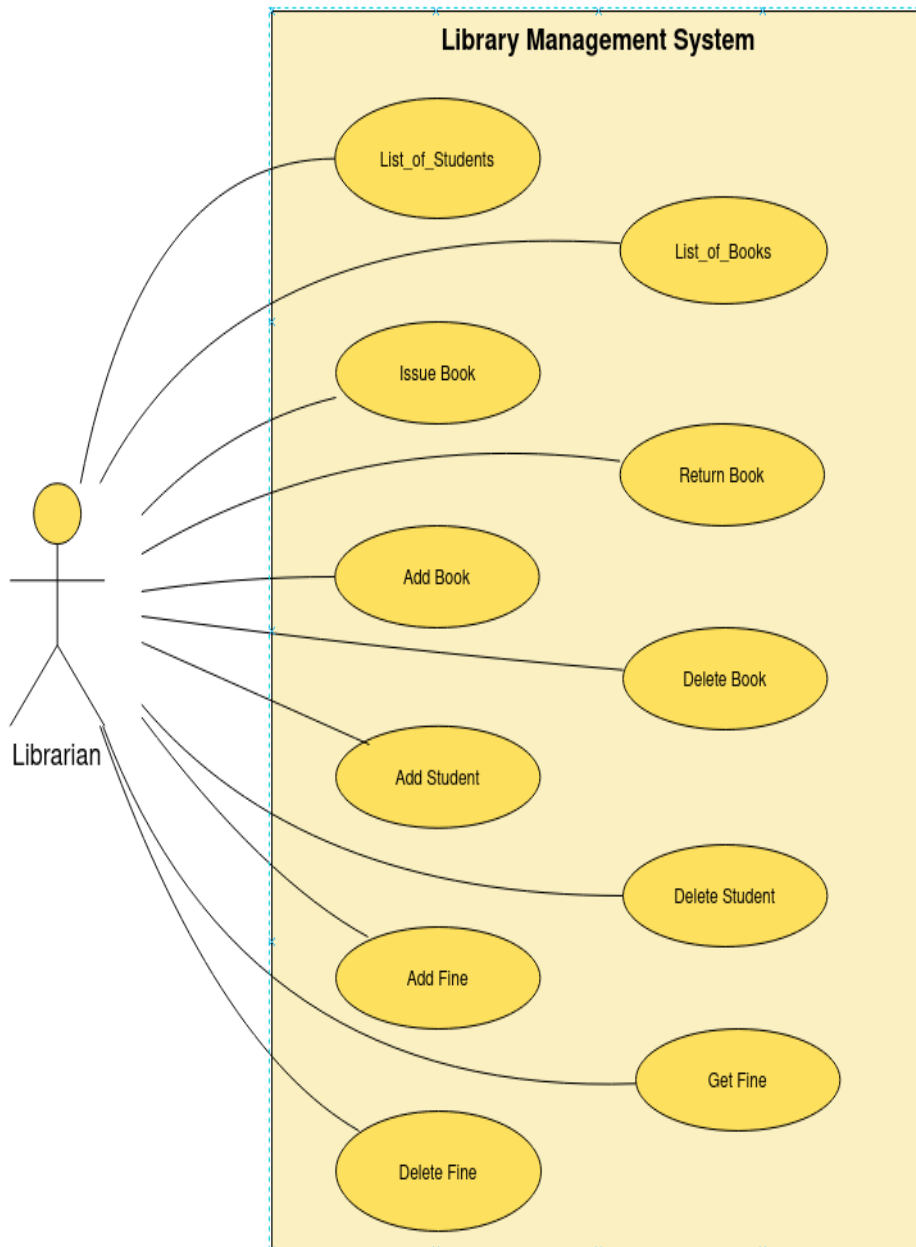


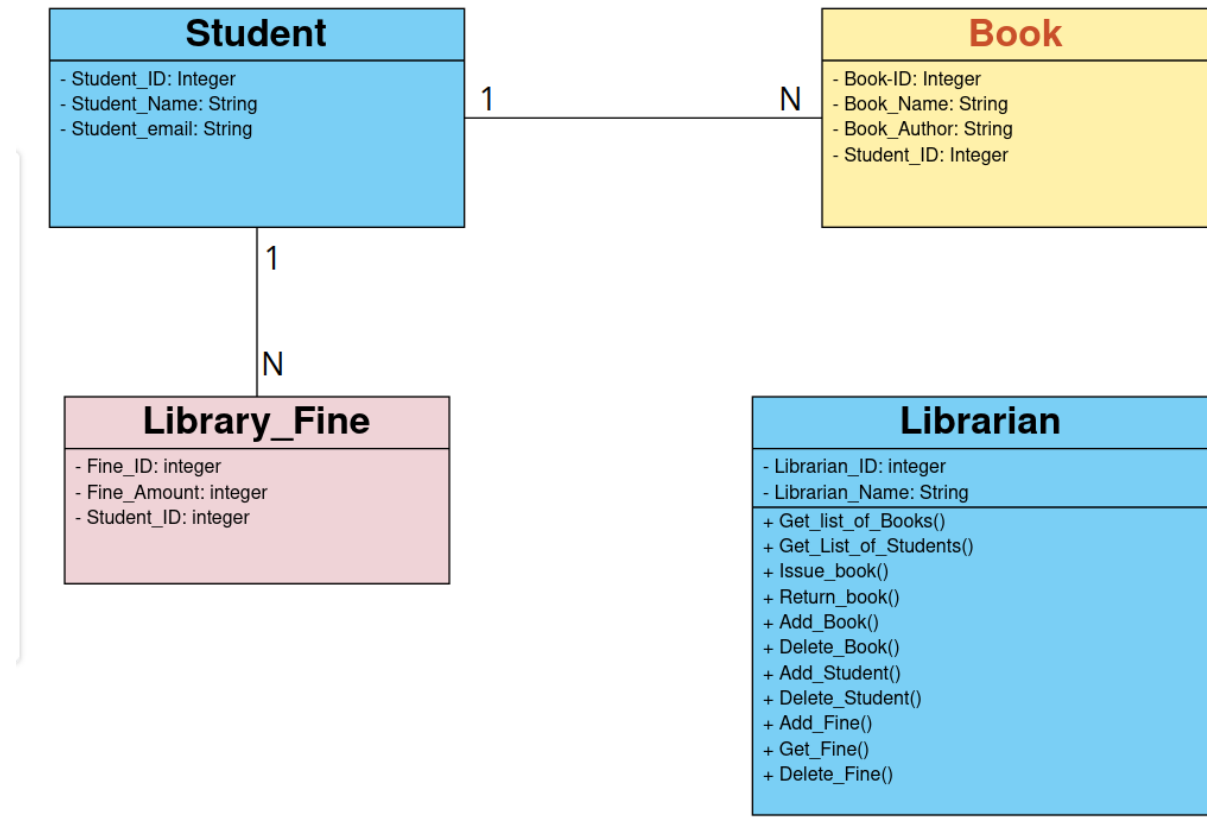
Project Report

- IMT2020039

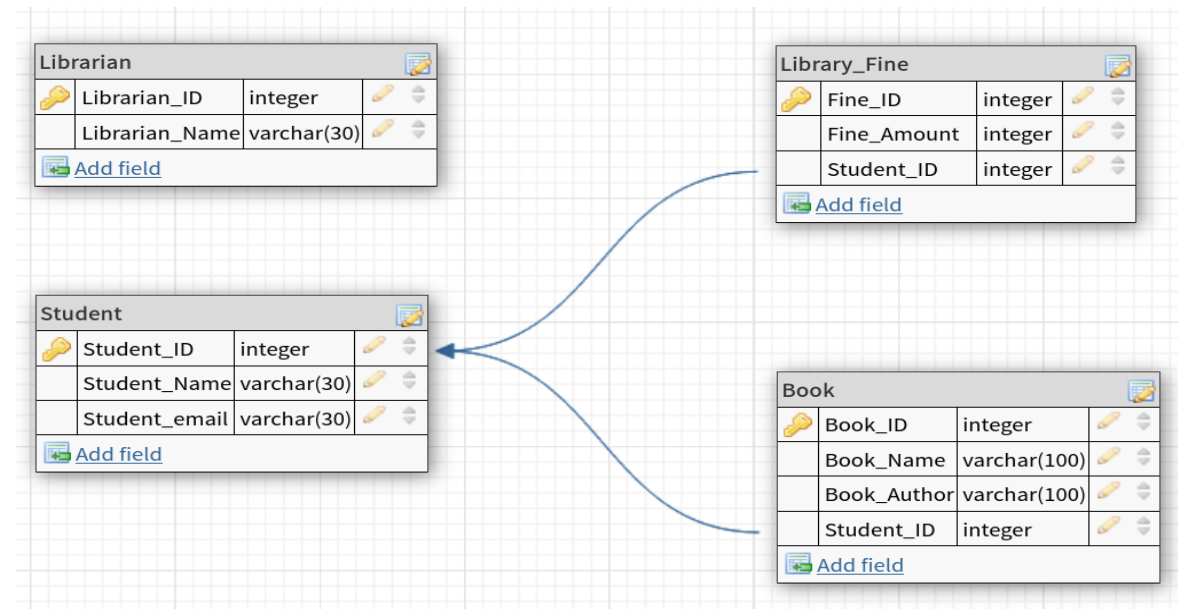
1. Use Case Diagram



2. UML Diagram



3. OR Mapping (DB Design)



4. Output Screenshots

- Starting the System:

```
--- Welcome to Library Database Management System ---

Please Select an Operation:
1. List of all books
2. List of all Students
3. Issue a book
4. Return a book
5. Add a book
6. Delete a book
7. Add a Student
8. Delete a Student
9. Add a Fine
10. Get Total Fine Due for a particular Student
11. Delete Fine
12. Exit

ENTER YOUR CHOICE: █
```

- Displaying Book Table

```
mysql> select * from Book;
+-----+-----+-----+-----+
| Book_ID | Book_Name | Book_Author | Student_ID |
+-----+-----+-----+-----+
|      1 | DBMS      | Uttam Kumar |      NULL |
|      2 | OS        | Thangraju   |         2 |
|      3 | DAA       | Pradeesha   |      NULL |
|      4 | HOI       | Bidisha     |         1 |
+-----+-----+-----+-----+
4 rows in set (0.00 sec)
```

- **Running Command 1 (list of all books)**
 - **It makes use of SELECT Operation.**
-

```
ENTER YOUR CHOICE: 1

-----Output-----
List of all Books:

ID : 1
