Case Study: Library Management System

Background:

A public library wants to create a software system to manage their collection of books. The library has multiple branches and each branch has its own collection of books. The library system will allow library staff to check out books, add new books to the collection, and manage overdue books.

Objectives:

Develop a library management system using object-oriented programming principles.

Create class objects for books, library branches, and library staff with appropriate attributes and behaviors.

Implement methods for adding new books to the collection, checking in and out books, and managing overdue books.

Ensure that the software system is easy to use and can be scaled up to handle multiple library branches.

Solution: To implement the library management system, we will use OOP principles and create class objects for books, library branches, and library staff.