LAB NR. 12
OO PROGRAMMING

January 4, 2024

Today, you will use features of Reflection in Java programming language to examine and manipulate internal properties of the library program written in the previous labs (use the first version without subsequent modifications).

Create an object of `Class` for the `Book` class created during the last lab, using `forName()` method which takes the name of the class to be reflected as its argument. Create it also using `getClass()` method and `.class` extension. You will use this object to get information about the corresponding class at runtime. Using object of the `getClass()` get and print all the declared methods of `Book`. To this end, create an object of the `Method` class, looping over all declared methods, get names of methods, get the access modifier of methods and get the return types for each method.

Add the private field *pagesNr* to the `Book` class and set its default value as 100. Use Reflection to get and to modify the value of this private field. Likewisely with methods, list and inspect all the fields with their access modifiers in the `Book` class.

Get the superclass for `Book` class, using Reflection, and inspect all methods and fields of the superclass.

Add the private constructor and the public constructor for the `Book` class with different number of arguments as the original constructor. The constructurs should set some arguments with default values, while leaving the others, you can add some extra fields to the class. Using Reflection, find the information about the constructors of the class.