SQL Internship – Task 3 Code

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-- SQL Internship – Task 3
-- Subqueries and Aggregations

-- Drop Students table if exists
DROP TABLE IF EXISTS Students;

-- Create Students table
CREATE TABLE Students (
    student_id INTEGER PRIMARY KEY AUTOINCREMENT,
    name VARCHAR(50),
    math_score INT,
    science_score INT,
    english_score INT
);

-- Insert sample data
INSERT INTO Students (name, math_score, science_score, english_score) VALUES
('Ananya Desai', 95, 90, 90),
('Rohan Verma', 92, 91, 90),
('Aditya Rao', 90, 88, 90),
('Aarav Sharma', 92, 85, 88),
('Meera Joshi', 87, 90, 86),
('Priya Nair', 85, 80, 78),
('Kabir Singh', 89, 92, 84),
('Isha Patel', 91, 88, 87),
('Dev Mehta', 93, 89, 83),
('Tara Kapoor', 84, 79, 82);

-----------------------------------------------------------
-- Query 1: Identify Top 5 Students by Total Scores
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SELECT
    name,
    (math_score + science_score + english_score) AS total_score
FROM Students
ORDER BY total_score DESC
LIMIT 5;

-----------------------------------------------------------
-- Query 2a: Average Math Score where math_score > 70
-----------------------------------------------------------
SELECT
    AVG(math_score) AS AvgMathAbove70
FROM Students
WHERE math_score > 70;

-----------------------------------------------------------
-- Query 2b: Average Total Score where total_score BETWEEN 200 AND 250
-----------------------------------------------------------
SELECT
    AVG(math_score + science_score + english_score) AS AvgTotal_200_250
FROM Students
WHERE (math_score + science_score + english_score) BETWEEN 200 AND 250;

-----------------------------------------------------------
-- Query 2c: Group students into score ranges with counts and averages
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SELECT
    CASE
        WHEN (math_score + science_score + english_score) BETWEEN 150 AND 199 THEN '150-199'
        WHEN (math_score + science_score + english_score) BETWEEN 200 AND 249 THEN '200-249'
        ELSE '250+'
    END AS ScoreRange,
    COUNT(*) AS StudentCount,
    AVG(math_score + science_score + english_score) AS AvgTotalInRange
FROM Students
GROUP BY ScoreRange;

-----------------------------------------------------------
-- Query 3: Find the Second Highest Math Score
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SELECT MAX(math_score) AS SecondHighestMath
FROM Students
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WHERE math_score < (SELECT MAX(math_score) FROM Students);

-- Get student(s) with that second-highest score
SELECT student_id, name, math_score
FROM Students
WHERE math_score = (
    SELECT MAX(math_score)
    FROM Students
    WHERE math_score < (SELECT MAX(math_score) FROM Students)
);
```