

Assignment: Library Management System

Objective: Create a program using object-oriented programming concepts to manage a library, including books and library members

Requirements:

1. Design a class called "Book" that represents a book in the library. The Book class should have the following attributes:

- Title
- Author
- Publication Year
- Category (Fiction, History, Child)
- Available (a Boolean value indicating if the book is available for borrowing or not)

2. Design a class called "Member" that represents a library member. The Member class should have the following attributes:

- Name
- Member ID
- Type (Member, Staff) - Liburrray has two types of staff minor and management,
- Number of books currently borrowed

3. Design a class called "Library" that represents the library. The Library class should have the following methods:

- **add_book(book):** Accepts a Book object and adds it to the library.
- **remove_book(book):** Accepts a Book object and removes it from the library.
- **borrow_book(book, member):** Accepts a Book object and a Member object. If the book is available, update its availability and increase the member's number of borrowed books by one. Staff members can't borrow books
- **return_book(book, member):** Accepts a Book object and a Member object. Update the book's availability and decrease the member's number of borrowed books by one.
- **display_books():** Displays all the books in the library, along with their availability status. member and management staff can only see the book list
- **display_members():** Displays all the library members and their respective number of borrowed books.

4. Write a program that creates an instance of the Library class and allows the user to perform library management operations.

- Display a menu to the user with the available operations and ask for the user's choice.
- After the user selects an operation, prompt for the required information and perform the requested operation.
- Ensure appropriate messages are displayed to the user for successful operations or any errors.