Book Name: DBMS
Author : Uttam Kumar
Student_ID : null

ID : 2
Book Name: OS
Author : Thangraju
Student_ID : 2

ID : 3
Book Name: DAA
Author : Pradeesha
Student_ID : null

ID : 4
Book Name: HOI
Author : Bidisha
Student_ID : 1

-----
```

-
- **Running Command 5 (Add Book)**
 - **It makes use of INSERT Operation.**
-

```
ENTER YOUR CHOICE: 5

-----
Enter Book ID: 5
Enter Book Name: DSA
Enter Book Author: Kanetkar

Book Add Success!!
-----
```

- Updated Book Table:

```
mysql> select * from Book;
+-----+-----+-----+-----+
| Book_ID | Book_Name | Book_Author | Student_ID |
+-----+-----+-----+-----+
|      1 | DBMS      | Uttam Kumar |      NULL |
|      2 | OS        | Thangraju   |      2    |
|      3 | DAA       | Pradeesha   |      NULL |
|      4 | HOI       | Bidisha     |      1    |
|      5 | DSA       | Kanetkar    |      NULL |
+-----+-----+-----+-----+
5 rows in set (0.00 sec)

mysql> 
```

- Running Command 6(Delete Book)

- It makes use of DELETE Operation.

```
ENTER YOUR CHOICE: 6
-----
Enter Book ID: 2
Book Delete Success!!
-----
```

- Updated Book Table:

```
mysql> select * from Book;
+-----+-----+-----+-----+
| Book_ID | Book_Name | Book_Author | Student_ID |
