Library System Design Document

This project uses the JDBC to connect the Java to MySQL. I create the host:3306 and set the password “fghj”.

Workbench:

Then I create the new schema DBlibrary. I totally create six tables AUTHORS, BOOK, BOOK\_AUTHORS, BOOK\_LOANS, BORROWER, FINES. These six table will be correlated with the Java class. We can have data for the AUTHORS,BOOK, BOOK\_AUTHORS, and BORROWER, the rest of the table will be implemented in Java.

Reference:

I used mysql-connector-java-5.1.42-bin.jar, rs2xml.jar to make connection with JDBC connection and do operation on the MySQL for the data representation. Use java Swing to do some GUI operation.

Log on:

In the logon panel, it is very easy to click on the “click me” button. And the first panel will disappear, it will have four components in the next Panel. They are Book Search, Book Loans, Borrower Management, and Fines.

Book Search:

Search for either ISBN, Book Title, or Authors, it will appear with all the book related or similar to your input. The result is case-insensitive.

Book Loan:

The left part is help you to check out. You can input both ISBN and Card ID to check out for the book. It will create some mistake if one people has more than three books, or the book has been rented out. Otherwise, the book will be checked out, and the book\_loan table will be recorded.

The right part is help you to check in. You enter ISBN or Card Id, then search, click on the book you want to check in, and click check in. If The book has the check in date, then you cannot check in this book because it is in our library.

After check the book in, search it again and it will have date in.

Borrower Management:

You need to input all the information correct, and it will automatically give a new card\_id for you and record into borrower.

Fines:

Enter the card ID to check Fine. If you pay the fine, then selection update, then it will appear in the screen. Normally, if you rent out today, you will not see your fines.