

## PROBLEM SCENARIO:-

The Indian Government wants to develop a **Library Management System (LMS)** to store information of the members, books, status of books issue, book availability and supplier's details.

### List of Tables:-

Table 1: - LMS\_MEMBERS

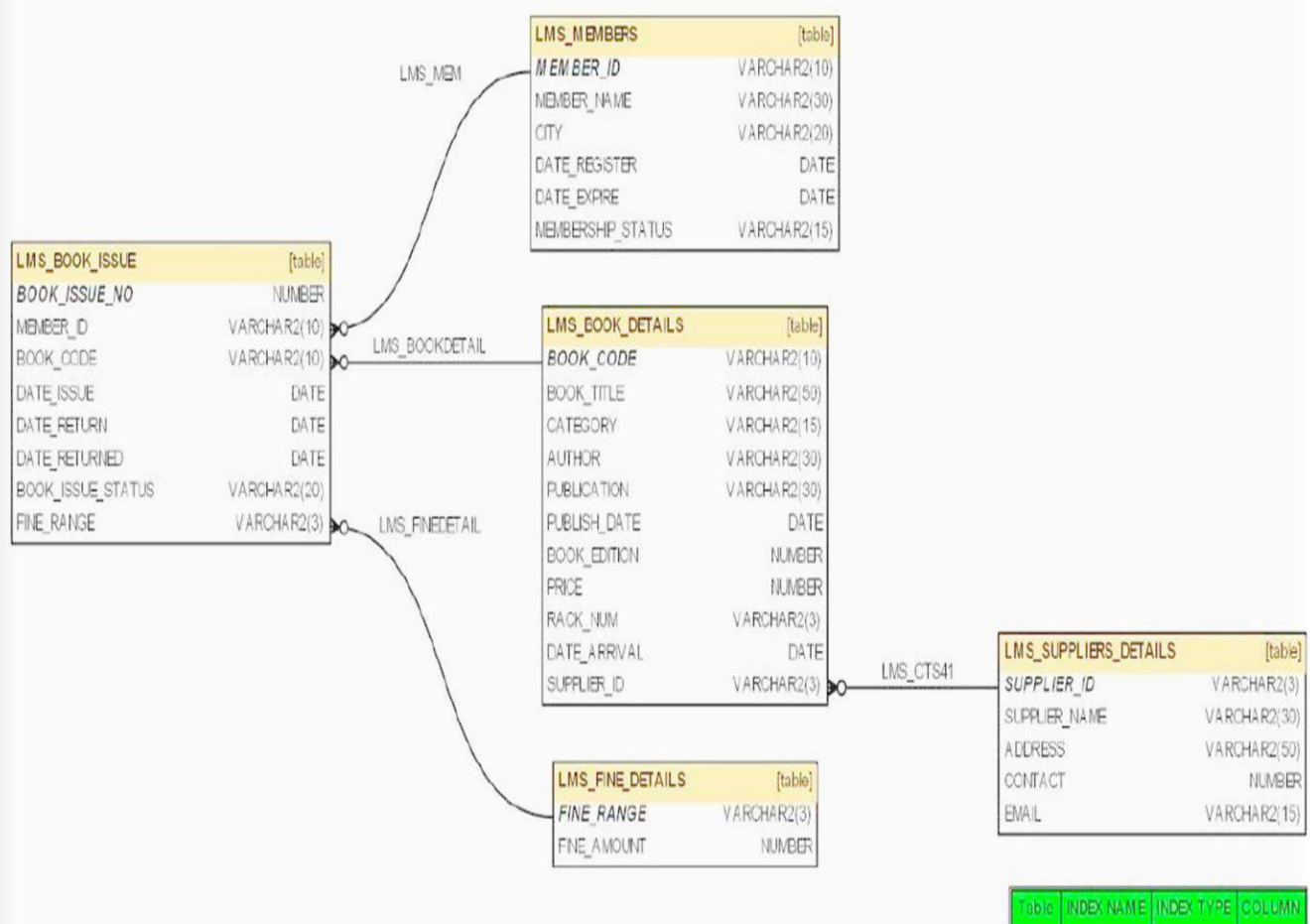
Table 2: - LMS\_SUPPLIERS\_DETAILS

Table 3: - LMS\_FINE\_DETAILS

Table 4: - LMS\_BOOK\_DETAILS

Table 5: - LMS\_BOOK\_ISSUE

### ER Diagram:



## Questions -

- **Problem # 1:**

Write a query to display the member id, member name, city and membership status who are all having life time membership. Hint: Life time membership status is "Permanent".

```
mysql> select MEMBER_ID, MEMBER_NAME, CITY, MEMBERSHIP_STATUS from lms_members where MEMBERSHIP_STATUS = "Permanent";
```

