

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

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**.

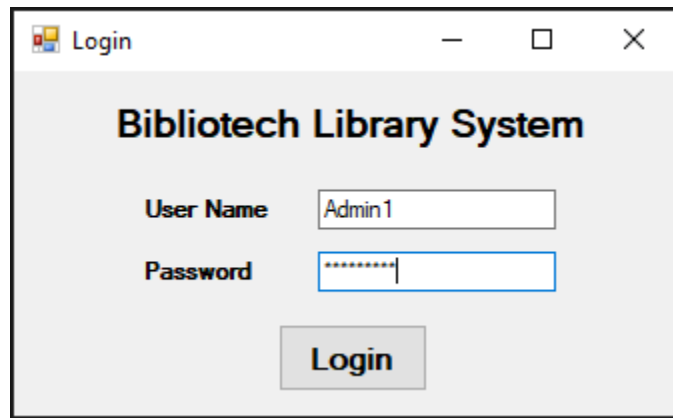
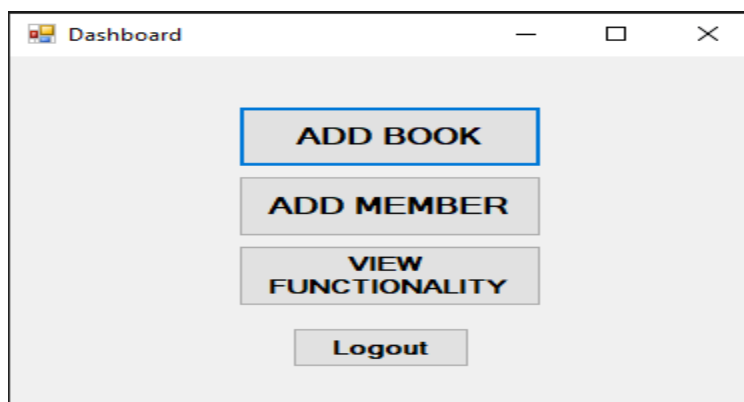
The image shows a window titled "Login" with a standard Windows-style title bar (minimize, maximize, close buttons). The main content area has a light gray background. At the top, the text "Bibliotech Library System" is centered in a bold, black font. Below this, there are two input fields. The first is labeled "User Name" and contains the text "Admin1". The second is labeled "Password" and contains a series of asterisks "*****". Below the password field is a button labeled "Login".

Figure1

[10%]

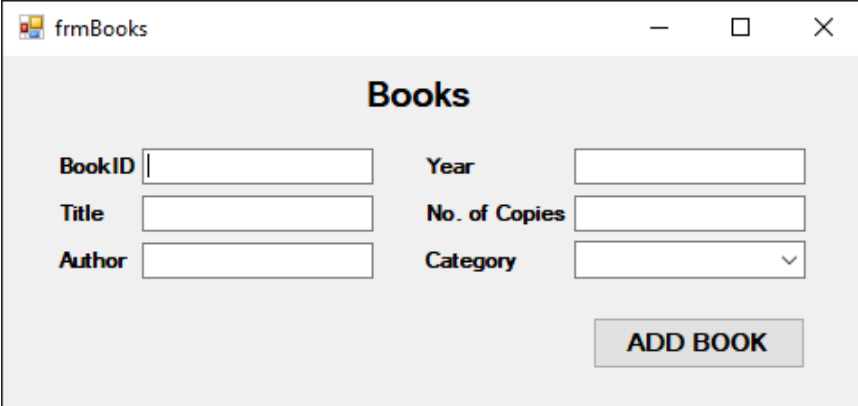
4. Design the **Dashboard Form** as shown in *Figer2*, it should contain ADD BOOK, ADD MEMBER and VIEW FUNCTIONALITY buttons to redirect the appropriate forms.
- Use LOGOUT button to navigate **Login Form** while hiding the Dashboard Form itself.

The image shows a window titled "Dashboard" with a standard Windows-style title bar. The main content area has a light gray background. In the center, there are four buttons stacked vertically. The first button is labeled "ADD BOOK", the second "ADD MEMBER", the third "VIEW FUNCTIONALITY", and the fourth "Logout".

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.

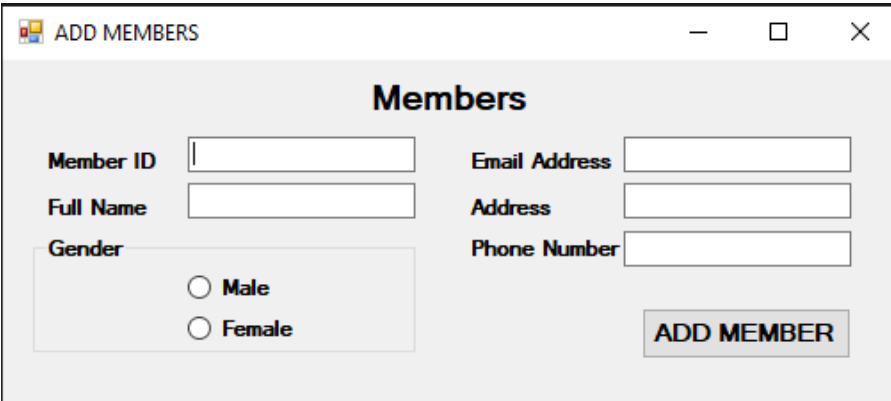


The screenshot shows a Windows form titled "frmBooks" with a subtitle "Books". The form contains six input fields arranged in two columns. The left column has "BookID", "Title", and "Author". The right column has "Year", "No. of Copies", and "Category" (a dropdown menu). An "ADD BOOK" button is located at the bottom right of the form.

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 - 077XXXXXXXX



The screenshot shows a Windows form titled "ADD MEMBERS" with a subtitle "Members". The form contains five input fields and one group box. The left column has "Member ID", "Full Name", and a "Gender" group box with "Male" and "Female" radio buttons. The right column has "Email Address", "Address", and "Phone Number". An "ADD MEMBER" button is located at the bottom right of the form.

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.

The screenshot shows a Windows form titled 'frmSearch' with a subtitle 'View Details'. At the top, there is a 'Category' dropdown menu and a 'VIEW' button. Below these is a large, empty rectangular area, likely a placeholder for a DataGridView. At the bottom, there is a 'Delete' section containing two rows: 'BookID' with an input field and a 'DELETE' button, and 'MemberID' with an input field and a 'DELETE' button.

Figur5

[20%]