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.

SOLUTION:

```
CREATE TABLE IF NOT EXISTS books (

    book_id INT AUTO_INCREMENT PRIMARY KEY,

    title VARCHAR(255),

    author VARCHAR(255),

    publication_year INT,

    quantity INT

);


CREATE TABLE IF NOT EXISTS members (

    member_id INT AUTO_INCREMENT PRIMARY KEY,

    name VARCHAR(255),

    email VARCHAR(255),

    phone VARCHAR(20)

);
```

```sql
CREATE TABLE IF NOT EXISTS loans (

    loan_id INT AUTO_INCREMENT PRIMARY KEY,

    book_id INT,

    member_id INT,

    loan_date DATE,

    return_date DATE,

    FOREIGN KEY (book_id) REFERENCES books(book_id),

    FOREIGN KEY (member_id) REFERENCES
members(member_id)

);

INSERT INTO books (title, author, publication_year, quantity)

VALUES

    ('To Kill a Mockingbird', 'Harper Lee', 1960, 10),

    ('1984', 'George Orwell', 1949, 8),

    ('Pride and Prejudice', 'Jane Austen', 1813, 6);


INSERT INTO members (name, email, phone)

VALUES

    ('John Doe', 'john@example.com', '123-456-7890'),

    ('Alice Smith', 'alice@example.com', '987-654-3210');
```

```sql
INSERT INTO loans (book_id, member_id, loan_date,
return_date)

VALUES

    (1, 1, '2024-05-20', NULL),

    (2, 2, '2024-05-22', NULL);


UPDATE books

SET quantity = 12

WHERE title = 'To Kill a Mockingbird';


UPDATE members

SET email = 'john.doe@example.com'

WHERE name = 'John Doe';


UPDATE loans

SET return_date = '2024-06-10'

WHERE book_id = 2 AND member_id = 2;


DELETE FROM books
```

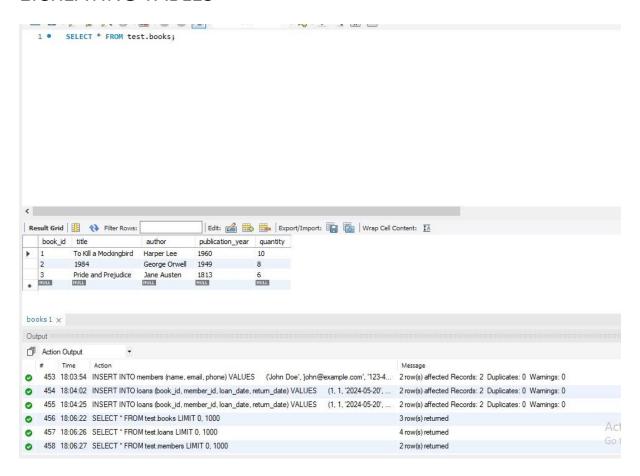WHERE title = 'Pride and Prejudice';

DELETE FROM members

WHERE name = 'Alice Smith';

DELETE FROM loans

WHERE book_id = 2 AND member_id = 2;

OUTPUT:

1.CREATING TABLES

```sql
1 •   SELECT * FROM test.members;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content: ‡A

member_id	name	email	phone
1	John Doe	john@example.com	123-456-7890
2	Alice Smith	alice@example.com	987-654-3210
NULL	NULL	NULL	NULL

members 1 ×

Output

Action Output ▾

#	Time	Action	Message
453	18:03:54	INSERT INTO members (name, email, phone) VALUES ('John Doe', 'john@example.com', '123-4...	2 row(s) affected Records: 2 Duplicates: 0 Warnings: 0
454	18:04:02	INSERT INTO loans (book_id, member_id, loan_date, return_date) VALUES (1, 1, '2024-05-20', ...	2 row(s) affected Records: 2 Duplicates: 0 Warnings: 0
455	18:04:25	INSERT INTO loans (book_id, member_id, loan_date, return_date) VALUES (1, 1, '2024-05-20', ...	2 row(s) affected Records: 2 Duplicates: 0 Warnings: 0
456	18:06:22	SELECT * FROM test.books LIMIT 0, 1000	3 row(s) returned
457	18:06:26	SELECT * FROM test.loans LIMIT 0, 1000	4 row(s) returned
458	18:06:27	SELECT * FROM test.members LIMIT 0, 1000	2 row(s) returned