MEMBER_ID	MEMBER_NAME	CITY	MEMBERSHIP_STATUS
LM003	GAYAN	CHENNAI	Permanent

```
1 row in set (0.00 sec)
```

- **Problem # 2:**

Write a query to display the member id, member name who have taken the book with book code 'BL000002'.

```
mysql> select lms_members.MEMBER_ID, lms_members.MEMBER_NAME, lms_book_issue.BOOK_CODE from lms_members inner join  
-> lms_book_issue on lms_members.MEMBER_ID = lms_book_issue.MEMBER_ID where BOOK_CODE = "BL000002";
```

MEMBER_ID	MEMBER_NAME	BOOK_CODE
LM002	ABDHUL	BL000002

```
1 row in set (0.00 sec)
```

- **Problem # 3:**

Write a query to display the book code, book title and author of the books whose author name begins with 'P'.

```
mysql> select BOOK_CODE, BOOK_TITLE, AUTHOR from lms_book_details where AUTHOR like "P%";
```

BOOK_CODE	BOOK_TITLE	AUTHOR
BL000003	Java How To Do Program	Paul J. Deitel
BL000005	Java How To Do Program	Paul J. Deitel
BL000010	Java ForvDummies	Paul J. Deitel

```
3 rows in set (0.01 sec)
```

- **Problem # 4:**

Write a query to display the total number of Java books available in library with alias name 'NO\_OF\_BOOKS'.

```
mysql> select count(BOOK_TITLE) as "NO_OF_BOOKS" from lms_book_details where BOOK_TITLE like "%JAVA%";
```

NO_OF_BOOKS
6

```
1 row in set (0.00 sec)
```

- **Problem # 5:**

Write a query to list the category and number of books in each category with alias name 'NO\_OF\_BOOKS'.

```
mysql> select CATEGORY,count(CATEGORY) as NO_OF_BOOKS from lms_book_details group by CATEGORY;
+-----+-----+
| CATEGORY | NO_OF_BOOKS |
+-----+-----+
| JAVA     | 6           |
| C        | 4           |
+-----+-----+
2 rows in set (0.00 sec)
```

- **Problem # 6:**

Write a query to display the number of books published by "Prentice Hall" with the alias name "NO\_OF\_BOOKS".

```
mysql> select PUBLICATION,count(BOOK_TITLE) as NO_OF_BOOKS from lms_book_details where PUBLICATION = "Prentice Hall";
+-----+-----+
| PUBLICATION | NO_OF_BOOKS |
+-----+-----+
| Prentice Hall | 3           |
+-----+-----+
1 row in set (0.00 sec)
```

- **Problem # 7:**

Write a query to display the book code, book title of the books which are issued on the date "1st April 2012".

```
mysql> select lms_book_details.BOOK_TITLE,lms_book_issue.BOOK_CODE,lms_book_issue.DATE_ISSUE from lms_book_details join lms_book_issue on
-> lms_book_details.BOOK_CODE = lms_book_issue.BOOK_CODE where DATE_ISSUE = "2012-04-01";
+-----+-----+-----+
| BOOK_TITLE      | BOOK_CODE | DATE_ISSUE |
+-----+-----+-----+
| Let Us C        | BL000007  | 2012-04-01 |
| Java How To Do Program | BL000005  | 2012-04-01 |
+-----+-----+-----+
2 rows in set (0.00 sec)
```

- **Problem # 8:**

Write a query to display the member id, member name, date of registration and expiry date of the members whose membership expiry date is before APR 2013.

```
mysql> select MEMBER_ID,MEMBER_NAME,DATE_REGISTER,DATE_EXPIRE from lms_members where DATE_EXPIRE < "2013-04-01";
+-----+-----+-----+-----+
| MEMBER_ID | MEMBER_NAME | DATE_REGISTER | DATE_EXPIRE |
+-----+-----+-----+-----+
| LM001     | AMIT        | 2012-02-12    | 2013-02-11  |
+-----+-----+-----+-----+
1 row in set (0.00 sec)
```

