROM TRIPS T
JOIN DRIVERS D ON T.driver_id = D.id
JOIN VEHICLES V ON D.id = V.driver_id;
SELECT * FROM TRIP_REQUESTS

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WHERE status = 0;

SELECT R.rating, R.comment, U.name
FROM REVIEWS R
JOIN PASSENGERS P ON R.passenger_id = P.id
JOIN USERS U ON P.id = U.id
WHERE R.driver_id = 5;

SELECT D.id AS driver_id, SUM(P.amount) AS total_earnings
FROM PAYMENTS P
JOIN TRIPS T ON P.trip_id = T.id
JOIN DRIVERS D ON T.driver_id = D.id
WHERE D.id = 5
GROUP BY D.id;

SELECT TR.seats - (
    SELECT COUNT(*) FROM TRIPS T
    JOIN TRIP_REQUESTS RQ ON T.request_id = RQ.id
    WHERE T.id = 10 AND RQ.status = 1
) AS available_seats
FROM TRIP_REQUESTS TR
WHERE TR.id = (SELECT request_id FROM TRIPS WHERE id = 10);
```