```sql
1 •   SELECT * FROM test.loans;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content: ‡A

loan_id	book_id	member_id	loan_date	return_date
1	1	1	2024-05-20	NULL
2	2	2	2024-05-22	NULL
3	1	1	2024-05-20	NULL
4	2	2	2024-05-22	NULL
NULL	NULL	NULL	NULL	NULL

loans 1 ×

Output

Action Output ▾

#	Time	Action	Message
453	18:03:54	INSERT INTO members (name, email, phone) VALUES ('John Doe', 'john@example.com', '123-4...	2 row(s) affected Records: 2 Duplicates: 0 Warnings: 0
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456	18:06:22	SELECT * FROM test.books LIMIT 0, 1000	3 row(s) returned
457	18:06:26	SELECT * FROM test.loans LIMIT 0, 1000	4 row(s) returned
458	18:06:27	SELECT * FROM test.members LIMIT 0, 1000	2 row(s) returned

2.UPDATE

```
1 •  SELECT * FROM test.books;
```
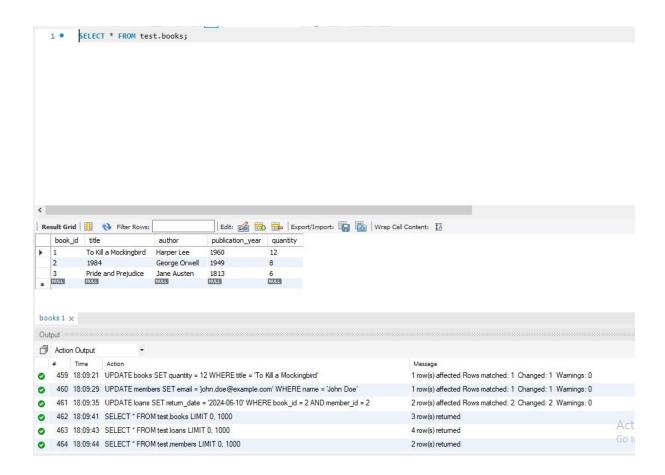
Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content: 𝕀𝔸

book_id	title	author	publication_year	quantity
1	To Kill a Mockingbird	Harper Lee	1960	12
2	1984	George Orwell	1949	8
3	Pride and Prejudice	Jane Austen	1813	6
NULL	NULL	NULL	NULL	NULL

books 1 ×

Output

Action Output ▼

#	Time	Action	Message
●	459	18:09:21	UPDATE books SET quantity = 12 WHERE title = 'To Kill a Mockingbird'	1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0
●	460	18:09:29	UPDATE members SET email = 'john.doe@example.com' WHERE name = 'John Doe'	1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0
●	461	18:09:35	UPDATE loans SET return_date = '2024-06-10' WHERE book_id = 2 AND member_id = 2	2 row(s) affected Rows matched: 2 Changed: 2 Warnings: 0
●	462	18:09:41	SELECT * FROM test.books LIMIT 0, 1000	3 row(s) returned
●	463	18:09:43	SELECT * FROM test.loans LIMIT 0, 1000	4 row(s) returned
●	464	18:09:44	SELECT * FROM test.members LIMIT 0, 1000	2 row(s) returned

```
1 •   SELECT * FROM test.members;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content: A

member_id	name	email	phone
1	John Doe	john.doe@example.com	123-456-7890
2	Alice Smith	alice@example.com	987-654-3210
NULL	NULL	NULL	NULL

members 1 ×

Output

Action Output ▾

#	Time	Action	Message
✓	459	18:09:21	UPDATE books SET quantity = 12 WHERE title = 'To Kill a Mockingbird'	1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0
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✓	464	18:09:44	SELECT * FROM test.members LIMIT 0, 1000	2 row(s) returned

```
1 •   SELECT * FROM test.loans;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content: A

loan_id	book_id	member_id	loan_date	return_date
1	1	1	2024-05-20	NULL
2	2	2	2024-05-22	2024-06-10
3	1	1	2024-05-20	NULL
4	2	2	2024-05-22	2024-06-10
NULL	NULL	NULL	NULL	NULL

loans 1 ×

Output

Action Output ▾

#	Time	Action	Message
✓	459	18:09:21	UPDATE books SET quantity = 12 WHERE title = 'To Kill a Mockingbird'	1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0
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✓	461	18:09:35	UPDATE loans SET return_date = '2024-06-10' WHERE book_id = 2 AND member_id = 2	2 row(s) affected Rows matched: 2 Changed: 2 Warnings: 0
✓	462	18:09:41	SELECT * FROM test.books LIMIT 0, 1000	3 row(s) returned
✓	463	18:09:43	SELECT * FROM test.loans LIMIT 0, 1000	4 row(s) returned
✓	464	18:09:44	SELECT * FROM test.members LIMIT 0, 1000	2 row(s) returned

