DATA FLOW DIAGRAM REPORT
Library Management System (LMS)

Table of Contents

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1. Introduction

The **Library Management System (LMS)** is designed to handle the processes of managing library resources.

It supports functionalities like adding books, managing student memberships, issuing books, and maintaining records.

To model the flow of data, **Data Flow Diagrams (DFDs)** are used.

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2. Objectives of DFD

- To visualize the interaction of library users (students and admin) with the system.

- To represent the flow of data between processes, entities, and data stores.

- To decompose the system into levels of detail for better clarity.
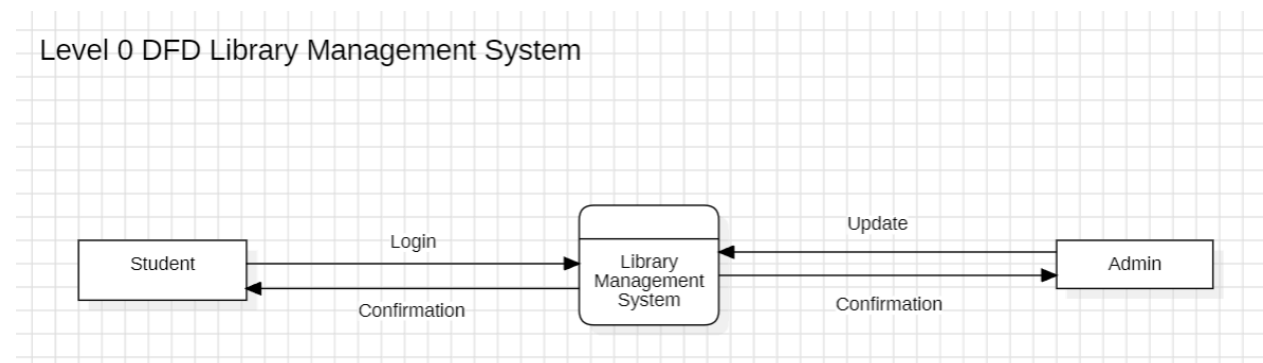
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3. DFD Symbols Used

- **Process (Circle/Oval):** Represents library operations.

- **External Entity (Rectangle):** Represents users (students, admin).

- **Data Flow (Arrow):** Represents information flow (e.g., book details, issue requests).

- **Data Store (Open-ended Rectangle):** Represents records (e.g., book database).

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4. Context Level Diagram (Level 0)

The Level 0 diagram gives a high-level view of LMS as a single process, interacting with students and librarians.
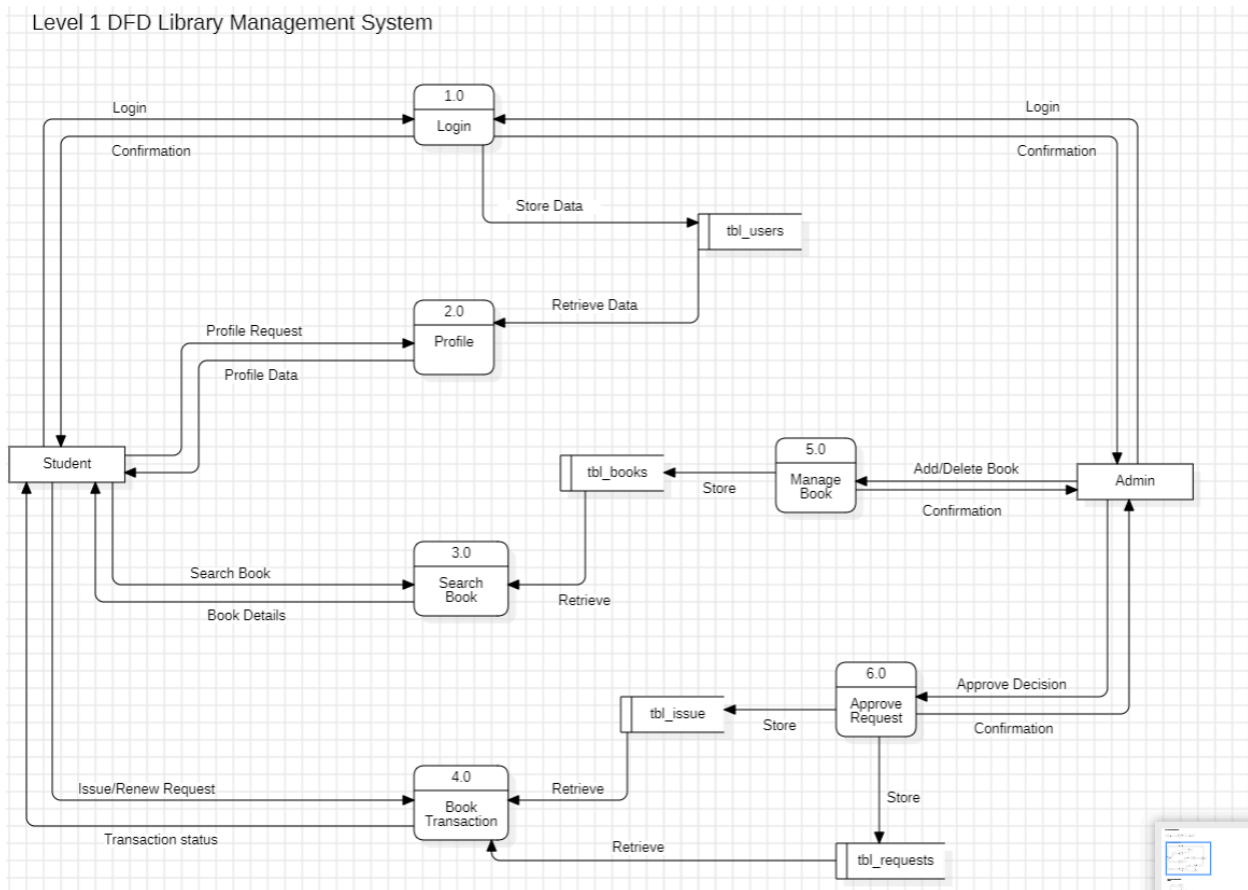
Diagram:

