-- Check if the database exists before creating it

IF NOT EXISTS (SELECT 1 FROM sys.databases WHERE name = 'my\_school\_database')

BEGIN

CREATE DATABASE my\_school\_database;

END

GO

-- Switch to the newly created database

USE my\_school\_database;

GO

-- Create Student table

CREATE TABLE Student (

RollNum VARCHAR(10) PRIMARY KEY,

Name VARCHAR(50),

Gender VARCHAR(10),

warning\_count INT

);

-- Insert rows into Student table

INSERT INTO Student (RollNum, Name, Gender, warning\_count)

VALUES ('L164123', 'Ali Ahmad', 'Male', NULL),

('L164124', 'Rafia Ahmed', 'Female', NULL),

('L164125', 'Basit Junaid', 'Male', NULL);

-- Create Attendance table

CREATE TABLE Attendance (

RollNum VARCHAR(10),

Date DATE,

Status CHAR(1),

ClassVenue INT,

FOREIGN KEY (RollNum) REFERENCES Student(RollNum) ON DELETE NO ACTION,

FOREIGN KEY (ClassVenue) REFERENCES ClassVenue(ID) ON DELETE NO ACTION

);

-- Insert rows into Attendance table

INSERT INTO Attendance (RollNum, Date, Status, ClassVenue)

VALUES ('L164123', '2016-02-22', 'P', 2),

('L164124', '2016-02-23', 'A', 1),

('L164125', '2016-03-04', 'P', 2);

-- Create ClassVenue table

CREATE TABLE ClassVenue (

ID INT PRIMARY KEY,

Building VARCHAR(50),

RoomNum INT,

Teacher VARCHAR(50)

);

-- Insert rows into ClassVenue table

INSERT INTO ClassVenue (ID, Building, RoomNum, Teacher)

VALUES (1, 'CS', 2, 'Sarim Baig'),

(2, 'Civil', 7, 'Bismillah Jan');

-- Create Teacher table

CREATE TABLE Teacher (

Name VARCHAR(50) PRIMARY KEY,

Designation VARCHAR(50),

Department VARCHAR(50)

);

-- Insert rows into Teacher table

INSERT INTO Teacher (Name, Designation, Department)

VALUES ('Sarim Baig', 'Assistant Prof.', 'Computer Science'),

('Bismillah Jan', 'Lecturer', 'Civil Eng.'),

('Kashif Zafar', 'Professor', 'Electrical Eng.');

-- Add Primary Key constraint to Attendance table

ALTER TABLE Attendance ADD CONSTRAINT PK\_Attendance PRIMARY KEY (RollNum, Date);

-- Add Primary Key constraint to ClassVenue table

ALTER TABLE ClassVenue ADD CONSTRAINT PK\_ClassVenue PRIMARY KEY (ID);

-- Add Primary Key constraint to Teacher table

ALTER TABLE Teacher ADD CONSTRAINT PK\_Teacher PRIMARY KEY (Name);

-- Add Primary Key constraint to Student table

ALTER TABLE Student ADD CONSTRAINT PK\_Student PRIMARY KEY (RollNum);

-- Alter table Student by adding new column “warning count” and deleting “Phone” Column

-- Perform the following DML actions

-- i. Add new row into Student table

INSERT INTO Student (RollNum, Name, Gender, warning\_count)

VALUES ('L162334', 'Fozan Shahid', 'Male', 3);

-- iii. Update Teacher table Change “Kashif zafar” name to “Dr. Kashif Zafar”.

UPDATE Teacher SET Name = 'Dr. Kashif Zafar' WHERE Name = 'Kashif Zafar';

-- iv. Delete Student with rollnum “L162334”

DELETE FROM Student WHERE RollNum = 'L162334';

-- vi. Delete Attendance with rollnum “L164124”, if his status is absent.

DELETE FROM Attendance WHERE RollNum = 'L164124' AND Status = 'A';

-- Add unique constraint on column “Name” in Teacher table

ALTER TABLE Teacher ADD CONSTRAINT UC\_Teacher\_Name UNIQUE (Name);

-- Add check constraint for gender in Student table

ALTER TABLE Student ADD CONSTRAINT CK\_Student\_Gender CHECK (Gender IN ('Male', 'Female'));

-- Add check constraint for status in Attendance table

ALTER TABLE Attendance ADD CONSTRAINT CK\_Attendance\_Status CHECK (Status IN ('A', 'P'));