

Session 5 task

Task: Library Management System

Create a simple **Library Management System** using Python. The system should include classes for **Library**, **Book**, and **Member**. Follow these requirements:

1. Classes and Objects

- Create a `Book` class with:
 - Attributes: `title`, `author`, `isbn`, and `available` (default `True`).
 - Methods:
 - `__init__`: To initialize the attributes.
 - `display_info`: To print the book's title, author, ISBN, and availability.
- Create a `Member` class with:
 - Attributes: `name`, `membership_id`, and a list `borrowed_books`.
 - Methods:
 - `__init__`: To initialize the attributes.
 - `borrow_book`: Allows a member to borrow a book if it's available.
 - `return_book`: Allows a member to return a borrowed book.

2. Inheritance

- Create a `StaffMember` class that inherits from `Member`:
 - Additional attribute: `staff_id`.
 - Additional method: `add_book`: Allows a staff member to add a new book to the library.

3. Encapsulation

- Use private attributes for sensitive data such as `isbn` in the `Book` class and `membership_id` in the `Member` class.
- Add getter and setter methods to access or modify these private attributes when necessary.