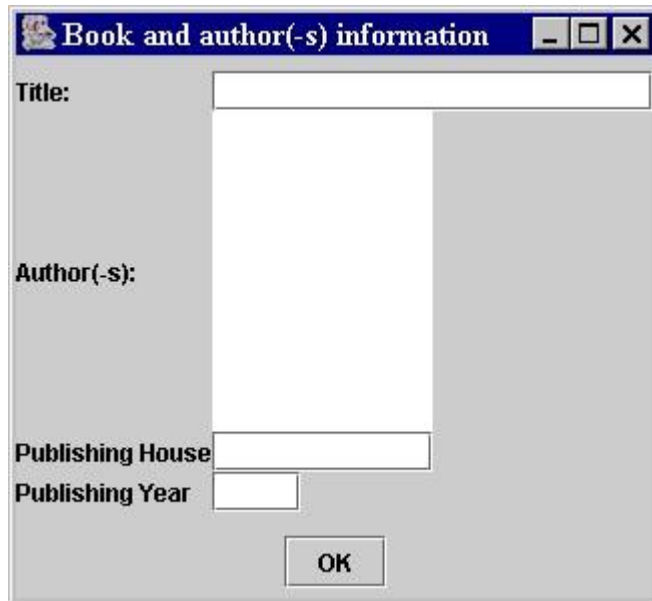


E-Library

Design using design patterns and then implement an application that constructs and displays the books content from an e-library. An e-book is a document formed by four section types: information about book and author(-s) (meaning: book title, first and last names of authors, publishing house name and publishing year), table of contents, content and bibliography. All these sections have in common the header which contains the first and last names of author(-s) and book title.

In order to introduce the information from “Book and author(-s) information” section, the program will display the following graphical interface:



The screenshot shows a standard Windows-style dialog box with a title bar that reads "Book and author(-s) information". The dialog has a light gray background. On the left side, there are four labels: "Title:", "Author(-s):", "Publishing House", and "Publishing Year". To the right of each label is a white text input field. The "Title" field is the largest, followed by "Author(-s)", "Publishing House", and "Publishing Year" which is the smallest. At the bottom center of the dialog is a button labeled "OK".

In order to insert all the information from other sections, we assume that the program supplies a simplified interface which contains a text area where the author will insert a text and press a button such that the program will take the information from text area.

With these information, the program creates a Book object to whom the program associates an ID and memorizes locally, in memory, in a Book object collection. At the session closing, the collection content is memorized in an Access database.

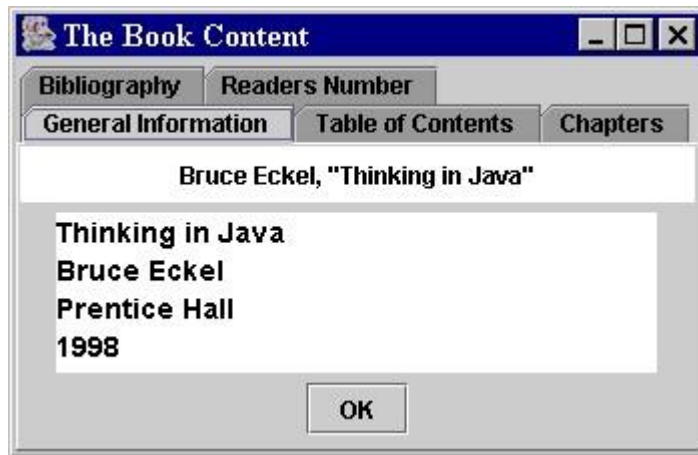
Any reader, which accesses this e-library, can anytime see general information about the books:



The screenshot shows a window titled "The books from e-library" with a blue title bar. Inside the window is a table with five columns: ID, Title, Author, Publishing House, and Publishing year. The table contains three rows of data. Below the table are four buttons: two navigation buttons with double arrows (left and right), a "Show the content" button, and a "Cancel" button.

ID	Title	Author	Publishing House	Publishing year
1	Java de la 0 la expert	A. Tanasa, St. ...	Polirom	2003
2	Limbajul Java. O perspectiva pragmatica	Irina Athanasiu	Agora	1998
3	Thinking in Java	Bruce Eckel	Prentice Hall	1998

Then, a reader can ask to the program to display the book contents, if he chooses a title and press the button “Show the content”. In this moment, the program displays a frame which shows the book content, on sections, like in the following figure:



Finally, the “Readers Number” tab contains a label that shows the number of readers that read the book.

Hint. Use the following design patterns: Builder, Decorator, Controller, Singleton, Iterator, Observer.