ASSIGNMENT :
TO CARRY OUT BASIC CRUD OPERATIONS USING GET AND POST METHODS (IN MEMORY)

TECH STACK :

1. **ECLIPSE IDE**
2. **SPRING BOOT**
3. **MAVEN AS BUILD TOOL**
4. **DEPENDECIES: JPA, Spring web, H2 database**
5. **Postman app for testing the get and post requests**

Went to the Spring initializr website to generate basic project structure. Added 3 dependencies :
1. Spring web
2. JPA
3. H2 Database

Downloaded the zip file, extracted it and then imported into my eclipse ide.

Created a model class called Book with the data members as : id, bookname, author, price. Used the annotation @Entity and the @table for the class and @Column annotation for all the data members. Used the @Id for id data member.

Created a repository interface and named it BookRepository. It extended the

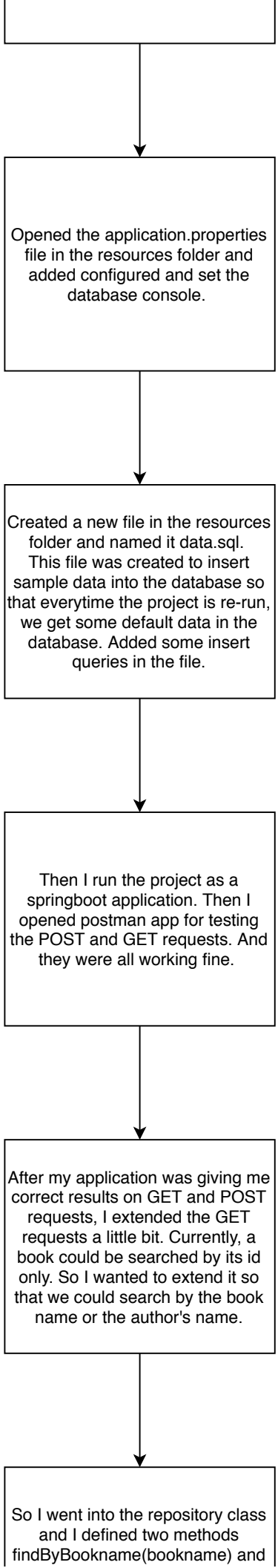
CrudRepository.

Then created a service class and named it BookService. Its purpose was to serve the business logic. Used @Service annotation. Then created methods for fetching or writing data on to the database. Created a save() method for writing data and getAllBooks() and getBookById() for reading from the table.

Then I created a Controller class and used annotation @RestController for the same. Then created methods for handling POST AND GET requests. Created a service class object using the concept of loose coupling. Declared the object using annotation @Autowired.

Created a method saveBook() for post requests. Used the annotation @PostMapping("/book").

Created a method getAllBooks() which will handle the GET request to return the list of all the books. Used annotation GetMapping("/books"). Created another method getBookById(int id) which will handle all GET requests with a specific book id.


Opened the application.properties file in the resources folder and added configured and set the database console.
Created a new file in the resources folder and named it data.sql. This file was created to insert sample data into the database so that everytime the project is re-run, we get some default data in the database. Added some insert queries in the file.
Then I run the project as a springboot application. Then I opened postman app for testing the POST and GET requests. And they were all working fine.
After my application was giving me correct results on GET and POST requests, I extended the GET requests a little bit. Currently, a book could be searched by its id only. So I wanted to extend it so that we could search by the book name or the author's name.
So I went into the repository class and I defined two methods findByBookname(bookname) and

findByAuthor(author). I added the corresponding methods for the same in the service class and the controller class.

So after that I was able to search a book using the book name or author name. But the problem was that the string passed in the GET request url had to be exact. So I modified the methods for find in the bookRepository class.

Modified the function findByBookname to findByBooknameContaining IgnoresCase(). This is because the case of the string shouldn't matter during search and also the case one need not enter the full name to get the result. Did similar changes for the method findByAuthor().

The objectives of the assignment were achieved as all the get and post methods worked according to the expectations.