**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.

A screenshot of a computer

Description automatically generatedA computer screen with text

Description automatically generated

**Additional Questions/Discussions:**

* Why is MySQL popular for DBMS?

Because it is open-source, scalable, secure, user-friendly, cross-platform compatible, and works well with a wide range of programming languages and applications, MySQL is a popular choice for database management systems (DBMS).

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

Because it guarantees excellent data administration, quick query processing, support for multiple users, robust security, scalability, data integrity, backup and recovery options, and cost-effectiveness, MySQL is a good choice for a library management system.

**Conclusions:**

MySQL's open-source status, scalability, security, ease of use, cross-platform compatibility, and smooth integration with a wide range of programming languages and applications make it a popular option for database management systems (DBMS). Its advantages, which include effective data administration, quick query processing, support for multiple users, robust security, scalability, data integrity, dependable backup and recovery options, and cost-effectiveness, make it a great choice for a library management system. All things considered, MySQL offers a strong and dependable database option for effectively managing library operations.