Task-3

Objective:

Learn how to extract data from a table (or multiple tables) using the `SELECT` statement with basic filtering, sorting, and limiting options.

Tools:

- DB Browser for SQLite (for `.sqlite` files)
- MySQL Workbench (for MySQL databases)

Deliverables:

A SQL script that includes:

- `SELECT` statements
- Filtering with `WHERE`
- Conditions using `AND`, `OR`, `LIKE`, `BETWEEN`
- Sorting using `ORDER BY`
- Limiting rows using `LIMIT`

Hints/Mini Guide:

1. Selecting Data

```
sql
CopyEdit
-- Select all columns
SELECT * FROM customers;

-- Select specific columns
SELECT name, email FROM customers;
```

2. Filtering Data with WHERE

```
sql
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-- Simple condition
SELECT * FROM customers WHERE country = 'India';

-- Multiple conditions
SELECT * FROM customers WHERE country = 'India' AND age > 30;
```

```
-- Using OR
SELECT * FROM customers WHERE city = 'Delhi' OR city = 'Mumbai';

-- Pattern matching
SELECT * FROM customers WHERE name LIKE 'A%';  -- Names starting with A

-- Range condition
SELECT * FROM orders WHERE order_date BETWEEN '2024-01-01' AND '2024-06-
01';
```

3. Sorting Results

```
sql
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-- Ascending (default)
SELECT * FROM customers ORDER BY name;

-- Descending
SELECT * FROM customers ORDER BY age DESC;
```

4. Limiting Rows

```
sql
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-- Get only first 5 rows
SELECT * FROM customers LIMIT 5;
```

☑ Outcome:

We will gain hands-on practice with:

- Writing `SELECT` queries
- Filtering results logically
- Sorting and limiting output
- Understanding how to extract **meaningful data** from a database

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Sample sql script:

-- Create table: customers

CREATE TABLE customers (

id INTEGER PRIMARY KEY,

name TEXT NOT NULL,

email TEXT,

country TEXT,

```
    age INTEGER
);

-- Insert sample customers
INSERT INTO customers (id, name, email, country, age) VALUES
(1, 'Alice Sharma', 'alice@example.com', 'India', 28),
(2, 'Bob Singh', 'bob@example.com', 'India', 35),
(3, 'Charlie Roy', 'charlie@example.com', 'USA', 22),
(4, 'David Khan', 'david@example.com', 'UK', 41),
(5, 'Eva Das', 'eva@example.com', 'India', 31);

-- Create table: orders
CREATE TABLE orders (
    order_id INTEGER PRIMARY KEY,
    customer_id INTEGER,
    order_date DATE,
    total_amount REAL,
    FOREIGN KEY (customer_id) REFERENCES customers(id)
);

-- Insert sample orders
INSERT INTO orders (order_id, customer_id, order_date, total_amount) VALUES
(101, 1, '2024-06-01', 2500.00),
(102, 2, '2024-06-10', 1800.50),
(103, 3, '2024-05-20', 3200.75),
(104, 5, '2024-01-15', 1500.00),
```