GROUP ASSIGNMENT

COMP40003

SOFTWARE DEVELOPMENT AND APPLICATION MODELLING

COMP40003 SDAM 2 Group Assignment
CF2363COM CF2363SE CF2363CS

HAND OUT DATE: 13-11-2023

HAND IN DATE: 02-02-2024

WEIGHTAGE: 50%

INSTRUCTION TO CANDIDATES:

1. **Students are advised to underpin their answers with the use of references (cited using the Harvard Name System of Referencing).**
2. **Late submission will be awarded zero (0) unless Extenuating Circumstances (EC) are upheld.**
3. **Cases of plagiarism will be penalized**
4. **Group assignment report should be submitted in the form of softcopy to the link provided on LMS – one submission per group.**
5. **Individual application should be submitted as a zipped folder to the link provided on LMS – one submission for each student.**

GROUP 08

Library Management System

SDAM CF2362 COM B

Report For: Mr. Upul
Hand Out: 11/2/2024
Report by: CB011253 Hanaan Munas

Acknowledgment

We would like to extend our heartfelt appreciation to Mr. Upul, our esteemed lecturer, whose guidance and expertise in the Software Development and Application Module have been invaluable in shaping our skills in this field. We would also like to acknowledge the authors whose works formed the foundation of our research and understanding. We are deeply grateful to our friends for their constant encouragement and feedback. Your discussions have enriched our application and made the journey enjoyable and rewarding. Last but not least, we want to express our profound appreciation to our family members for their unwavering support and encouragement that uplifted our mental and physical health throughout this endeavor

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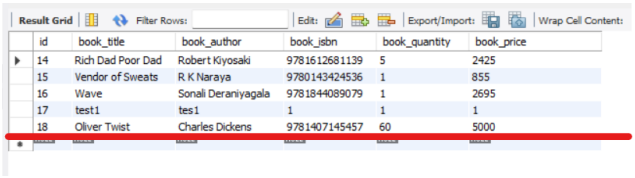
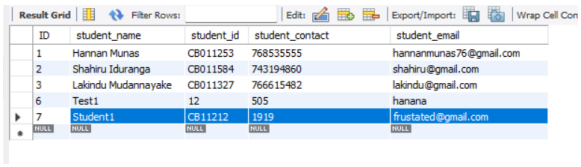
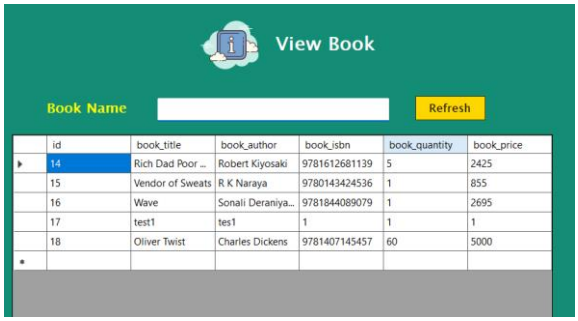
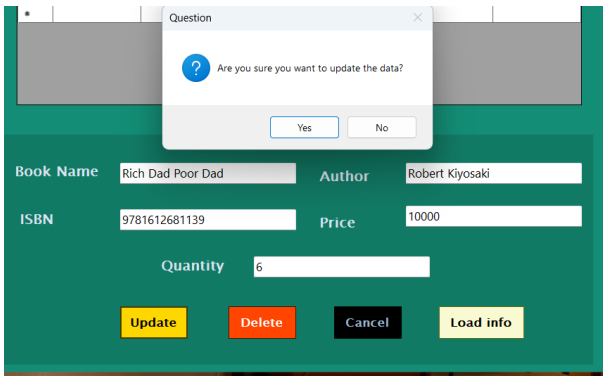
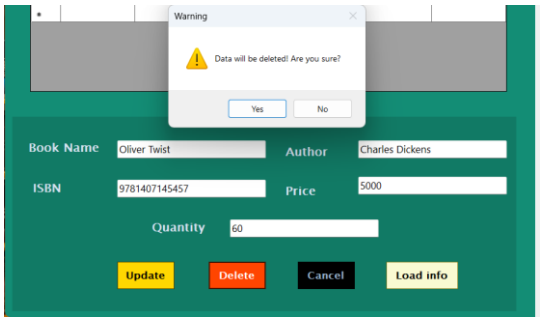
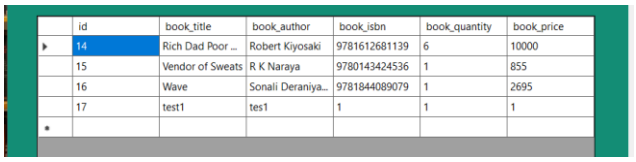
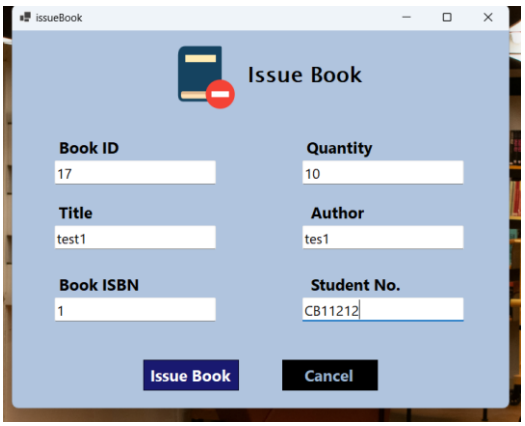
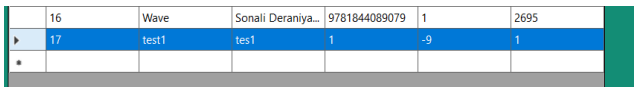
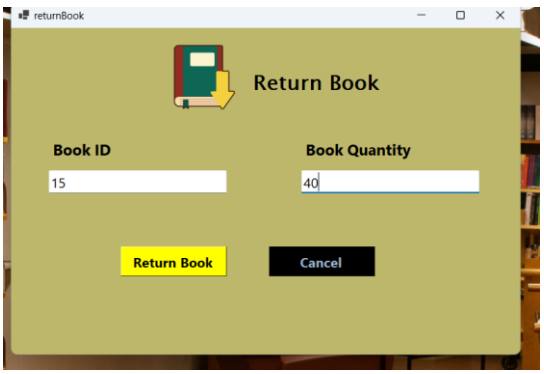
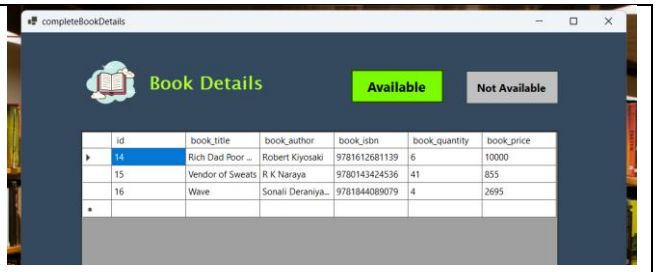
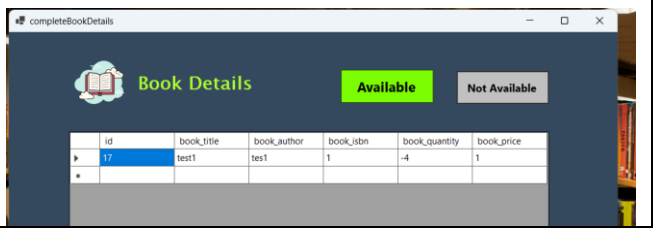
1. Introduction

