Task 4:

Aggregate Functions and Grouping

Objective: Use aggregate functions and grouping to summarize data

Tools: DB Browser for SQLite / MySQL Workbench

Deliverables: SQL queries using SUM, COUNT, AVG,

GROUP BY

Create new table

CREATE TABLE student_summary (student_id INTEGER PRIMARY KEY, name TEXT NOT NULL, department TEXT, age INTEGER, marks INTEGER);

Insert data

```
INSERT INTO student_summary (name, department, age, marks) VALUES

('Alice', 'CSE', 20, 85),

('Bob', 'ECE', 21, 78),

('Charlie', 'CSE', 20, 92),

('David', 'EEE', 22, 65),

('Eva', 'CSE', 21, 88),

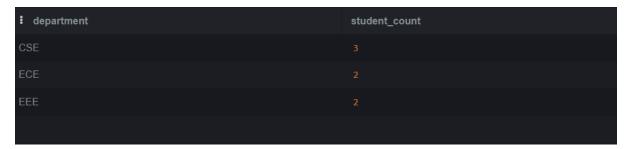
('Frank', 'ECE', 23, 74),
```

('Grace', 'EEE', 22, 59);

student_id	name	department	age	marks
1	Alice	CSE		85
2	Bob	ECE	21	78
3	Charlie	CSE		92
4	David	EEE	22	65
5	Eva	CSE	21	88
6	Frank	ECE	23	74
7	Grace	EEE	22	59

1. Count students per department

SELECT department, COUNT(*) AS student_count FROM student_summary GROUP BY department;



2. Average marks per department

SELECT department, AVG(marks) AS average_marks FROM student_summary GROUP BY department;



3. Count students per age

SELECT age, COUNT(*) AS number_of_students FROM student_summary GROUP BY age;

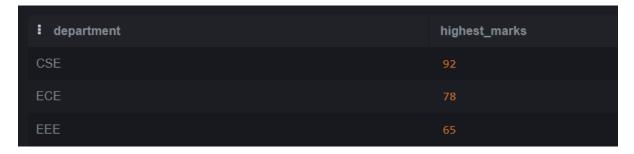
i age	number_of_students
20	2
21	2
22	2
23	1

4. Highest marks per department

SELECT department, MAX(marks) AS highest_marks

FROM student_summary

GROUP BY department;



5. Lowest marks per department

SELECT department, MIN(marks) AS lowest_marks FROM student_summary GROUP BY department;

