LAB221Assignment

Title

Book Management

Background

N/A

Program Specifications

In this assignment, you are required to build book management application, in the form of a desktop application. The program has basic functions: add - edit – delete book information. You are required to use the basic components to design interfaces, use the tabbed pane to organize book management on the one screen. Array List is used to store information.

Program organization must clearly separate functions according to MVC model.

Book information is shown following table

Field Name	Type
bookID	String
bookName	String
author	String
publisher	String
publishedYear	Integer
forRent	Boolean

Features:

This system contains the following functions:

- **Verify constrain of following data type fields – 50 LOC**
  - BookID: max length is 10, not contains special characters

  - BookName: max length is 50

  - Author: max length is 50

  - Publisher: max length is 50

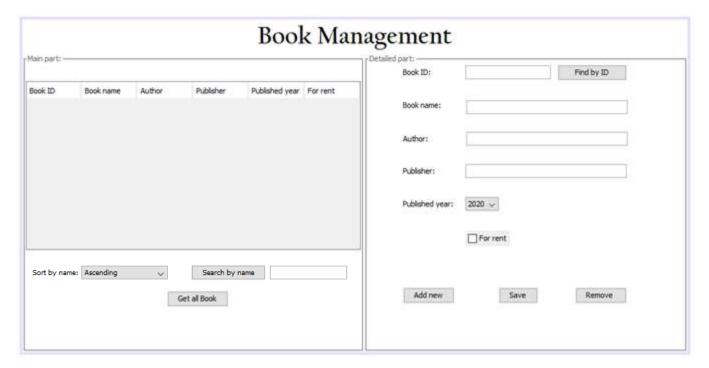 - PublishedYear: must be a number, less than current year

- **Function 1: Create book – 50 LOC**
  - The user presses the Add new button to clear the information at detailed part, and system preparies for new data entry.

  - The user inputs new book information. Then user clicks the Save button.

  - The program checks the validity of data, if data is not valid then display an error message, otherwise system will insert new book into the Array List.

  - The book table must be refreshed after new data has been successfully inserted.

- **Function 2: Show all books – 100 LOC**
  - The screen is divided into 2 parts: main information and detailed information.

o   Main part: this part lists all available books with their information (BookID, Book name, author, publisher, published year, for rent) in the system. **(50 LOC)**

o   Detailed part: when you click a row on the table or the Find by ID button is clicked, system calls findByBookID method **(50 LOC),** if the application finds a match BookID. The details of the respective book are displayed following information as BookID (disable), book name, author, publisher, published year, for rent.

o   Four buttons Find by ID, Add new, Save and Remove button are put in detailed part.

■   **Function 3: Update book – 50 LOC**
o   The user clicks on the book that she wants to modify on the book table.

o   The details of the respective book are displayed.

o   The user changes the information of the book (not allow modify the BookID). The user clicks the Save button.

o   The program checks the validity of data, if data is not valid then display an error message, otherwise system will update book information.

o   The book table must be refreshed after data has been successfully updated.

■   **Function 4: Remove book – 50 LOC**
o   The user clicks on the book that she wants to delete on the book table.

    Then users click the Remove button.

o   The program must display a message to confirm the deletion. If the user confirms, system will delete the selected book.

o   The book table must be refreshed after data has been successfully deleted.

- **Function 5: Search by book name – 50 LOC**
  - The user enters a string name that she wants to find on the book table.

    Then user clicks the Search by name button.

  - The book table will display all data row that their book name contain the string name was entered above, otherwise system will display a message to notify that can not found any the book name.

  - The book table must be refreshed after data has been successfully find.

- **Function 6: Sort by book name – 50 LOC**
  - The book table displays the data in unsorted status. The user clicks on a combo box (sort by name) that she wants to sort the data on the book table.

  - When the user choices the ascending option on the combo box, the system calls sortAscendingByBookName method. The data will be sorted ascending and displayed on the book table.

  - When the user choices the descending option on the combo box, the system calls sortDescendingByBookName method. The data will be sorted descending and displayed on the book table.

  - The book table must be refreshed after data has been successfully sort.

- The above specifications are only basic information; you must perform a requirements analysis step and build the application according to real requirements.
- The lecturer will explain the requirement only once on the first slot of the assignment.