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Laboratory Activity 2:

Laboratory Title: Creating Tables and Establishing Primary Keys Chapter No. and Topic: **Chapter 1 -** Relational Database Concepts Discussions:
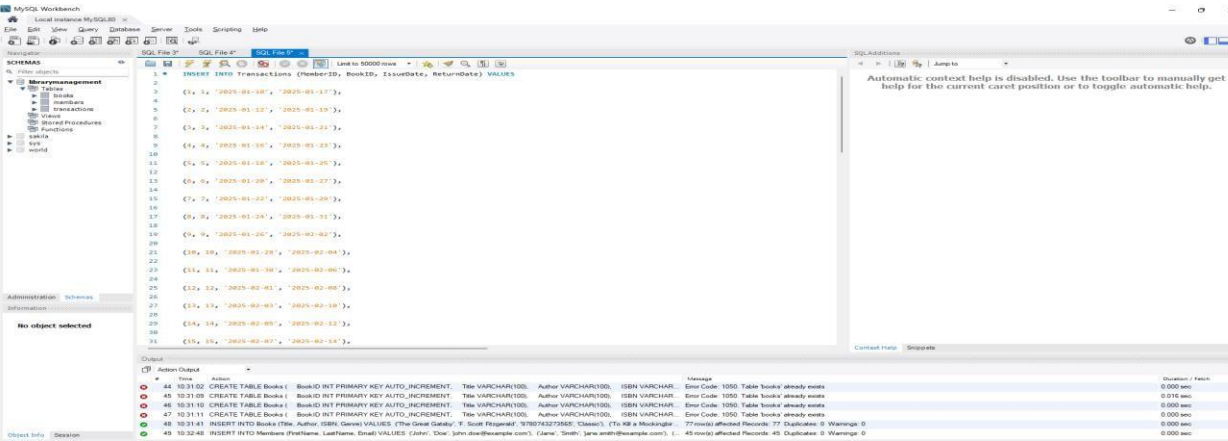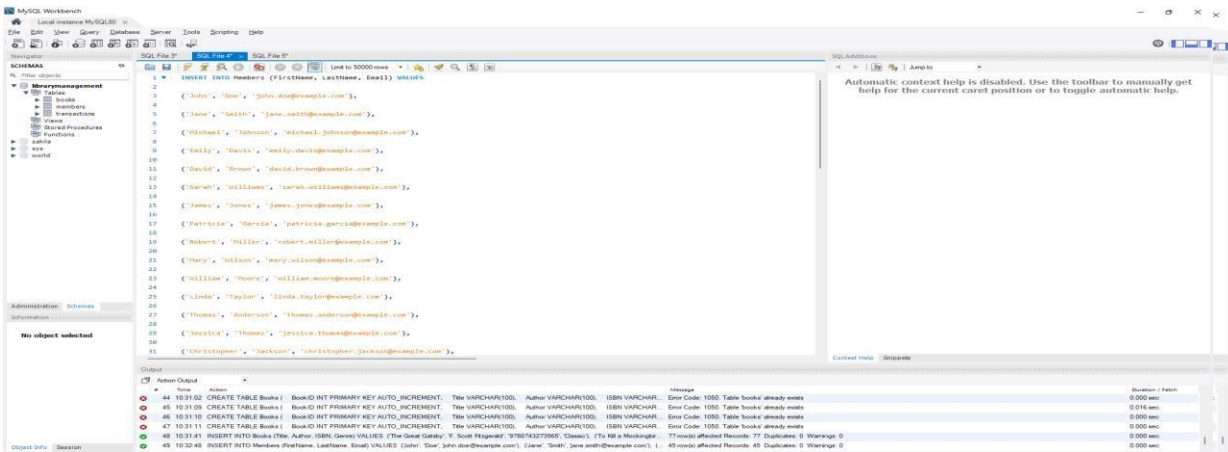
This activity focuses on creating the main tables for the Library Management System, with primary keys for each table.

Activity Description:

Create tables such as Books, Members, and Transactions for the library system.

Result:

Three tables (Books, Members, and Transactions) are create d.

Additional Questions/Discussions:

1.   **What is the importance of primary keys in a relational database?**

The primary key in a relational database is essential because it uniquely identifies each record in a table. This ensures that no two rows have the same identifier, preventing duplication and maintaining data integrity. Primary keys also facilitate efficient data retrieval and enable the establishment of relationships between different tables, which is crucial for organizing and managing complex data structures.

2.   **How do foreign keys maintain referential integrity?**

Foreign keys maintain referential integrity by ensuring that relationships between tables remain consistent. They link a record in one table (the foreign key) to a corresponding record in another table (the primary key). This prevents actions that would create "orphaned" records, such as

deleting or updating a primary key record that has associated foreign key references. As a result, foreign keys help ensure that the data remains accurate and consistent across related tables.

Conclusions:

Laboratory Activity 2 focused on creating tables and establishing primary keys, reinforcing key concepts in relational database management. By completing this activity, students learned how to structure data effectively using tables and assign primary keys to ensure each record is uniquely

identifiable. This hands-on experience emphasized the importance of primary keys in maintaining data integrity and laid the foundation for building well-organized and efficient relational databases..