-- Create the Students table with relevant fields

CREATE TABLE IF NOT EXISTS Students (

StudentID INT AUTO\_INCREMENT PRIMARY KEY,

Name VARCHAR(50) NOT NULL,

Gender ENUM('M', 'F') NOT NULL,

Age INT,

Grade VARCHAR(10),

MathScore INT CHECK (MathScore BETWEEN 0 AND 100),

ScienceScore INT CHECK (ScienceScore BETWEEN 0 AND 100),

EnglishScore INT CHECK (EnglishScore BETWEEN 0 AND 100)

);

-- Insert sample student data

INSERT INTO Students (Name, Gender, Age, Grade, MathScore, ScienceScore, EnglishScore) VALUES

('Aryan Gupta', 'M', 19, 'A', 85, 90, 88),

('Meera Iyer', 'F', 18, 'B', 78, 84, 80),

('Karan Rao', 'M', 20, 'C', 65, 70, 68),

('Sneha Patel', 'F', 19, 'A', 90, 92, 94),

('Rohan Das', 'M', 18, 'B', 82, 86, 79),

('Priya Sharma', 'F', 20, 'A', 88, 89, 91),

('Vikram Singh', 'M', 21, 'C', 60, 65, 63),

('Ananya Verma', 'F', 19, 'B', 75, 80, 77),

('Devraj Nair', 'M', 20, 'A', 95, 94, 97),

('Nisha Reddy', 'F', 18, 'C', 68, 72, 70);

-- Retrieve all student records

SELECT \* FROM Students;

-- Calculate the average score for each subject

SELECT 'Math' AS Subject, AVG(MathScore) AS Average\_Score FROM Students

UNION

SELECT 'Science', AVG(ScienceScore) FROM Students

UNION

SELECT 'English', AVG(EnglishScore) FROM Students;

-- Identify the top performer based on total score

SELECT Name, (MathScore + ScienceScore + EnglishScore) AS TotalScore

FROM Students

ORDER BY TotalScore DESC

LIMIT 1;

-- Count students in each grade

SELECT Grade, COUNT(\*) AS StudentCount FROM Students GROUP BY Grade;

-- Compare average scores by gender

SELECT Gender, AVG(MathScore) AS Avg\_Math, AVG(ScienceScore) AS Avg\_Science, AVG(EnglishScore) AS Avg\_English

FROM Students

GROUP BY Gender;

-- Identify students scoring above 80 in Math

SELECT Name, MathScore FROM Students WHERE MathScore > 80;

-- Update a student's grade

UPDATE Students SET Grade = 'B' WHERE StudentID = 3;