5. Level 1 DFD

This diagram breaks LMS into key processes such as:

- Student Registration

- Book Management

- Book Issue/Return

- Fine Management

Diagram:

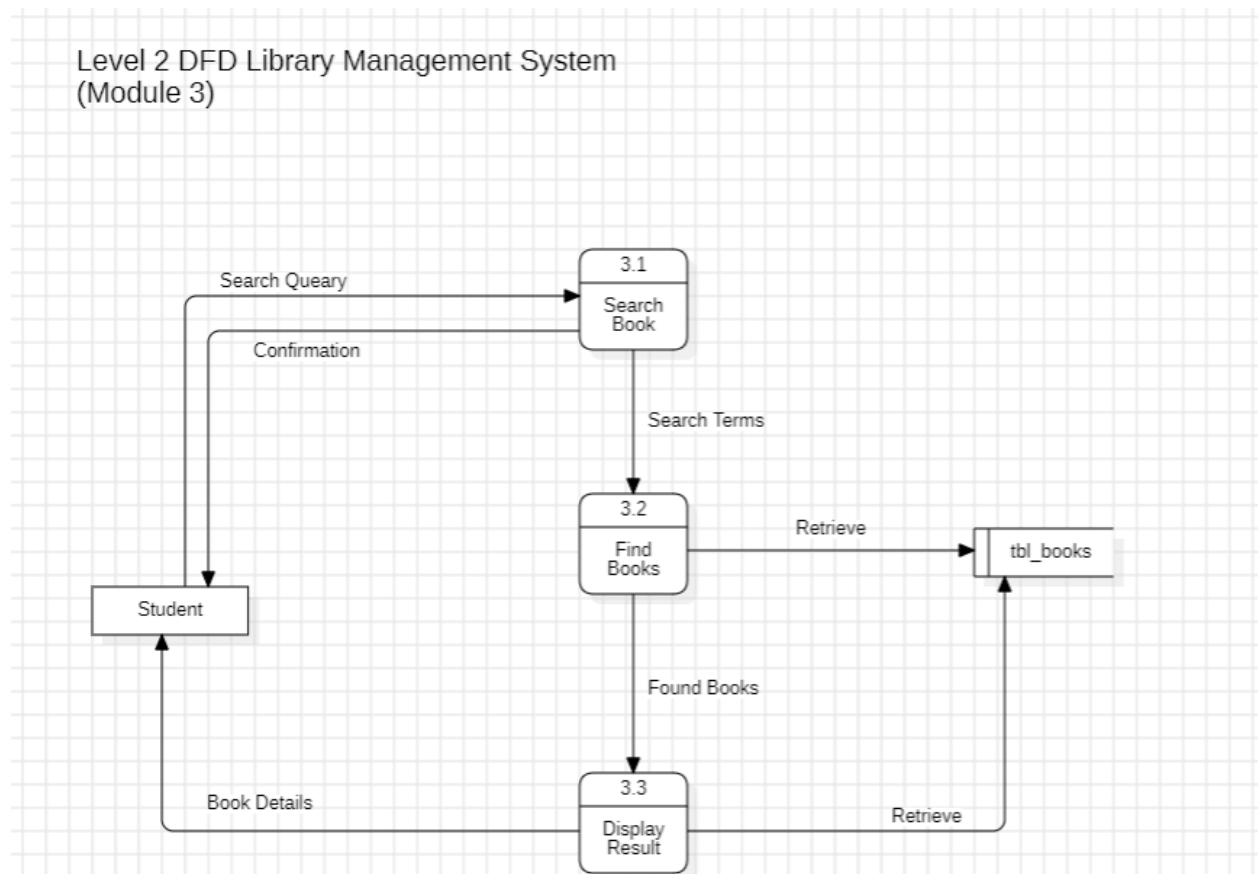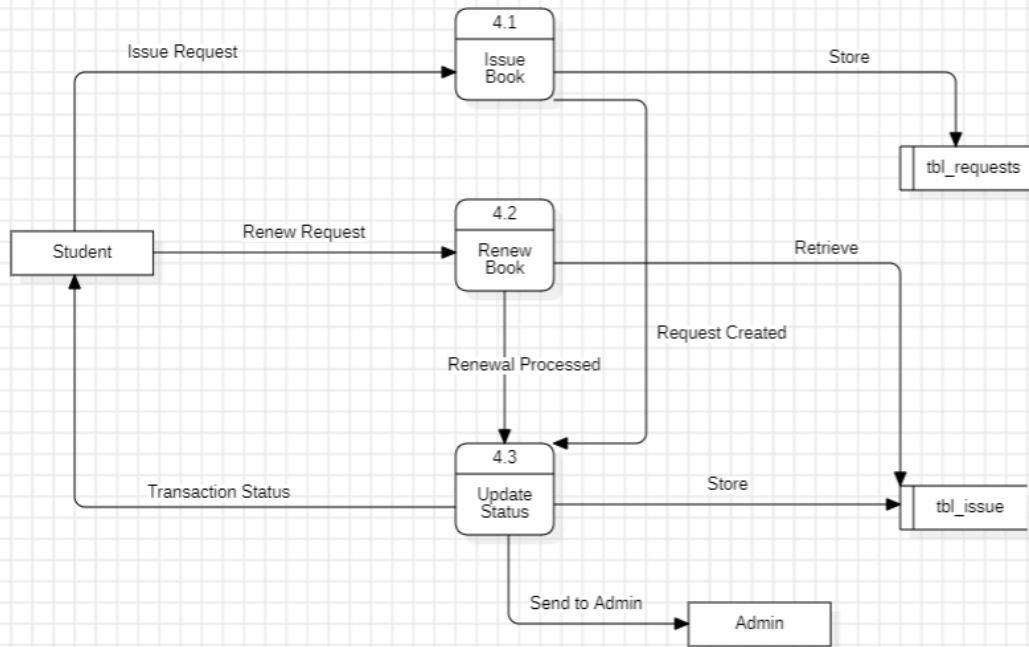Level 1 DFD Library Management System

