**Assignment 7:** Prepare a series of SQL statements to INSERT new records into the

library tables, UPDATE existing records with new information, and DELETE records

based on specific criteria. Include BULK INSERT operations to load data from an

external source.

Let's prepare a series of SQL statements to demonstrate INSERT, UPDATE, DELETE operations, and BULK INSERT operations using examples relevant to a library database scenario.

**1. INSERT Statements**

Let's assume we have the following tables in our library database: '**Books', 'Authors', 'Members'**, and '**Loans'**. We will insert some sample data into these tables.

**Inserting into Authors Table:**

-- Insert into Authors table

INSERT INTO Authors (AuthorName)

VALUES ('J.K. Rowling'),

('Stephen King'),

('Harper Lee');

**Inserting into Books Table:**

-- Insert into Books table

INSERT INTO Books (Title, AuthorID, ISBN, PublishedDate, QuantityAvailable)

VALUES ('Harry Potter and the Philosopher''s Stone', 1, '9780747532743', '1997-06-26', 10),

('The Shining', 2, '9780385121675', '1977-01-28', 5),

('To Kill a Mockingbird', 3, '9780061120084', '1960-07-11', 8);

**Inserting into Members Table:**

-- Insert into Members table

INSERT INTO Members (FirstName, LastName, Email, Address)

VALUES ('John', 'Doe', 'johndoe@example.com', '123 Main St, Anytown, USA'),

('Jane', 'Smith', 'janesmith@example.com', '456 Elm St, Anothercity, USA');

**Inserting into Loans Table:**

-- Insert into Loans table (assuming MemberID and BookID exist)

INSERT INTO Loans (BookID, MemberID, LoanDate, DueDate)

VALUES (1, 1, '2024-07-10', '2024-07-24'),

(2, 2, '2024-07-08', '2024-07-22');

**2. UPDATE Statement**

Let's update the '**QuantityAvailable'** of a book in the '**Books'** table:

-- Update QuantityAvailable for a book

UPDATE Books

SET QuantityAvailable = 7

WHERE BookID = 1;

**3. DELETE Statement**

Let's delete loans that have been returned from the '**Loans'** table (assuming '**ReturnedDate'** is not null):

-- Delete returned loans from Loans table

DELETE FROM Loans

WHERE ReturnedDate IS NOT NULL;

**4. BULK INSERT Statement**

Suppose you have a CSV file named '**new\_books.csv'** with columns '**Title', 'AuthorID', 'ISBN', 'PublishedDate'**, and '**QuantityAvailable'**, and you want to bulk insert this data into the '**Books'** table:

-- Assuming the file is accessible to the MySQL server

LOAD DATA INFILE '/path/to/new\_books.csv'

INTO TABLE Books

FIELDS TERMINATED BY ',' ENCLOSED BY '"'

LINES TERMINATED BY '\r\n'

IGNORE 1 LINES

(Title, AuthorID, ISBN, @PublishedDate, QuantityAvailable)

SET PublishedDate = STR\_TO\_DATE(@PublishedDate, '%Y-%m-%d');

**Explanation:**

**INSERT INTO**: Adds new records into the specified tables.

**UPDATE**: Modifies existing records based on specified conditions.

**DELETE FROM**: Removes records from a table based on specified conditions.

**LOAD DATA INFILE**: Loads data from an external file (here, new\_books.csv) into the specified table (Books).

Ensure that the syntax and paths in the **`LOAD DATA INFILE`** statement match your environment and security settings. Also, handle CSV file formats and data conversions appropriately based on your specific database system (MySQL in this case).