CREATE DATABASE IF NOT EXISTS eight;

-- Step 2: Use the created database

USE eight;

-- Step 3: Create a table to store student records

CREATE TABLE Students (

StudentID INT PRIMARY KEY AUTO\_INCREMENT,

StudentName VARCHAR(100),

Class VARCHAR(10),

Address VARCHAR(255),

Grades VARCHAR(10),

EnrolmentDate DATE

);

-- Step 4: Create a table to store subject details and attendance

CREATE TABLE Subjects (

SubjectID INT PRIMARY KEY AUTO\_INCREMENT,

StudentID INT,

SubjectName VARCHAR(100),

Attendance INT,

FOREIGN KEY (StudentID) REFERENCES Students(StudentID)

);

-- Step 5: Insert sample data into the Students table

INSERT INTO Students (StudentName, Class, Address, Grades, EnrolmentDate) VALUES

('Alice Smith', '10th', '123 Elm St', 'A', '2022-08-15'),

('Bob Johnson', '10th', '456 Oak St', 'B+', '2022-08-16'),

('Charlie Brown', '11th', '789 Pine St', 'A-', '2021-08-15'),

('David Wilson', '11th', '321 Maple St', 'B', '2021-08-16'),

('Eva Green', '12th', '654 Birch St', 'A+', '2020-08-15');

-- Step 6: Insert sample data into the Subjects table

INSERT INTO Subjects (StudentID, SubjectName, Attendance) VALUES

(1, 'Mathematics', 90),

(1, 'Science', 85),

(2, 'Mathematics', 95),

(2, 'History', 80),

(3, 'Mathematics', 88),

(3, 'Science', 92),

(4, 'History', 75),

(4, 'Science', 82),

(5, 'Mathematics', 100),

(5, 'English', 95);

-- Step 7: Create a view to summarize student performance

CREATE VIEW StudentPerformance AS

SELECT

s.StudentID,

s.StudentName,

s.Class,

s.Grades,

AVG(sub.Attendance) AS AverageAttendance

FROM

Students s

JOIN

Subjects sub ON s.StudentID = sub.StudentID

GROUP BY

s.StudentID;

-- Step 8: Create a view to summarize attendance

CREATE VIEW AttendanceSummary AS

SELECT

s.StudentID,

COUNT(sub.SubjectName) AS TotalSubjects,

SUM(sub.Attendance) AS TotalAttendance,

AVG(sub.Attendance) AS AverageAttendance

FROM

Students s

JOIN

Subjects sub ON s.StudentID = sub.StudentID

GROUP BY

s.StudentID;

-- Step 9: Create an index on the Students table using StudentName

CREATE INDEX idx\_student\_name ON Students(StudentName);

-- Step 10: Check the data in the views

SELECT \* FROM StudentPerformance;

SELECT \* FROM AttendanceSummary;