Assignment #: 01
Course: EECS2011 E
Professor: Jia Xu
Name: Akalpit Sharma

Project Report

Main functionalities.

This system allows us to:

1) Add a new book or update amount of the existing book.

2) Print all available books to the console.

3) Search for books which title matches user input.

4) Read all books from the file and upload them to the ArrayList.

5) Save all books to the file so it could be used to load books later.

Interface design:

This application has a console based interface when a user starts the program, a text menu appears. Every menu row responds to the system function. In order to call one, the user should input right number to the console and press enter. If the number is not correct, an error appears and the program waits for new user input. Scanner class was used to read input from user.

Object oriented programming.

For the creation, storing and updating the book, we created class Book that has all necessary fields for the system. They are encapsulated and can be only accessed via getters or setters. Two constructors first take all fields as arguments, the second takes String array as an argument and then process it and convert to the fields. It was necessary for creating books from the file. Method toString() was overridden, as we wanted another format of output to the console.

Technical aspects.

1) List. It is very good data structure to work with book objects.

2) Try-catch blocks. They are helping to prevent program crashes.

3) Input/Output. Each line is read and then split them into a String array and then work with it.

4) We used exceptions and validation to check whether input is correct or not.