

**University of Vavuniya, Sri Lanka**  
**Faculty of Technological Studies**  
**Department of Information and Communication Technology**  
**TICT2134 (T) – Advanced Computer Programming – Practical**

**In-Course Assessment Examination – 02**

**Duration: 90 minutes**

**Date:06.03.2025**

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**Instructions:**

- Create a folder on desktop, named with your registration number and save all your files into that folder. (Eg: 2021ICTS###)
- The necessary resources and figures are given in "TICT2134\_Resources" folder.

1. Create a Windows Form Application as described below.
  - a. Create a database called '**LibraryDB**' which includes two tables with following data fields.
    - i. Book

*Data Fields:*

BookID (string) (Eg: BID0001)  
Title (string)  
Author (string)  
Year (Integer)  
No\_of\_Copies(Integer)  
Category (string)

[08%]
    - ii. Members

*Data Fields:*

MemberID (string) (Eg: MID0001)  
Full\_Name (string)  
Gender (string)  
Email (string)  
Address (string)  
PhoneNo (Integer)

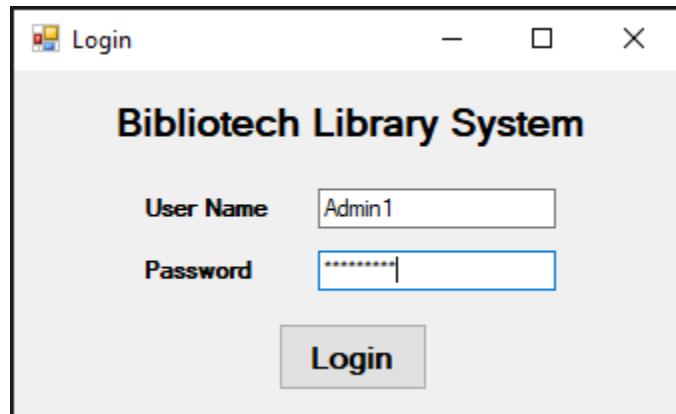
[08%]
2. Make the connection between your application and the created database. [08%]

3. Design the **Login Form** as shown in *Figure1*, which allows an admin user to get access to an application by entering their username and password.

User name : Admin1

Password : Admin@123

- If those fields are empty or invalid, it should display the error message.
- If username and password are matched, it should redirect the **Dashboard Form**.

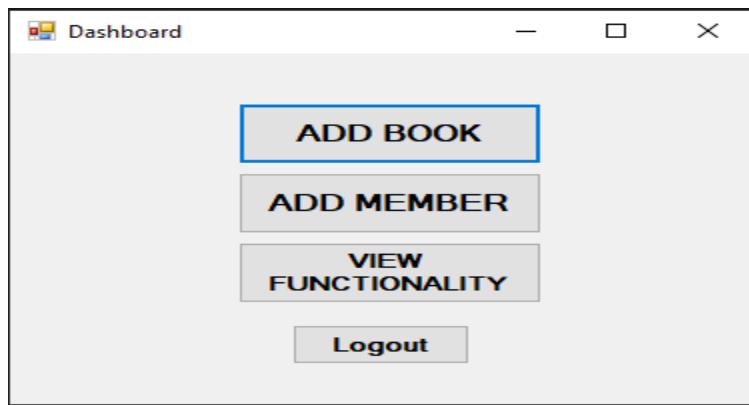


*Figure1*

[10%]

4. Design the **Dashboard Form** as shown in *Figer2*, it should contain ADD BOOK, ADD MEMBER and VIEW FUNCTIONALITY buttons to redirect the appropriate forms.

- Use LOGOUT button to navigate **Login Form** while hiding the Dashboard Form itself.



*Figer2*

[10%]

5. Design the **Add Book Form** as shown in *Figure3*, it should add book details into the Book Table with the data such as BookID, Title, Author, Year, No\_of\_Copies and Category.

- Use Error provider to validate the fields are empty or not and display the error message respectively.
- Book Categories are: Science, Fiction, Horror, Fantasy, Mystery, Short story, Drama, Biography.

The screenshot shows a Windows application window titled "frmBooks". The main title bar has a standard minimize, maximize, and close button. Below the title bar, the word "Books" is centered in a bold black font. The interface consists of several input fields and a button. On the left side, there are three text input fields stacked vertically, labeled "BookID", "Title", and "Author". To the right of these, there are two more text input fields: "Year" and "No. of Copies". Further to the right is a dropdown menu labeled "Category". At the bottom right of the form area is a large, rectangular button with the text "ADD BOOK" in bold black capital letters.

*Figure3*

[18%]

6. Design the **Add Member Form** as shown in *Figure4*, it should add member details into the Member Table with the data such as MemberID, FullName, Gender, Email, Address and PhoneNo.

- Add the patterns which should match user input for MemberID, Email and PhoneNo.

Patterns:

MemberID - MIDXXXX

Email - example@domain.com

PhoneNo - 077XXXXXXX

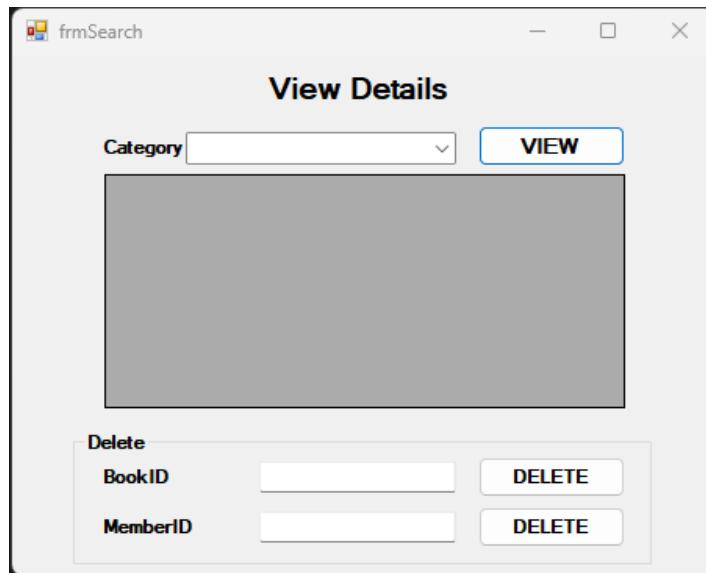
The screenshot shows a Windows application window titled "ADD MEMBERS". The main title bar has a standard minimize, maximize, and close button. Below the title bar, the word "Members" is centered in a bold black font. The interface consists of several input fields and a button. On the left side, there are three text input fields stacked vertically, labeled "Member ID", "Full Name", and "Gender". The "Gender" field contains two radio buttons: "Male" and "Female". To the right of these, there are two more text input fields: "Email Address" and "Address". Further to the right is another text input field labeled "Phone Number". At the bottom right of the form area is a large, rectangular button with the text "ADD MEMBER" in bold black capital letters.

*Figure4*

[18%]

7. Design the **View Details Form** as shown in *Figure5*, it should display books and members details which are stored in the database.

- Use the combo box to choose Books details or Member details to display in the DataGridView.
- Create Delete group to delete book and member records from the database based on the BookID and MemberID.



*Figer5*

[20%]