**Laboratory Activity No. 3:**

**Topic belongs to:** Programming Constructs and Paradigms  
**Title:** Implementing CRUD Operations for Books and Users in the Library Management System  
**Introduction:**  
This activity involves implementing CRUD (Create, Read, Update, Delete) operations for books and users in the Library Management System. You will create views and forms to handle these operations via a web interface.

**Objectives:**

* Create views for CRUD operations.
* Use Django forms to manage user input.
* Learn about Django’s URL routing for view handling.

**Theory and Detailed Discussion:**  
CRUD operations are the fundamental actions in any database-driven application. Django's views and forms make it easy to manage the interaction between the user and the database. Using Django’s URL routing system, we can map different actions (like creating or updating data) to specific views.

**Django Program or Code:**  
Code for views, forms, and URL patterns has been provided above.

**Results:**  
The user can now view the list of books, add new books, update existing books, and delete books.

**Follow-Up Questions:**

1. How do Django forms work with models for CRUD operations?

Django forms, particularly **ModelForms**, provide a way to create and update model instances easily. When using forms.ModelForm, Django automatically generates form fields based on the model attributes, ensuring consistency between the database and user input. For CRUD operations:

* **Create**: A form instance is initialized, validated, and saved to create a new entry.
* **Read**: Data is retrieved from the model and displayed in a template.
* **Update**: A form is pre-filled with an existing instance, modified, and saved.
* **Delete**: A record is identified and removed from the database.

1. What is the role of the redirect() function in Django views?

The redirect() function in Django is used to navigate users to a different view after performing an action. In CRUD operations, it is commonly used:

* After creating or updating a record, to redirect users back to the **list view**.
* After deleting a record, to redirect users to a **confirmation page or list view**.
* It improves user experience by preventing form resubmission issues when refreshing the page.

**Findings:**  
Students can perform CRUD operations for books and users.

**Summary:**  
This activity allows students to implement and interact with the core database of the Library Management System.

**Conclusion:**  
CRUD functionality is essential for any web application, and students now have the ability to manage books in the system.