

# Task 3:

## Writing Basic SELECT Queries

**Objective:** Extract data from one or more tables.

**Tools:** DB Browser for SQLite / MySQL Workbench

**Deliverables :** SQL script with SELECT, WHERE, ORDER BY, LIMIT

### Create a sample table

```
CREATE TABLE students (  
    student_id INTEGER PRIMARY KEY,  
    name TEXT NOT NULL,  
    age INTEGER,  
    grade TEXT  
);
```

### Insert sample data

```
INSERT INTO students (student_id, name, age, grade) VALUES (1,  
'Alice', 20, 'A');
```

```
INSERT INTO students (student_id, name, age, grade) VALUES (2,  
'Bob', 22, 'B');
```

```
INSERT INTO students (student_id, name, age, grade) VALUES (3,  
'Charlie', 21, 'A');
```

```
INSERT INTO students (student_id, name, age, grade) VALUES (4, 'David', 23, 'C');
```

```
INSERT INTO students (student_id, name, age, grade) VALUES (5, 'Eva', 20, 'B');
```

### Basic SELECT query (select all columns)

```
SELECT * FROM students;
```

student_id	name	age	grade
1	Alice	20	A
2	Bob	22	B
3	Charlie	21	A
4	David	23	C
5	Eva	20	B

SELECT with WHERE clause (filter students with grade A)

```
SELECT * FROM students WHERE grade = 'A';
```

student_id	name	age	grade
1	Alice	20	A
3	Charlie	21	A

SELECT with ORDER BY clause (order by age ascending)

SELECT \* FROM students ORDER BY age ASC;

student_id	name	age	grade
1	Alice	20	A
5	Eva	20	B
3	Charlie	21	A
2	Bob	22	B
4	David	23	C

SELECT with ORDER BY clause (order by name descending)

SELECT \* FROM students ORDER BY name DESC;

student_id	name	age	grade
5	Eva	20	B
4	David	23	C
3	Charlie	21	A
2	Bob	22	B
1	Alice	20	A

SELECT with LIMIT clause (return top 3 students)

SELECT \* FROM students LIMIT 3;

student_id	name	age	grade
1	Alice	20	A
2	Bob	22	B
3	Charlie	21	A