

## Development of layered applications



### Objectives

*Using Python to solve complex problems*

- Implement simple programs using Python
- Implement classes
- Develop unit tests
- Treat exceptions



### Requirements

Implement an application to manage a list of books.

Consider the following layers:

- Domain layer (with class *Book*)
- Infrastructure layer (with class *BookRepository*)
- Application layer (with class *BookController*)
- User interface layer (with class *BookUI*)

Class *Book* – information about code, list of authors, title, year, price.

Features (CRUD operations in *BookRepository*):

- Add a new book to the library
- Insert a book to the library
- Delete a book from the library
- Delete all books written by a given author
- Delete all books in given period (two years are specified)
- Get all books
- Get all books from a certain year
- Get all books with title containing a given word
- Determine the oldest book
- Filter books with author starting with specified letter
- Identify books with at least 2 authors
- Update book by code

A test package should contain the unit tests for *Book* and *BookRepository*.