

Name: Gargi Modi
Course: BCA Cybersecurity
Roll No.: 2501660035
Project: Library Inventory & Borrowing System

Python Assignment Code:

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# Project: Library Inventory & Borrowing System
# -----

books = {}
borrowed = {}

def menu():
    print("\n===== LIBRARY MANAGER =====")
    print("1. Add Book")
    print("2. View Books")
    print("3. Search Book")
    print("4. Borrow Book")
    print("5. Return Book")
    print("6. Exit")
    print("=====\n")

def add_book():
    book_id = input("Enter Book ID: ")
    title = input("Enter Book Title: ")
    author = input("Enter Book Author: ")
    copies = int(input("Enter Number of Copies: "))
    books[book_id] = {"title": title, "author": author, "copies": copies}
    print(f"\nBook '{title}' added successfully!")

def view_books():
    print("\n----- BOOK LIST -----")
    print("ID\tTitle\tAuthor\tCopies")
    print("-----")
    for book_id, details in books.items():
        print(f"{book_id}\t{details['title']}\t{details['author']}\t{details['copies']}")

def search_book():
    print("\nSearch by:")
    print("1. Book ID")
    print("2. Title")
    choice = int(input("Enter choice: "))
    if choice == 1:
        bid = input("Enter Book ID: ")
        if bid in books:
            print("Book Found:", books[bid])
        else:
            print("Book Not Found")
    elif choice == 2:
        title = input("Enter Title Keyword: ").lower()
        found = False
        for b_id, info in books.items():
            if title in info["title"].lower():
                print("Book Found:", b_id, info)
                found = True
        if not found:
            print("Book Not Found")

def borrow_book():
    student = input("Enter Student Name: ")
    bid = input("Enter Book ID: ")
    if bid in books:
        if books[bid]["copies"] > 0:
            books[bid]["copies"] -= 1
            borrowed[student] = bid
            print(f"\nBook '{books[bid]['title']}' issued to {student}.")
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        else:
            print("No copies available!")
    else:
        print("Invalid Book ID!")

def return_book():
    student = input("Enter Student Name: ")
    bid = input("Enter Book ID: ")
    if student in borrowed and borrowed[student] == bid:
        books[bid]["copies"] += 1
        del borrowed[student]
        print("\nBook returned successfully!")
        borrowed_list = [f"{stud} -> {bk}" for stud, bk in borrowed.items()]
        print("\nBorrowed Books List:", borrowed_list)
    else:
        print("Invalid return details!")

def start():
    while True:
        menu()
        choice = int(input("Enter option: "))
        if choice == 1:
            add_book()
        elif choice == 2:
            view_books()
        elif choice == 3:
            search_book()
        elif choice == 4:
            borrow_book()
        elif choice == 5:
            return_book()
        elif choice == 6:
            print("Exiting... Thank you!")
            break
        else:
            print("Invalid Choice!")

start()

```