-- Create the database

CREATE DATABASE sTuv;

-- Create the Students table

CREATE TABLE Students123 (

StudentID INT IDENTITY(1,1) PRIMARY KEY,

FirstName VARCHAR(50) NOT NULL,

LastName VARCHAR(50) NOT NULL,

DateOfBirth DATE NOT NULL,

Gender VARCHAR(10) CHECK (Gender IN ('Male', 'Female')),

ClassID INT

);

-- Create the Classes table

CREATE TABLE Classes1 (

ClassID INT IDENTITY(1,1) PRIMARY KEY,

ClassName NVARCHAR(50) NOT NULL,

TeacherID INT

);

-- Create the Teachers table

CREATE TABLE Teachers1 (

TeacherID INT IDENTITY(1,1) PRIMARY KEY,

FirstName NVARCHAR(50) NOT NULL,

LastName NVARCHAR(50) NOT NULL,

Subject NVARCHAR(50) NOT NULL

);

-- Create the Attendance table

CREATE TABLE Attendance (

AttendanceID INT IDENTITY(1,1) PRIMARY KEY,

StudentID INT FOREIGN KEY REFERENCES Students123(StudentID),

AttendanceDate DATE NOT NULL,

Status NVARCHAR(10) CHECK (Status IN ('Present', 'Absent'))

);

-- Insert sample data into Teachers

INSERT INTO Teachers1 (FirstName, LastName, Subject)

VALUES

(N'John', N'Doe', N'Mathematics'),

(N'Jane', N'Smith', N'Science'),

(N'Emily', N'Davis', N'English');

-- Insert sample data into Classes

INSERT INTO Classes1 (ClassName, TeacherID)

VALUES

(N'Grade 10', 1),

(N'Grade 11', 2);

-- Insert sample data into Students

INSERT INTO Students123(FirstName, LastName, DateOfBirth, Gender, ClassID)

VALUES

(N'Alice', N'Brown', '2010-01-15', N'Female', 1),

(N'Bob', N'Johnson', '2009-12-05', N'Male', 1),

(N'Charlie', N'Wilson', '2011-02-20', N'Male', 2);

-- Insert sample data into Attendance

INSERT INTO Attendance (StudentID, AttendanceDate, Status)

VALUES

(1, '2025-01-10', N'Present'),

(2, '2025-01-10', N'Absent'),

(3, '2025-01-10', N'Present');

-- Queries to display data

SELECT \* from Students123

-- 1. Retrieve all students and their classes

SELECT

Students123.StudentID,

Students123.FirstName,

Students123.LastName,

Classes1.ClassName

FROM Students123

LEFT JOIN Classes1 ON Students123.ClassID = Classes1.ClassID;

-- 2. List all teachers and their subjects

SELECT

TeacherID,

FirstName,

LastName,

Subject

FROM Teachers1;

-- 3. Get attendance for a specific date

SELECT

Students123.FirstName,

Students123.LastName,

Attendance.AttendanceDate,

Attendance.Status

FROM Attendance

JOIN Students123 ON Attendance.StudentID = Students123.StudentID

WHERE Attendance.AttendanceDate = '2025-01-10';

-- 4. Count the number of students in each class

SELECT

Classes1.ClassName,

COUNT(Students123.StudentID) AS StudentCount

FROM Classes1

LEFT JOIN Students123 ON Classes1.ClassID = Students123.ClassID

GROUP BY Classes1.ClassName;

-- 5. Find students who were absent on a specific date

SELECT Students123.FirstName,

Students123.LastName

FROM Attendance

JOIN Students123 ON Attendance.StudentID = Students123.StudentID

WHERE Attendance.Status = N'Absent' AND Attendance.AttendanceDate = '2025-01-10';

UPDATE Students123

SET FirstName = 'Mary', LastName = 'Marc'

WHERE StudentID = 1;

UPDATE Teachers1

SET Subject = 'Urdu'

WHERE TeacherID = 2;

UPDATE Classes1

SET ClassName = '10'

WHERE ClassID = 3;

UPDATE Attendance

SET Status = 'Present'

WHERE AttendanceID = 1;

DELETE FROM Students123

WHERE StudentID = 3;

DELETE FROM Teachers1

WHERE TeacherID = 2;

DELETE FROM Classes1

WHERE ClassID = 1;

DELETE FROM Attendance

WHERE AttendanceID = 4;