

Name: Ashfaaq Feroz Muhammad

Id: 2023ebcs005

Topic: SGA 1- Database Creation and Data Manipulation for an Education System

2:

```
-- CREATE TABLES

CREATE TABLE Departments (
    DepartmentID INT PRIMARY KEY,
    DepartmentName VARCHAR(100),
    Location VARCHAR(100)
);

CREATE TABLE Students (
    StudentID INT PRIMARY KEY,
    Name VARCHAR(100),
    Email VARCHAR(100) UNIQUE,
    DateOfBirth DATE,
    DepartmentID INT,
    FOREIGN KEY (DepartmentID) REFERENCES Departments(DepartmentID)
);

CREATE TABLE Instructors (
    InstructorID INT PRIMARY KEY,
    Name VARCHAR(100),
    Email VARCHAR(100) UNIQUE,
    DepartmentID INT,
    FOREIGN KEY (DepartmentID) REFERENCES Departments(DepartmentID)
);

CREATE TABLE Courses (
    CourseID INT PRIMARY KEY,
    CourseName VARCHAR(100),
    Credits INT,
    DepartmentID INT,
    InstructorID INT,
    FOREIGN KEY (DepartmentID) REFERENCES Departments(DepartmentID),
    FOREIGN KEY (InstructorID) REFERENCES Instructors(InstructorID)
);

CREATE TABLE Enrollments (
    EnrollmentID INT PRIMARY KEY,
```

```

        StudentID INT,
        CourseID INT,
        EnrollmentDate DATE,
        FOREIGN KEY (StudentID) REFERENCES Students(StudentID),
        FOREIGN KEY (CourseID) REFERENCES Courses(CourseID)
    );

-- INSERT INTO DEPARTMENTS

INSERT INTO Departments VALUES
(1, 'Computer Science', 'Block A'),
(2, 'Mechanical Engineering', 'Block B'),
(3, 'Mathematics', 'Block C'),
(4, 'Electrical Engineering', 'Block D'),
(5, 'Business Administration', 'Block E'),
(6, 'Civil Engineering', 'Block F'),
(7, 'Physics', 'Block G'),
(8, 'Chemistry', 'Block H'),
(9, 'Economics', 'Block I'),
(10, 'Biotechnology', 'Block J');

-- INSERT INTO INSTRUCTORS

INSERT INTO Instructors VALUES
(101, 'Dr. Anjali Menon', 'anjali@univ.edu', 1),
(102, 'Dr. Ravi Kumar', 'ravi@univ.edu', 2),
(103, 'Dr. Neha Sharma', 'neha@univ.edu', 3),
(104, 'Dr. Arjun Singh', 'arjun@univ.edu', 1),
(105, 'Dr. Fatima Noor', 'fatima@univ.edu', 4),
(106, 'Dr. Vijay Reddy', 'vijay@univ.edu', 5),
(107, 'Dr. Sneha Das', 'sneha@univ.edu', 6),
(108, 'Dr. Naveen Shah', 'naveen@univ.edu', 7),
(109, 'Dr. Leena George', 'leena@univ.edu', 8),
(110, 'Dr. Ahmed Farooq', 'ahmed@univ.edu', 9);

-- INSERT INTO COURSES

INSERT INTO Courses VALUES
(201, 'Database Systems', 4, 1, 101),
(202, 'Data Structures', 3, 1, 104),
(203, 'Thermodynamics', 4, 2, 102),
(204, 'Linear Algebra', 3, 3, 103),
(205, 'Digital Electronics', 3, 4, 105),
(206, 'Marketing Principles', 4, 5, 106),
(207, 'Structural Analysis', 4, 6, 107),
(208, 'Quantum Mechanics', 4, 7, 108),
(209, 'Organic Chemistry', 4, 8, 109),
(210, 'Microeconomics', 3, 9, 110);

```

```
-- INSERT INTO STUDENTS
```

```
INSERT INTO Students VALUES
```

```
(1001, 'Aarav Khan', 'aarav@student.edu', '2002-08-12', 1),  
(1002, 'Meera Patel', 'meera@student.edu', '2001-11-23', 2),  
(1003, 'Zayan Ali', 'zayan@student.edu', '2003-04-10', 3),  
(1004, 'Tanya Roy', 'tanya@student.edu', '2000-05-18', 1),  
(1005, 'Rahul Das', 'rahul@student.edu', '2002-09-01', 4),  
(1006, 'Fatima Rehman', 'fatima@student.edu', '2003-07-09', 5),  
(1007, 'Imran Shaikh', 'imran@student.edu', '2002-01-30', 1),  
(1008, 'Sana Iqbal', 'sana@student.edu', '2001-12-15', 6),  
(1009, 'Neeraj Yadav', 'neeraj@student.edu', '2000-03-28', 7),  
(1010, 'Kavya Nair', 'kavya@student.edu', '2002-10-06', 9);
```

```
-- INSERT INTO ENROLLMENTS
```

```
INSERT INTO Enrollments VALUES
```

```
(1, 1001, 201, '2023-01-05'),  
(2, 1001, 202, '2023-01-06'),  
(3, 1002, 203, '2023-01-07'),  
(4, 1003, 204, '2023-01-08'),  
(5, 1004, 201, '2023-01-05'),  
(6, 1004, 204, '2023-01-08'),  
(7, 1005, 205, '2023-01-09'),  
(8, 1006, 206, '2023-01-10'),  
(9, 1007, 201, '2023-01-05'),  
(10, 1007, 202, '2023-01-06'),  
(11, 1008, 207, '2023-01-11'),  
(12, 1009, 208, '2023-01-12'),  
(13, 1010, 210, '2023-01-13'),  
(14, 1001, 205, '2023-01-14'),  
(15, 1003, 209, '2023-01-15');
```

