Task 3: Writing Basic SELECT Queries

Objective: Extract data from one or more tables.

Tools: DB Browser for SQLite / MySQL Workbench

Sample Database: Students

```
CREATE TABLE Students (
    student_id INTEGER PRIMARY KEY,
    name TEXT,
    age INTEGER,
    gender TEXT,
    department TEXT,
    marks INTEGER
);

INSERT INTO Students (student_id, name, age, gender, department, marks)
VALUES
(1, 'Anjali Sharma', 20, 'Female', 'CSE', 85),
(2, 'Rahul Verma', 21, 'Male', 'ECE', 78),
(3, 'Priya Das', 22, 'Female', 'CSE', 92),
(4, 'Aman Khan', 20, 'Male', 'ME', 67),
(5, 'Sneha Roy', 23, 'Female', 'CSE', 74),
(6, 'Ravi Mehta', 21, 'Male', 'ECE', 88);
```

SELECT Queries:

1. Select all data:

```
SELECT * FROM Students;
```

2. Select specific columns:

```
SELECT name, marks FROM Students;
```

WHERE Clause:

3. Filter by condition:

```
SELECT * FROM Students
WHERE department = 'CSE';
```

4. Use AND, OR:

```
SELECT * FROM Students
WHERE department = 'CSE' AND marks > 80;
```

```
SELECT * FROM Students
WHERE department = 'CSE' OR department = 'ECE';
```

5. Use LIKE (pattern match):

```
SELECT * FROM Students
WHERE name LIKE 'A%';
```

6. Use BETWEEN:

```
SELECT * FROM Students
WHERE marks BETWEEN 70 AND 90;
```

ORDER BY and LIMIT:

7. Order results:

```
SELECT * FROM Students
ORDER BY marks DESC;
```

8. Limit number of results:

```
SELECT * FROM Students
ORDER BY marks DESC
LIMIT 3;
```

Outcome:

- Extract specific data using SELECT

- Filter results with WHERE, AND, OR, LIKE, BETWEEN

- Sort and limit output using ORDER BY and LIMIT