The aim of this assignment was to design and implement a Library Management System using C# programming language with a console-based interface and later extending it to a Windows Forms application. The system incorporates fundamental Object-Oriented Programming (OOP) concepts to model entities such as books and students, allowing for actions like adding books, managing student information, issuing and returning books, and viewing availability. The console version was created first to establish core functionality, and subsequently, the Windows Forms GUI version was developed to enhance user experience through a graphical interface

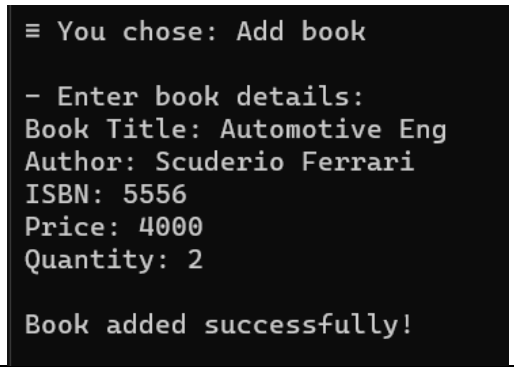
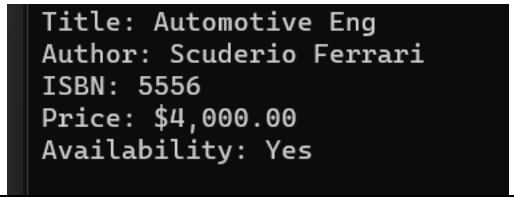
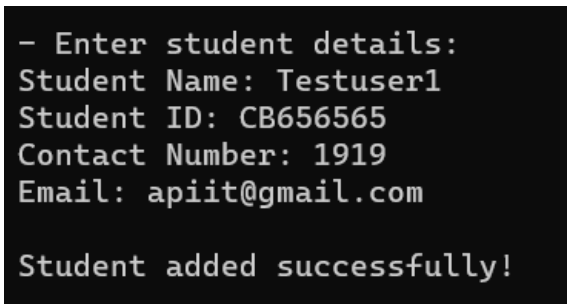
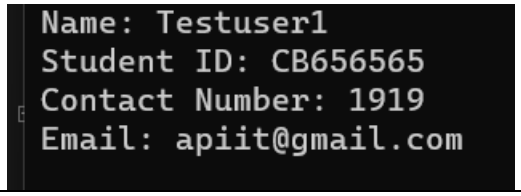
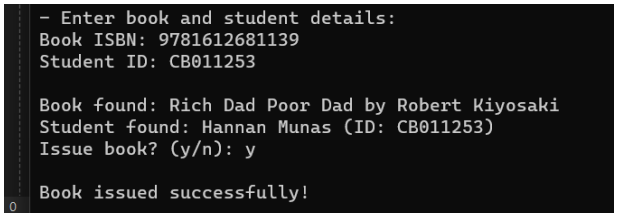
10. Test Table of GUI

