Assignment No 11

Problem Statement:

To learn and understand open Source relational databases.

Input:

```
CREATE DATABASE student_management;

-- Step 2: Use the Database
USE student_management;

-- Step 3: Create Students Table
CREATE TABLE students (
    student_id INT AUTO_INCREMENT PRIMARY KEY,
    first_name VARCHAR(50),
    last_name VARCHAR(50),
    email VARCHAR(100),
    date_of_birth DATE
);

-- Step 4: Create Courses Table
CREATE TABLE courses (
    course_id INT AUTO_INCREMENT PRIMARY KEY,
    course_name VARCHAR(100) NOT NULL,
    course_description TEXT
);

-- Step 5: Create Enrollments Table (Many-to-Many Relationship)
CREATE TABLE enrollments (
    enrollment_id INT AUTO_INCREMENT PRIMARY KEY,
    student_id INT,
    course_id INT,
    enrollment_date DATE,
    FOREIGN KEY (student_id) REFERENCES students(student_id) ON DELETE CASCADE,
    FOREIGN KEY (course_id) REFERENCES courses(course_id) ON DELETE CASCADE
);

-- Insert Students
INSERT INTO students (first_name, last_name, email, date_of_birth)
VALUES
('John', 'Doe', 'john.doe@example.com', '2000-05-15'),
('Alice', 'Smith', 'alice.smith@example.com', '1999-11-22');

-- Insert Courses
INSERT INTO courses (course_name, course_description)
VALUES
('Database Systems', 'Learn about relational databases and SQL.'),
('Web Development', 'Build and deploy web applications.');

-- Insert Enrollments (Linking Students and Courses)
INSERT INTO enrollments (student_id, course_id, enrollment_date)
```

```
VALUES
(1, 1, CURDATE()),  -- John Doe enrolled in Database Systems
(2, 2, CURDATE());  -- Alice Smith enrolled in Web Development

SELECT * FROM students;

SELECT * FROM courses;

SELECT
   s.first_name, s.last_name, c.course_name, e.enrollment_date
FROM
   enrollments e
JOIN
   students s ON e.student_id = s.student_id
JOIN
   courses c ON e.course_id = c.course_id;

   UPDATE students
SET email = 'john.newemail@example.com'
WHERE student_id = 1;

DELETE FROM students WHERE student_id = 2;
```

Output:

```
+------------+------------+-----------+--------------------------+---------------+
| student_id | first_name | last_name | email                    | date_of_birth |
+------------+------------+-----------+--------------------------+---------------+
|          1 | John       | Doe       | john.newemail@example.com | 2000-05-15    |
+------------+------------+-----------+--------------------------+---------------+
1 row in set (0.00 sec)
```

```
+-----------+------------------+-----------------------------------------+
| course_id | course_name      | course_description                      |
+-----------+------------------+-----------------------------------------+
|         1 | Database Systems | Learn about relational databases and SQL. |
|         2 | Web Development  | Build and deploy web applications.      |
+-----------+------------------+-----------------------------------------+
2 rows in set (0.00 sec)
```

```
+------------+-----------+------------------+-----------------+
| first_name | last_name | course_name      | enrollment_date |
+------------+-----------+------------------+-----------------+
| John       | Doe       | Database Systems | 2024-10-22      |
+------------+-----------+------------------+-----------------+
1 row in set (0.00 sec)
```