+-----+-----+-----+-----+
|      1 | DBMS      | Uttam Kumar |      NULL |
|      3 | DAA       | Pradeesha   |      NULL |
|      4 | HOI       | Bidisha     |         1 |
|      5 | DSA       | Kanetkar    |      NULL |
+-----+-----+-----+-----+
4 rows in set (0.00 sec)
```

- Running Command 3(Issue Book)

- It makes use of UPDATE Operation.
-

```
ENTER YOUR CHOICE: 3

-----
Enter Book ID: 3
Enter Student ID: 1

Book Successfully Issued
-----
```

- Updated Book Table:

```
mysql> select * from Book;
```

Book_ID	Book_Name	Book_Author	Student_ID
1	DBMS	Uttam Kumar	NULL
3	DAA	Pradeesha	1
4	HOI	Bidisha	1
5	DSA	Kanetkar	NULL

```
4 rows in set (0.00 sec)
```

5. Notes & Instructions to run the code:

- I have created a Library Management System. The database is named "Library".
- Data is populated into the database using the file "Library_create.sql".
- Data Base can be made and populated by simply running the command:
"source (Path of Library_create.sql file)" in MySQL.
- The Database user is the Librarian who can perform desired operations on the database.
- To Run the code:
 - Run the Following Commands on Terminal:
"javac Jdbc_IMT2020039.java"
"java Jdbc_IMT2020039"

END
