SIMATS ENGINEERING

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Engineer to Excel

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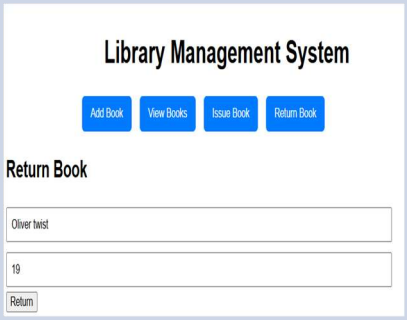
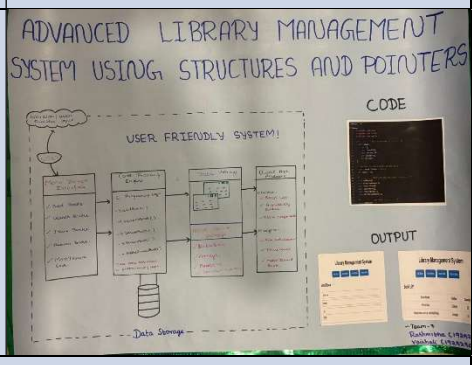
Course Code: CSA0219 **Slot:** C
Course Name: C Programming for Logical Thinking
Course Faculty: Dr.S. K. Saravanan and Dr. A.M.Arul Raj

Project Title: ADVANCED LIBRARY MANAGEMENT SYSTEM USING STRUCTURES AND POINTERS		
Review 1 Image	Review 2 Image	Module Image
		
Student Contribution Module Work - Title		Demo Image
MODULE :1 DATA MANAGEMENT MODULE		

Project Description

In this project, I developed a **Library Management System using C programming** to replace the traditional manual library record system with a computerized system. I used **structures** to store book details such as book ID, name, author, category, quantity, and issue count. The system uses **dynamic memory allocation (malloc and realloc)** to manage multiple books efficiently without any fixed limit, making it flexible and scalable. I implemented functions to add new books while preventing duplicate IDs, display all book records, and search for books using their ID. The project also includes features to issue and return books, where the quantity is updated automatically. Additionally, it calculates a **fine of ₹2 per day for late returns after 7 days** and tracks the most issued book to analyze popularity. Overall, this project demonstrates the use of structures, pointers, and dynamic memory management to build an efficient and rule-based digital library system.

Student Signature Guide Signature