# Library Management System

## Features:

* Add, Remove, Update, Search Books
* Add, Remove and Search Members
* Issue Books
* Login Facility
* A member can follow other members too (in updated version)
* Whenever a member starts reading a new book, his follower will receive a notification (in updated edition)

## Technologies Required

* Java Swing, JDBC
* MySQL as database

## Table Structures:

### Books Table Structure

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Column name | Accession Number | Book Title | Author Name | Publisher Name | No. of copies variable |
| Feature | Primary Key | -x- | -x- | -x- | -x- |
| Datatype in Java | Number | String | String | String | Number |
| Datatype in MySQL | Int | Varchar2 | Varchar2 | Varchar2 | Int |

### Members Table Structure

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Column name | Member Id | Email | First Name | Last Name | DOB | Password (Encrypted /Unencrypted) | Books Read |
| Feature | Autogenerated | -x- | -x- | -x- | -x- | -x- | Referenced by the accession number |
| Datatype in Java | int | String | String | String | String | String | String |
| Datatype in MySQL | Int AI | Varchar2 | Varchar2 | Varchar2 | Date | Varchar2 | Varchar2 |

### Issue Table Structure

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Column name | Issue Id | Accession Number | Member Id | Date Book Issued | Date Book to be Returned | Original Date Book Returned | Late Fines |
| Feature | Primary Key | Foreign Key | -x- | -x- | -x- | -x- | Default value is 0 |
| Datatype in Java | String | Int | int | String | String | String | Number |
| Datatype in MySQL | Varchar2 | Int | int | Date | Date | Date | Double |

### Books Read Structure

|  |  |  |
| --- | --- | --- |
| Column name | Member Id | Accession Number |
| Feature | Primary Key | Foreign Key |
| Datatype in Java | Int | Number |
| Datatype in MySQL | Int | Int |

### Followers Structure

|  |  |  |  |
| --- | --- | --- | --- |
| Column Name | Member ID | Following | Followers |
| Feature | Primary Key |  |  |
| Datatype in Java | Int | String | String |
| Datatype in MySQL | Int | Varchar2 | Varchar2 |