deep se
dependable evolvable pervasive software engineering group

Exercise Session – Book Library

Danilo Ardagna

Politecnico di Milano
danilo.ardagna@polimi.it

POLITECNICO DI MILANO

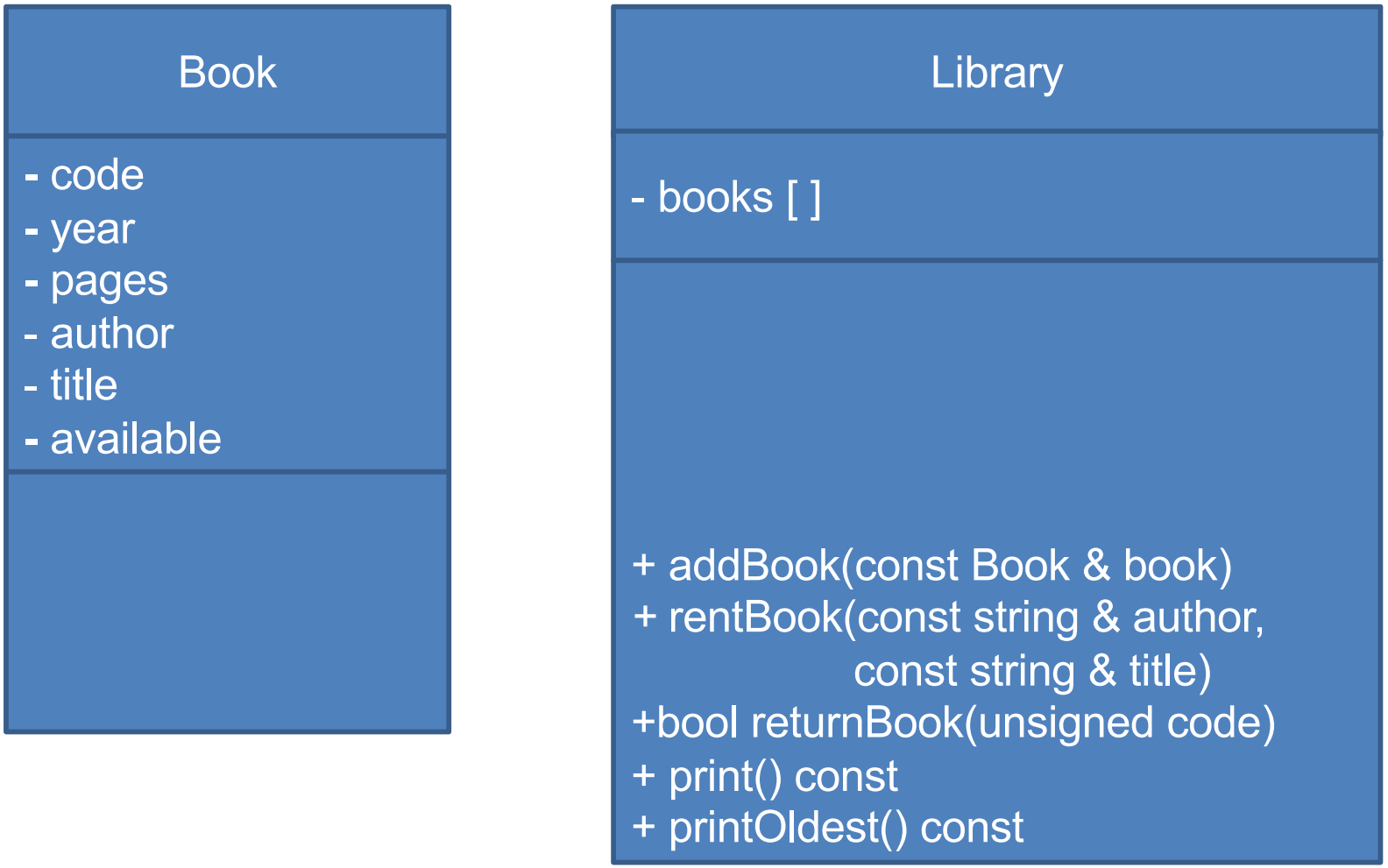
Goal

- Design and implement a **Library service**
- You are provided with the structure of the two main classes of your application: **Book** and **Library**
- **Book**: stores book details and provides basic access to data
- **Library**: stores all books and implements the Library service operation (e.g., rent a book, return a book, etc.)

Library interface

- **void** addBook(**const** Book & book)
  - *add a book to the library*
- **int** rentBook(**const** string & author, **const** string & title)
  - *return the book code or -1 if the book is not available*
- **bool** returnBook(**unsigned** code)
  - *“return” to the library the book with the specified code*
  - *return*
    - *false if the code is not found/the book is available*
    - *true otherwise*
- **void** print() **const**
  - *print all library data*
- **void** printOldest() **const**
  - *print the data of the oldest book*

Class Diagram



Library private methods

- **int** find(**const** string & author, **const** string & title) **const**
  - *return the index of the book*

- **int** findAvailableBook(**const** string & author,
  const string & title) **const**
  - *return the index of the first available book*