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BSCpe 3A

Chapter 1: Relational Database Concepts
Laboratory Activity 1:

Laboratory Title: Installing MySQL and Setting Up the Database
Chapter No. and Topic: Chapter 1 - Relational Database Concepts
Discussions:
This activity will guide students through installing MySQL on their system and setting up a basic library management system database.

Activity Description:
Install MySQL, create a new database, and establish connections using MySQL Workbench or command line.

Objectives:

- Install MySQL on a local machine.

- Set up a MySQL database for the Library Management System.

Materials:

- MySQL Installer

- MySQL Workbench (or any preferred MySQL client)

- Laptop or computer with administrative rights

Procedure:

1. Download MySQL Installer from the official website.

2. Run the installer and follow the installation steps.

3. Once MySQL is installed, open MySQL Workbench.

4. Connect to MySQL using the root user.

5. Create a new database named LibraryManagement.

6. Verify that the database was created successfully.
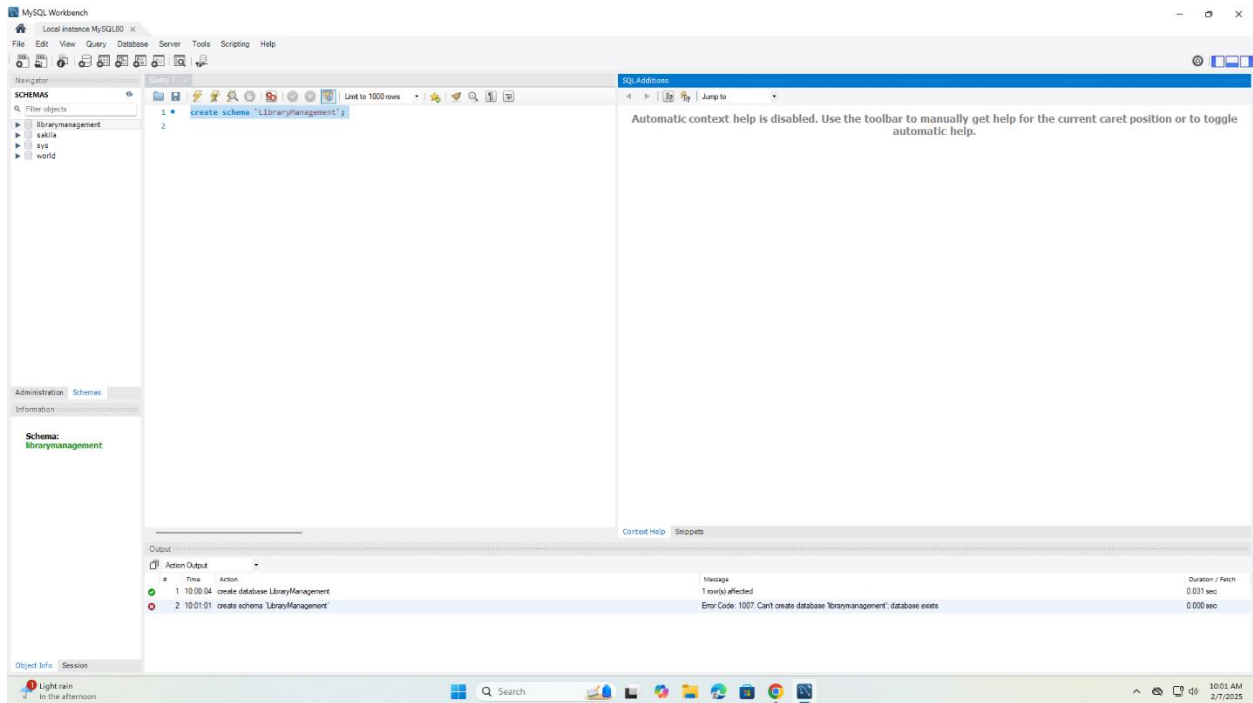
Result:

A running MySQL instance with a database called LibraryManagement.

Additional Questions/Discussions:

- Why is MySQL popular for DBMS?

- My SQL is Popular as a Database Management System because its an open-source nature software, it offers significant cost savings, making it accessible for both individuals and organizations. The system excels in performance, especially in read intensive application.

- What are the advantages of using MySQL for a library management system?

- MySQL is a library management system with a number of benefits. In order to preserve data integrity, its relational database approach effectively arranges linked data, including books, members, and transactions, using tables and foreign keys. Additionally, it guarantees scalability, enabling the system to develop as the library adds more volumes and patrons. Reliable transactions are ensured by MySQL's ACID compliance, which is essential for precise book borrowing and return.

- Because it is open-source, well supported, and has a sizable community contributing resources, the database is reasonably priced. Through indexing, MySQL

offers quick query performance, which makes managing user activity and doing book searches simple. It can be used for a variety of purposes, from tracking book details to producing reports, thanks to its versatility with regard to data formats and integration features.

Conclusions:

In conclusion, MySQL's dependability, scalability, and affordability make it the perfect option for a library management system. While features like quick query performance, backup capabilities, and ACID compliance offer a secure and dependable system, its organized relational format guarantees effective data management and integrity. Furthermore, MySQL is a good option for libraries of all sizes due to its adaptability, simplicity of integration, and open-source nature.