Major Program 1

In this project, we develop a library database that creates an easier interface for the customers to search for the books they need. Every book will have following details:

1. Author – First name, last name
2. Tile
3. Year Published
4. Publisher name
5. Genre
6. Rating
7. Price

For this we will develop three classes : Author, Book, BookDatabase

Author
- firstName: String -lastName: String
+ Author() +Author(firstName, lastName) //Accessor and mutator methods +toString(): String

Book
- author: Author -tile: String - year: int - publisher: String - genre: String - rating: double - price: double
+ Book() + Book(author, tile, year, publisher, genre, rating, price) //Accessor and mutator methods +toString(): String

BookDatabase
- books: ArrayList<Book>
+BookDatabase() + BookDatabase(ArrayList<Book>) //Accesor and mutator methods + addBook(Book): Void + removeBook(Book): Void +search(Author): ArrayList<Book> +search(startYear, endYear): ArrayList<Book>

+ search(genre): ArrayList<Book> +toString(): String

addBook Method:

This method is to let you add a single book to the arraylist of books

removeBook Method:

This method is to let you remove a single book to the arraylist of books

Search(Author)

This method will let you search your arraylist of books with a given author name. You can consider creating an author object and search using that object

Search(startYear, endYear)

This method will let you search your arraylist of books with a given year range. For example, if user wants to search for a book that is published anywhere from 2000 to 2010. All the books whose "year" falls in this range should be returned.

Search(genre)

This method will let you search your arraylist of books with a given genre.

Create a client class to read from "MP1.csv" and store it in BookDatabase object. Call various search methods for the purpose of demonstration

Grading

If your project does not compile, it receives a grade of zero. If you do not document your program according to the documentation guidelines, the graders have been instructed to deduct **up to 25%.**

Level 1 (40%): Implement all the classes Book ad Author.

Level 2 (10%): Implement the BookDatabase class except search methods.

Level 3 (30%): Implement three search methods. Each search method is worth 10%.

Level 4 (20%): Implement the client demonstrating all search criterias