Programming Lanuguages 2
Lesson 2

Your task is to create your first class in NetBeans (not counting the Main class)

1. Create a new *project* in NetBeans the name of it should be LibraryProject, the *package* name is libraryproject.
   (File → New Project → Java / Java Application → Create main class)

2. In the same project in the same package create a new class named Book. A Book has three **public** properties: the title of the book (**String**), the author of the Book (**String**) and the date of publishing (int).
   (Hint: Right clicking on the name of the <u>package</u> provides you a menu in which you can select „New file...". Here you can select „Java Class".)

3. In the main class **instantiate** your first Book **object**. Set the values of the new Book to "Thomas Harris – The silence of the lambs – 1988".

4. Print out the properties of this book to the screen.

5. Create a new class named Book2 with the same **attributes** as Book. This time set the visibility of the attributes to **private.**

6. Write a getter and a setter method for the title attribute. (getters get the value of the attribute, while setters set it)

7. Generate getter and setter methods for the other two attributes.
   (Right click on Book2 in the bottom-left corner select „Refactor... → Encapsulate fields...", select the methods to be generated and click „Refactor".)

8. In the main class (LibraryProject) instantiate a new Book2 object „Thomas Harris – Red Dragon – 1981". Print out its properties.

9. Add a new **Constructor** to the Book2 class. Create it so that it sets all three attributes during the instantiation.
   Note that after adding your own constructor to the class, the default constructor does not work anymore. You have to add it.

10. Instantiate a new Book2 object in the main class with the following data: „Thomas Harris – Hannibal – 1999". Print out the properties of this book as well.

11. *Override* the *toString* method of the Book class so that it returns the properties of the book in the following format: "Author: title (year)". E.g.: "Thomas Harris: Red Dragon (1981)".

12. *Override* the *equals* method of the Book class so that two books are equal if their authors and titles match, but do not care about the year. In the main class try some examples of books that are equal and some that are not.