Java Intermediate Upskilling Program Pre-assessment

NAME

LOCATION

TECHNICAL BACKGROUND

WHAT IS YOUR MOTIVATION FOR JOINING THE JAVA INTERMEDIATE PROGRAM?

PLEASE SOLVE THE FOLLOWING EXERCISE:

Write an application for a library. The application will store:

Book: <id>, <title>, <author>. (eg: 1, Gone with the Wind, Margaret Mitchell)
ComicBook: <id>, <series>, <number> (eg 100, The Amazing Spider-Man, 42)
Client: <id>, <name>.
Rental: <id>, <itemId>, <clientId>, <rented date>, <returned date>.

Create an application which allows the user to:
1. Manage the list of clients, books and comic books. The application must allow the user to add, remove, update,
and list clients, books and comic books.
2. Rent or return a book/comic book. A client can rent only available books/comic books. A client can return a rented book/comic book at any
time.

3. Search for clients, books or comic books using any one of their fields (e.g. books can be searched by using id, title
or author). The search must work using case-insensitive, partial string matching, and must return all matching items.
4. Sort clients (by name), books (by title and author) and comics (by series - different numbers of the same series will be ordered by this field desc;eg: The Amazing Spider-Man 41 will be listed before The Amazing Spider-Man 42)
5. (Optional/Bonus) Unlimited undo/redo functionality. Each step will undo/redo the previous operation performed by
the user. Undo/redo operations must cascade and have a memory-efficient implementation (no superfluous list copying).