CSE 385 Final Project Documentation

Files Submitted:
- **Data files:**
    1. **books.csv**
    2. **authors.csv**
    3. **members.csv**
    4. **records.csv**
- **Java file:**
    LibraryManagement.java
- **JAR File:**
    mysql-connector-j-8.2.0.jar
- **.SQL File:**

Software Applications used:
- **Java 11**
- **Eclipse IDE for Enterprise Java and Web Developers**
- **MySQL Workbench**

Resources Used :

Data Gathering Resource - Used the data-generating application, Mockaroo. Used it to generate my books.csv, members.csv, and authors.csv files. Link - https://www.mockaroo.com/

External Libraries - I added the mysql-connector-j-8.2.0.jar as one of my referenced libraries to connect my Java program to my library database in MySQL Workbench. I downloaded the Active JAR file from https://dev.mysql.com/downloads/connector/j/5.1.html

Set of Complete Installation Instructions:

1. I utilized the 'Eclipse IDE for Enterprise Java and Web Developers,' and I recommend using this specific IDE.

2. To incorporate the submitted .sql files into your MySQL Workbench, designate your database name as library since the program relies on recognizing the library database to run the program.

3. To establish a successful connection between the Java program and the Library Database in your MySQL Workbench, add your MySQL Workbench username and password to line 46 in the following manner:

```
Line 45     // Connection for MySQL database
Line 46 private static final String JDBC_URL =
"jdbc:mysql://localhost:3306/library?user=root&password=1234";
```

This amendment is crucial because, without it, the Java program will be unable to access the library database in your MySQL Workbench. Ensure you replace 'root' and '1234' with your actual username and password.

4. Additionally, for a seamless connection between the Java program and the SQL Database, you must add an external JAR file named 'mysql-connector-j-8.2.0.jar.'

Download it from https://dev.mysql.com/downloads/connector/j/5.1.html, selecting 'Platform Independent' as your operating system. Choose the 'ZIP Archive' option, download the file, and add it to your project's referenced libraries.

5. To add the JAR file to your Eclipse Java Project, follow these steps:

- Right-click on your project name (e.g., 'Library Management System').
- Select 'Build Path' and then choose 'Configure Build Path.'
- Under 'Libraries,' choose 'Classpath.'
- Click 'Add External JARS' on the right side of the screen.
- Select the downloaded 'mysql-connector-j-8.2.0.jar' file.
- Click 'Apply' and 'Close.'

6. After these steps, you'll find a 'Referenced Libraries' tab in your Java project folder, and the 'mysql-connector-j-8.2.0.jar' file should be listed there, enabling a successful and secure connection to the library database in your MySQL Workbench.

7. You should be good to execute and run the program.

GUI Usage Instructions:
I have an Library Management System.

The application has the ability to add and remove books along with updating the book information in the database. It also finds author's and the member's information. For processing the added and existing information, it can display the top 5 most liked books.

- For adding a book/Member:
1. Fill out all the fields with the details of the book in the Books/Member Information Section.
2. Then, click on the 'Add book'/Add Member button under the 'Actions/ Members Section.
3. The book/member details will be successfully added to the books/members table in the library database.

- For removing a book/member from the database:
1. Click 'Remove Book/Member' button

2. Then a dialogue box will pop up asking: Enter the book/member name to remove

3. Enter the book/member name and click ok

4. If the book/member exists, it will be successfully be removed from the database.

– Update Record:

1. Click 'Update Record' button

2. Then a dialogue box will pop up asking: Enter the book title to update

3. Following that, it will ask you to update all the required book leasing information. Once you submit ok, it will update the information in the records table in the database.

Find Member/Book Info
1. Click the button and it will ask you to enter the book/member name
2. Following that, press ok and it will give you all the detailed information regarding the book/member.

For the "Display Top Liked Books"

1. All the books have a star rating (out of 5) and a book rating is added when a new book is added to the system.The Display Top 5 Liked button displays the top five books that are most rated among all the books in the books table.