Fall 2022: CS 203 - Object-Oriented Programming

Assignment 5

Book Store Application ***due on 11/20/2022 Sunday 11:59 pm***

Objectives:

- To practice Java GUI using Swing

Book Store Application

In this homework, we will be creating a software for a small bookstore in the neighborhood. The manager of the bookstore needs a computer program to keep record of the inventory and the rented books. The program should be able to perform the following operations:

- Display a list of all of the books in the store (full information) **[20 points]**
- Search a book by title and show the details of a particular book (title, author, number of pages, publisher, year, copies in the inventory, category) **[20 points]**
- Rent a book **[20 points]**
- Display a list of all of the bookstore's customers (full information) **[20 points]**
- Search a customer by name and display the details of a particular customer (firstname, lastname, email address, phone number, physical address) **[20 points]**
- Display a list of all of the books rented by a particular customer – by last name
    - Display the names and authors of the books **[bonus +20 points]**

Hints:

- You will need three different list:
    - A list of all of the books in the store
    - A list of all of the customers of the store
    - A list of the books currently rented by the customers

- You need to read keep the records in a txt file (read from file/ write to file)
- You should decide the required/useful components to include.
- Assume, I am your customer and don't have a CS background. Thus, you shouldn't expect detailed information from me. Additionally, you need to design a simple and **effective GUI** that I can use
- Your homework will be graded by the functionality. Firstly, create something that is working without any issue, then you can improve/beautify the GUI.
- It is your task to identify the necessary classes, attributes and methods.

Homework Submission Instructions

You can work with a friend (group of two), or you can do it alone.

- ***Deliverables:***
    - A well written project report (.pdf)
        - Explain your classes, attributes and methods. Explain how you implemented the Inheritance, and benefits of this implementation
        - Put the screenshots of your outputs (the working version of your code)
    - Project.zip file
        - Submit the working version of the whole project file
        - Do not submit only the classes
    - Independent/group completion form

- Submit your files to Canvas (other submission methods will not be accepted)

If any of the problem statements is unclear, use the Canvas discussion board to ask for clarifications.