3.DELETE

```
1 •  SELECT * FROM test.books;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content: IA

book_id	title	author	publication_year	quantity
1	To Kill a Mockingbird	Harper Lee	1960	12
2	1984	George Orwell	1949	8
NULL	NULL	NULL	NULL	NULL

books 1 ✕

Output

Action Output

#	Time	Action	Message
466	18:12:01	DELETE FROM members WHERE name = 'Alice Smith'	Error Code: 1451. Cannot delete or update a parent row: a foreign key c
467	18:12:07	DELETE FROM loans WHERE book_id = 2 AND member_id = 2	2 row(s) affected
468	18:12:16	DELETE FROM members WHERE name = 'Alice Smith'	1 row(s) affected
469	18:14:10	SELECT * FROM test.books LIMIT 0, 1000	2 row(s) returned
470	18:14:43	SELECT * FROM test.loans LIMIT 0, 1000	2 row(s) returned
471	18:14:46	SELECT * FROM test.members LIMIT 0, 1000	1 row(s) returned

```sql
1 •   SELECT * FROM test.members;
```

Result Grid | Filter Rows: [   ] | Edit: | Export/Import: | Wrap Cell Content: ĪA

	member_id	name	email	phone
▶	1	John Doe	john.doe@example.com	123-456-7890
*	NULL	NULL	NULL	NULL

members 1 ×

Output

Action Output ▾

	#	Time	Action	Message
❌	466	18:12:01	DELETE FROM members WHERE name = 'Alice Smith'	Error Code: 1451. Cannot delete or update a parent row: a foreign key co
✅	467	18:12:07	DELETE FROM loans WHERE book_id = 2 AND member_id = 2	2 row(s) affected
✅	468	18:12:16	DELETE FROM members WHERE name = 'Alice Smith'	1 row(s) affected
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✅	471	18:14:46	SELECT * FROM test.members LIMIT 0, 1000	1 row(s) returned

```sql
1 •   SELECT * FROM test.loans;
```

Result Grid | Filter Rows: [   ] | Edit: | Export/Import: | Wrap Cell Content: ĪA

loan_id	book_id	member_id	loan_date	return_date
1	1	1	2024-05-20	NULL
3	1	1	2024-05-20	NULL
NULL	NULL	NULL	NULL	NULL

4.BULK

```sql
CREATE TABLE sales (

    OrderID int,

    OrderDate date,

    ItemType varchar(50),

    SalesChannel varchar(50),

    UnitsSold int,

    UnitPrice float,

    DeliveryDate date,

    TotalCost float,

    TotalProfit float

);

LOAD DATA INFILE 'C:/ProgramData/MySQL/MySQL   Server 8.0/Uploads/sales.csv'

INTO TABLE sales

FIELDS TERMINATED BY ','

LINES TERMINATED BY '\n'

IGNORE 1 LINES;

SHOW VARIABLES LIKE 'secure_file_priv';

select * from sales;
```

```
13 •     LOAD DATA INFILE 'C:/ProgramData/MySQL/MySQL  Server 8.0/Uploads/sales.csv'
14       INTO TABLE sales
15       FIELDS TERMINATED BY ','
16       LINES TERMINATED BY '\n'
17       IGNORE 1 LINES;
18 •     SHOW VARIABLES LIKE 'secure_file_priv';
19 •     select * from sales;
20
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: |

OrderID	OrderDate	ItemType	SalesChannel	UnitsSold	UnitPrice	DeliveryDate	TotalCost	TotalProfit
1	2012-03-23	Electronics	Online	100	299.99	2012-03-25	25000	4999
2	2012-03-24	Furniture	Offline	50	199.99	2012-03-26	9000	4995

Result 2   sales 3 ×

Output

Action Output ▼

#	Time	Action	Message
❌ 466	18:12:01	DELETE FROM members WHERE name = 'Alice Smith'	Error Code: 1451. Cannot delete or update a parent row: a
✅ 467	18:12:07	DELETE FROM loans WHERE book_id = 2 AND member_id = 2	2 row(s) affected
✅ 468	18:12:16	DELETE FROM members WHERE name = 'Alice Smith'	1 row(s) affected
✅ 469	18:14:10	SELECT * FROM test.books LIMIT 0, 1000	2 row(s) returned
✅ 470	18:14:43	SELECT * FROM test.loans LIMIT 0, 1000	2 row(s) returned
✅ 471	18:14:46	SELECT * FROM test.members LIMIT 0, 1000	1 row(s) returned