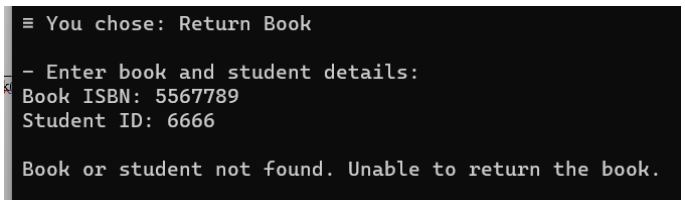
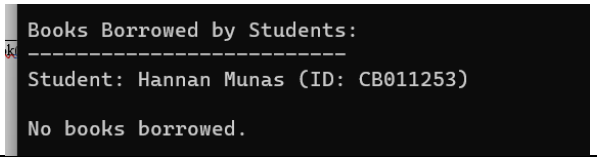
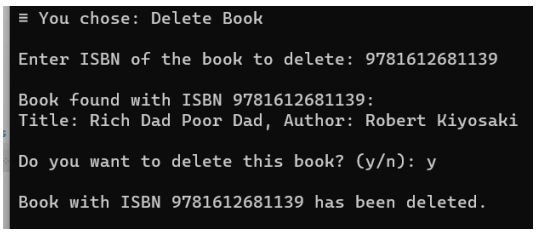
Function	Input	Expected Output	Actual Output
insertBook()	Oliver Twist Charles Dickens 9781407145457 60 900	Data result = 1 data saved in data base.	Book Saved in Data Base 
insertStudent()	Student1 CB11212 1919 frustated@gmail.com	Data saved in data base.	Member/Student add is saved in data base. 
LoadAllBooks()	-	To show the book data table in data base to the data grid view.	
SearchAndLoadData()	-	To search and load the specific data in the data grid view	
Update Book Info ()	Changing the quantity and price of a book detail	The data base must be updated	 

Function	Input	Expected Output	Actual Output
Delete Book () SubtractBookQuantity	Deleting the last input data, by clicking the delete button	Data in the DB must be deleted.	Book Saved in Data Base, Deleted  
Issue Book () SubtractBookQuantity	A book is issued to a person, with a relavant CB num	The specific book quantity must be deducted from data base.	Quantity is deducted from original, book table  
Return Book () ReturnBookQuantity	A book is returned with the specific id in the book table, with the quantity.	When returned the quantity of the book is updated.	 

Show Book Availability()	When show available buttion is clicked, available books should be displayed when unavailable button is clicked, books that are unavailable is displayed	Ouput achieved	 

11. Test Table of CLI

Function	Input	Expected Out Put	Actual Out Put
AddBook()	Book Title: Automotive Eng Author: Scuderio Ferrari ISBN: 5556 Price: 4000 Quantity: 2	To add book Successfully!	
ViewBookinfo()	-	To show all the book details!	
AddStudent()	Student Name: Testuser1 Student ID: CB656565 Contact Number: 1919 Email: apiit@gmail.com Student added successfully!	To add the student details!	
ViewStudentinfo()	-	To show all the student details!	
IssueBook()	Book ISBN: 9781612681139 Student ID: CB011253 Book found: Rich Dad Poor Dad by Robert Kiyosaki Student found: Hannan Munas (ID: CB011253) Issue book? (y/n): y	To ask book id and student id, then issue book	

ReturnBook()	- Enter book and student details: Book ISBN: 5567789 Student ID: 6666	Error handling, entering details that is not saved.	
DisplayBorrowedBooks()	-	To display CB011253 has borrowed a book	
DeleteBoooks()	Enter ISBN of the book to delete: 9781612681139 Book found with ISBN 9781612681139: Title: Rich Dad Poor Dad, Author: Robert Kiyosaki Do you want to delete this book? (y/n): y	To delete the book	

4. Conclusion

In conclusion, the Library Management System successfully demonstrates the application of OOP principles to create a modular and extensible program. The console version served as a foundation, while the Windows Forms GUI version added an additional layer of user-friendliness. This assignment not only reinforced the understanding of programming concepts but also showcased the ability to adapt a command-line application to a more user-friendly graphical interface. The system provides a versatile platform for managing library resources efficiently and can serve as a basis for further enhancements and functionalities in future iterations.