Library Management v1.0.0

Prerequisite

- Candidate must have registered on **https://github.com**, if not they should register, to continue with the test.
- Once registered they can share their personal **https://github.com user name / mail id** to carrier contact person so that they will be given access to private repository.
- There would be a private repository given to each candidate with minimal setup, so they can check in their code.

Expectation

- We want to understand your thought process as a programmer and the value you bring when you will build software.
- We are interested in your object oriented or functional design skills.
- We are also interested in understanding how you make assumptions when building software, if a particular workflow or boundary condition is not defined in the problem statement below.

Problem statement

- Design a library management system to manage
- A library management system is to primarily manage housekeeping activity of a library

Requirement

- Any library member should be able to search books by their title, author, subject, and category and publication date.
- Each book will have a unique identification number and the shelf number where the book is kept.
- There could be more than one copy of a book, and library members should be able take maximum of 10 books.
- The library member can reserve a book.
- The library members should be able to reserve books that are not currently available.
- The library member can check-out a book if available.
- The system should able retrieve information, who took a particular book or what are the books reserved / check-out by a specific library member.
- The library member can keep maximum of 20 days of the book.
- The system should able to collect fines for books after due date.
- The system should be able to send notifications whenever the reserved books become available, and book those are not returned within the due date.

- A library administrator should find total number of books by category, subjects, and author.
- A library administrator should find in-disciplined library member (member's those having habit of not returning books by due date).
- Each book and member card will have a unique barcode. The system will be able to read barcodes from books and members' library cards. (**This could be optional**).

Note

- Candidate are free to use any open source libraries for their use e.g. they can use any in-memory database for their database requirement etc.
- Candidate are expected to check in only source files.
- The project should contains clear cut instruction how to build / test.