**Ministerul Educaţiei și Cercetării al Republicii Moldova**

**Colegiul Universitatii Tehnice a Moldovei**

# RAPORT

Lucrarea de laborator

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**Lucrare de laborator**

**Tema lucrarii:** Bazele OOP

A simple laboratory work focused on the basics of Object-Oriented Programming (OOP). In this lab, students will create a basic program to manage a library of books using Python. This lab covers the fundamental concepts of classes, objects, and basic inheritance.

**Lab Title:** Simple Library Management System

**Objective:** To create a simple Library Management System using Object-Oriented Programming concepts.

**Sarcina lucrării:**

1. Implement two classes: Book and Library.
2. The Book class should have attributes like title, author, and ISBN.
3. The Library class should have a list to store books and methods to add a book, remove a book, and display all books in the library.
4. The code should be uploaded to your github account, if not then make sure you’ll create one.
5. Your repository should be public.
6. You can use gitUI, fork or other programs instead of git command line.

**Concluzie**

**class Book:**

**def \_\_init\_\_(self, title, author, isbn):**

**self.title = title**

**self.author = author**

**self.isbn = isbn**

**def display\_info(self):**

**print(f"Title: {self.title}\nAuthor: {self.author}\nISBN: {self.isbn}\n")**

**class Library:**

**def \_\_init\_\_(self):**

**self.books = []**

**def add\_book(self, book):**

**self.books.append(book)**

**print(f"Book '{book.title}' added to the library.")**

**def remove\_book(self, isbn):**

**for book in self.books:**

**if book.isbn == isbn:**

**self.books.remove(book)**

**print(f"Book with ISBN {isbn} removed from the library.")**

**return**

**print(f"Book with ISBN {isbn} not found in the library.")**

**def display\_all\_books(self):**

**if not self.books:**

**print("The library is empty.")**

**else:**

**print("Books in the library:")**

**for book in self.books:**

**book.display\_info()**

**if \_\_name\_\_ == "\_\_main\_\_":**

**# Adaug attribute la books title, author, and ISBN**

**book1 = Book("The Catcher in the Rye", "J.D. Salinger", "978-0-316-76948-0")**

**book2 = Book("To Kill a Mockingbird", "Harper Lee", "978-0-06-112008-4")**

**book3 = Book("1984", "George Orwell", "978-0-452-28423-4")**

**library = Library()**

**# Adding books to the library**

**library.add\_book(book1)**

**library.add\_book(book2)**

**library.add\_book(book3)**

**# Display all books in the library**

**library.display\_all\_books()**

**# Removing a book from the library**

**library.remove\_book("978-0-316-76948-0")**

**# Displaying all books after removal**

**library.display\_all\_books()**