6. Level 2 DFD

Level 2 provides detailed sub-processes, e.g.:

- Book Management → Add Book, Update Book, Delete Book

- Student Registration → New Entry, Update Student Data

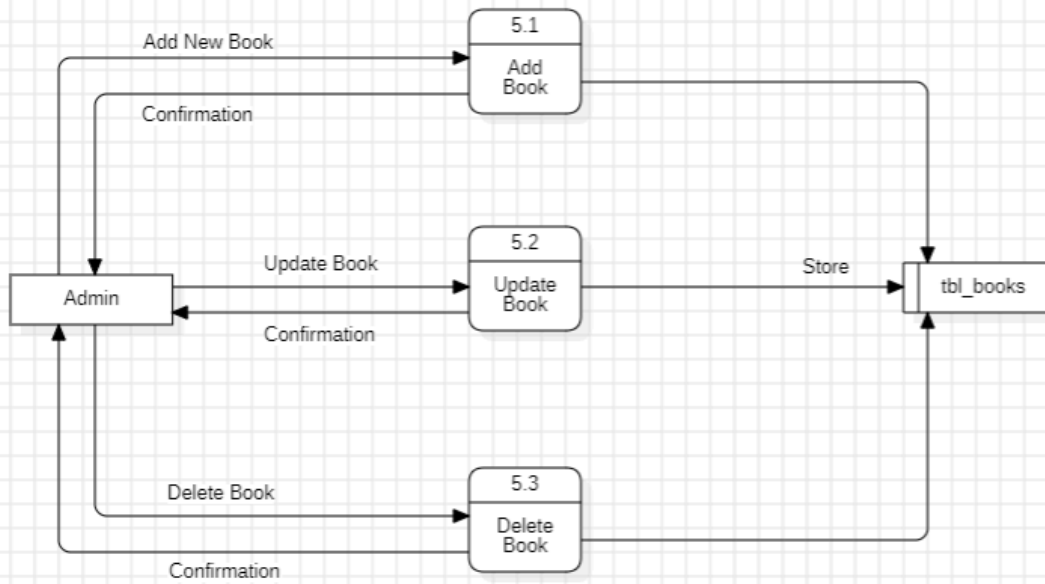- Issue/Return → Issue Book, Return Book, Update Fine

Diagrams:

Level 2 DFD Library Management System (Module 3)

Level 2 DFD Library Management System
(Module 4)

Level 2 DFD Library Management System (Module 5)

8. Conclusion

The Library Management System DFDs (Levels 0, 1, and 2) provide a structured view of how data flows across the system.
It ensures smooth functioning of book management, student records, and transactions, making it easier to understand and implement.