```
--Создаем таблицы
CREATE TABLE DimSemester (
    SemesterID INTEGER PRIMARY KEY,
    SemesterKey VARCHAR(255) NOT NULL,
    SemesterName VARCHAR(50) NOT NULL,
    StartDate DATE NOT NULL,
    EndDate DATE NOT null
);

CREATE TABLE DimFaculty (
    FacultyID INTEGER PRIMARY KEY,
    FacultyKey VARCHAR(255),
    FirstName VARCHAR(255) NOT NULL,
    LastName VARCHAR(255) NOT NULL,
    HireDate DATE
);

CREATE TABLE DimStudent (
    StudentID INTEGER PRIMARY KEY,
    StudentKey VARCHAR(255),
    FirstName VARCHAR(255) NOT NULL,
    LastName VARCHAR(255) NOT NULL,
    DateOfBirth DATE
);
CREATE TABLE DimCourse (
    CourseID INTEGER PRIMARY KEY,
    CourseKey VARCHAR(255) NOT NULL,
    CourseName VARCHAR(255) NOT NULL,
    CourseCode VARCHAR(50),
    Credits INTEGER

CREATE TABLE FactStudentGrade (
        StudentGradeID INTEGER PRIMARY KEY,
        StudentID INTEGER REFERENCES DimStudent(StudentID),
        SemesterID INTEGER REFERENCES DimSemester(SemesterID),
        FacultyID INTEGER REFERENCES DimFaculty(FacultyID),
        AttendanceRate DECIMAL(5, 2),
        FinalScore DECIMAL(5, 2)
);

--Заполняем таблицы
INSERT INTO DimCourse (CourseID, CourseKey, CourseName, CourseCode, Credits)
VALUES
    (1, 'CS101-2024', 'Introduction to Computer Science', 'CS101', 3),
    (2, 'MATH202-2024', 'Calculus II', 'MATH202', 4),
    (3, 'ENG101-2024', 'Freshman Composition', 'ENG101', 3);


INSERT INTO DimSemester (SemesterID, SemesterKey, SemesterName, StartDate,
EndDate)
VALUES
    (1, 'F2024', 'Fall 2024', '2024-09-05', '2024-12-15'),
    (2, 'SP2025', 'Spring 2025', '2025-01-22', '2025-05-10'),
    (3, 'SU2025', 'Summer 2025', '2025-06-03', '2025-08-02');
```

```
INSERT INTO DimFaculty (FacultyID, FacultyKey, FirstName, LastName, HireDate)
VALUES
    (1, 'F123', 'Nina', 'Serova', '2023-08-15'),
    (2, 'F456', 'Sergey', 'Petrov', '2024-01-10'),
    (3, 'F789', 'Irina', 'Bronova', '2024-09-01');

INSERT INTO DimStudent (StudentID, StudentKey, FirstName, LastName, DateOfBirth)
VALUES
    (101, 'S001', 'David', 'Pirogov', '2002-04-20'),
    (102, 'S002', 'Roman', 'Davydov', '2003-07-12'),
    (103, 'S003', 'Egor', 'Voronin', '2001-11-05');

INSERT INTO FactStudentGrade (StudentGradeID, StudentID, SemesterID, FacultyID,
AttendanceRate, FinalScore)
VALUES
    (1, 101, 1, 1, 90.5, 85.0),
    (2, 102, 1, 2, 75.0, 60.0),
    (3, 103, 2, 3, 85.0, 70.0);


SELECT *
FROM FactStudentGrade

--1. Средний балл по семестрам (Как меняется успеваемость студентов от семестра
к семестру?)

SELECT
        s.SemesterName,
        AVG(fs.FinalScore) AS AverageScore
    FROM FactStudentGrade fs
    JOIN DimSemester s ON fs.SemesterID = s.SemesterID
    GROUP BY s.SemesterName
    ORDER BY s.SemesterName;

--2. Средняя посещаемость по преподавателям (Есть ли преподаватели, у которых
студенты посещают занятия лучше, чем у других?)

 SELECT
        f.FirstName || ' ' || f.LastName AS TeacherName,
        AVG(fs.AttendanceRate) AS AttendanceRate
    FROM FactStudentGrade fs
    JOIN DimFaculty f ON fs.FacultyID = f.FacultyID
    GROUP BY TeacherName
    ORDER BY AttendanceRate DESC;

--3. Средний итоговый балл и посещаемость по студентам (Каковы средние
показатели успеваемости и посещаемости для каждого студента?)

SELECT
        s.FirstName || ' ' || s.LastName AS StudentName,
        AVG(fs.FinalScore) AS AverageScore,
        AVG(fs.AttendanceRate) AS AverageAttendance
```

```
FROM FactStudentGrade fs
JOIN DimStudent s ON fs.StudentID = s.StudentID
GROUP BY StudentName
ORDER BY AverageScore DESC;
```