3

9

10

11

12

13

14

15

16

17

18

19

20

21

22

-- INSERT INTO INSTRUCTORS

INSERT INTO Instructors VALUES

(101, 'Dr. Anjali Menon', 'anjali@univ.edu', 1),

(102, 'Dr. Ravi Kumar', 'ravi@univ.edu', 2),

(103, 'Dr. Neha Sharma', 'neha@univ.edu', 3),

(104, 'Dr. Arjun Singh', 'arjun@univ.edu', 1),

(105, 'Dr. Fatima Noor', 'fatima@univ.edu', 4),

(106, 'Dr. Vijay Reddy', 'vijay@univ.edu', 5),

(107, 'Dr. Sneha Das', 'sneha@univ.edu', 6),

(108, 'Dr. Naveen Shah', 'naveen@univ.edu', 7),

(109, 'Dr. Leena George', 'leena@univ.edu', 8),

(110, 'Dr. Ahmed Farooq', 'ahmed@univ.edu', 9);

SQL

< 1 / 1 > 1 - 0 of 0

INSERT INTO Instructors VALUES

(101, 'Dr. Anjali Menon', 'anjali@univ.edu', 1),

(102, 'Dr. Ravi Kumar', 'ravi@univ.edu', 2),

(103, 'Dr. Neha Sharma', 'neha@univ.edu', 3),

(104, 'Dr. Arjun Singh', 'arjun@univ.edu', 1),

(105, 'Dr. Fatima Noor', 'fatima@univ.edu', 4),

(106, 'Dr. Vijay Reddy', 'vijay@univ.edu', 5),

(107, 'Dr. Sneha Das', 'sneha@univ.edu', 6),

(108, 'Dr. Naveen Shah', 'naveen@univ.edu', 7),

(109, 'Dr. Leena George', 'leena@univ.edu', 8),

(110, 'Dr. Ahmed Farooq', 'ahmed@univ.edu', 9);

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

);

-- INSERT INTO DEPARTMENTS

INSERT INTO Departments VALUES

(1, 'Computer Science', 'Block A'),

(2, 'Mechanical Engineering', 'Block B'),

(3, 'Mathematics', 'Block C'),

(4, 'Electrical Engineering', 'Block D'),

(5, 'Business Administration', 'Block E'),

(6, 'Civil Engineering', 'Block F'),

(7, 'Physics', 'Block G'),

(8, 'Chemistry', 'Block H'),

(9, 'Economics', 'Block I'),

(10, 'Biotechnology', 'Block J');

SQL

< 1 / 1 > 1 - 0 of 0

INSERT INTO Departments VALUES

(1, 'Computer Science', 'Block A'),

(2, 'Mechanical Engineering', 'Block B'),

(3, 'Mathematics', 'Block C'),

(4, 'Electrical Engineering', 'Block D'),

(5, 'Business Administration', 'Block E'),

(6, 'Civil Engineering', 'Block F'),

(7, 'Physics', 'Block G'),

(8, 'Chemistry', 'Block H'),

(9, 'Economics', 'Block I'),

(10, 'Biotechnology', 'Block J');

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

-- INSERT INTO COURSES

INSERT INTO Courses VALUES

(201, 'Database Systems', 4, 1, 101),

(202, 'Data Structures', 3, 1, 104),

(203, 'Thermodynamics', 4, 2, 102),

(204, 'Linear Algebra', 3, 3, 103),

(205, 'Digital Electronics', 3, 4, 105),

(206, 'Marketing Principles', 4, 5, 106),

(207, 'Structural Analysis', 4, 6, 107),

(208, 'Quantum Mechanics', 4, 7, 108),

(209, 'Organic Chemistry', 4, 8, 109),

(210, 'Microeconomics', 3, 9, 110);

SQL

< 1 / 1 > 1 - 0 of 0

INSERT INTO Courses VALUES

(201, 'Database Systems', 4, 1, 101),

(202, 'Data Structures', 3, 1, 104),

(203, 'Thermodynamics', 4, 2, 102),

(204, 'Linear Algebra', 3, 3, 103),

(205, 'Digital Electronics', 3, 4, 105),

(206, 'Marketing Principles', 4, 5, 106),

(207, 'Structural Analysis', 4, 6, 107),

(208, 'Quantum Mechanics', 4, 7, 108),

(209, 'Organic Chemistry', 4, 8, 109),

(210, 'Microeconomics', 3, 9, 110);