Assignment No 3

Problem Statement:

Write at least lo SQL queries on suitable database application using SQL DML statement.

Input:

```
CREATE DATABASE university_db;
USE university_db;
CREATE TABLE student (
    student_id INT AUTO_INCREMENT PRIMARY KEY,
    student_name VARCHAR(50) NOT NULL,
    email VARCHAR(100) UNIQUE,
    admission_date DATE
);
CREATE TABLE course (
    course_id INT AUTO_INCREMENT PRIMARY KEY,
    course_name VARCHAR(100) NOT NULL,
    credits INT NOT NULL
);
CREATE TABLE student_course (
    student_id INT,
    course_id INT,
    enrollment_date DATE,
    PRIMARY KEY (student_id, course_id),
    FOREIGN KEY (student_id) REFERENCES student(student_id) ON DELETE CASCADE,
    FOREIGN KEY (course_id) REFERENCES course(course_id) ON DELETE CASCADE
);
INSERT INTO student (student_name, email, admission_date)
VALUES
('John Doe', 'john@example.com', '2023-01-15'),
('Jane Smith', 'jane@example.com', '2023-02-20'),
('Sam Green', 'sam@example.com', '2024-04-10');
INSERT INTO course (course_name, credits)
VALUES
('Mathematics', 4),
('Computer Science', 3),
('Physics', 2);
INSERT INTO student_course (student_id, course_id, enrollment_date)
VALUES
(1, 1, '2024-10-23'),
(2, 2, '2024-10-23');
INSERT INTO student (student_name, email, admission_date)
VALUES ('Emily White', 'emily@example.com', '2024-06-10');

INSERT INTO student_course (student_id, course_id, enrollment_date)
VALUES (3, 1, '2024-10-23');
UPDATE student
SET email = 'jane.smith@example.com'
WHERE student_name = 'Jane Smith';
DELETE FROM student_course
WHERE student_id = 1 AND course_id = 1;
```

```
SELECT s.student_name, c.course_name, sc.enrollment_date
FROM student s
JOIN student_course sc ON s.student_id = sc.student_id
JOIN course c ON sc.course_id = c.course_id;
SELECT s.student_name
FROM student s
JOIN student_course sc ON s.student_id = sc.student_id
JOIN course c ON sc.course_id = c.course_id
WHERE c.course_name = 'Mathematics';
SELECT COUNT(*) AS total_students FROM student;
SELECT course_name
FROM course
WHERE credits > 3;
SELECT student_name
FROM student
WHERE student_id NOT IN (
   SELECT student_id FROM student_course
);

SELECT s.student_name, c.course_name, sc.enrollment_date
FROM student s
JOIN student_course sc ON s.student_id = sc.student_id
JOIN course c ON sc.course_id = c.course_id
ORDER BY sc.enrollment_date DESC
LIMIT 1;
SHOW TABLES;
DESCRIBE student;
```

Output:

```
+--------------+------------------+-----------------+
| student_name | course_name      | enrollment_date |
+--------------+------------------+-----------------+
| Jane Smith   | Computer Science | 2024-10-23      |
| Sam Green    | Mathematics      | 2024-10-23      |
+--------------+------------------+-----------------+
2 rows in set (0.00 sec)
```

```
+--------------+
| student_name |
+--------------+
| Sam Green    |
+--------------+
1 row in set (0.00 sec)
```

```
+-----------------+
| total_students |
+-----------------+
|               4 |
+-----------------+
1 row in set (0.01 sec)
```

```
+--------------+
| course_name |
+--------------+
| Mathematics |
+--------------+
1 row in set (0.00 sec)
```

```
+--------------+
| student_name |
+--------------+
| John Doe     |
| Emily White  |
+--------------+
2 rows in set (0.00 sec)
```

```
+--------------+------------------+------------------+
| student_name | course_name      | enrollment_date  |
+--------------+------------------+------------------+
| Jane Smith   | Computer Science | 2024-10-23       |
+--------------+------------------+------------------+
1 row in set (0.00 sec)
```

```
+--------------------------+
| Tables_in_university_db  |
+--------------------------+
| course                   |
| student                  |
| student_course           |
+--------------------------+
3 rows in set (0.00 sec)
```

```
+----------------+-------------+------+-----+---------+----------------+
| Field          | Type        | Null | Key | Default | Extra          |
+----------------+-------------+------+-----+---------+----------------+
| student_id     | int         | NO   | PRI | NULL    | auto_increment |
| student_name   | varchar(50) | NO   |     | NULL    |                |
| email          | varchar(100)| YES  | UNI | NULL    |                |
| admission_date | date        | YES  |     | NULL    |                |
+----------------+-------------+------+-----+---------+----------------+
4 rows in set (0.00 sec)
```