- **Problem # 9:**

Write a query to display the member id, member name, date of registration, membership status of the members who registered before "March 2012" and membership status is "Temporary"

```
mysql> select MEMBER_ID, MEMBER_NAME, DATE_REGISTER, MEMBERSHIP_STATUS from lms_members
-> where DATE_REGISTER < "2012-03-01" and MEMBERSHIP_STATUS = "Temporary";
```

MEMBER_ID	MEMBER_NAME	DATE_REGISTER	MEMBERSHIP_STATUS
LM001	AMIT	2012-02-12	Temporary

1 row in set (0.00 sec)

- **Problem # 10:**

Write a query to display the average price of books which is belonging to 'JAVA' category with alias name "AVERAGEPRICE".

```
mysql> select CATEGORY, avg(PRICE) as AVERAGEPRICE from lms_book_details where CATEGORY = "JAVA";
```

CATEGORY	AVERAGEPRICE
JAVA	670.833333

1 row in set (0.00 sec)

- **Problem # 11:**

Write a query to display the supplier id, supplier name and email of the suppliers who are all having gmail account.

```
mysql> select SUPPLIER_ID, SUPPLIER_NAME, EMAIL from lms_suppliers_details where email like "%@gmail.com";
```

SUPPLIER_ID	SUPPLIER_NAME	EMAIL
S01	SINGAPORE SHOPPEE	sing@gmail.com
S03	ROSE BOOK STORE	rose@gmail.com

2 rows in set (0.00 sec)

- **Problem # 12:**

Write a query to display the member id, member name of the members, book code and book title of the books taken by them.

```
mysql> select lms_members.MEMBER_ID, lms_members.MEMBER_NAME, lms_book_issue.BOOK_CODE, lms_book_details.BOOK_TITLE
-> from lms_members inner join lms_book_issue on lms_members.MEMBER_ID = lms_book_issue.MEMBER_ID
-> inner join lms_book_details on lms_book_issue.BOOK_CODE = lms_book_details.BOOK_CODE
-> order by MEMBER_ID asc;
```

MEMBER_ID	MEMBER_NAME	BOOK_CODE	BOOK_TITLE
LM001	AMIT	BL000010	Java ForvDummies
LM002	ABDHUL	BL000002	Java: The Complete Reference
LM003	GAYAN	BL000007	Let Us C
LM003	GAYAN	BL000007	Let Us C
LM004	RADHA	BL000005	Java How To Do Program
LM005	GURU	BL000008	Let Us C
LM005	GURU	BL000008	Let Us C

7 rows in set (0.00 sec)



- **Problem # 13:**

Write a query to display the total number of books available in the library with alias name "NO\_OF\_BOOKS\_AVAILABLE" (Which is not issued). Hint: The issued books details are available in the LMS\_BOOK\_ISSUE table.

```
mysql> select count(BOOK_CODE) as "NO_OF_BOOKS_AVAILABLE" from lms_book_issue where BOOK_CODE is not null;
+-----+
| NO_OF_BOOKS_AVAILABLE |
+-----+
| 7 |
+-----+
1 row in set (0.01 sec)
```

- **Problem # 14:**

Write a query to display the member id, member name, fine range and fine amount of the members whose fine amount is less than 100.

```
mysql> select lms_members.MEMBER_ID, lms_members.MEMBER_NAME, lms_fine_details.FINE_RANGE, lms_fine_details.FINE_AMOUNT
-> from lms_members inner join lms_book_issue on lms_members.MEMBER_ID = lms_book_issue.MEMBER_ID
-> inner join lms_fine_details on lms_fine_details.FINE_RANGE = lms_book_issue.FINE_RANGE
-> where FINE_AMOUNT < 100
-> order by MEMBER_ID asc;
+-----+-----+-----+-----+
| MEMBER_ID | MEMBER_NAME | FINE_RANGE | FINE_AMOUNT |
+-----+-----+-----+-----+
| LM001 | AMIT | R0 | 0.00 |
| LM002 | ABDHUL | R2 | 50.00 |
| LM003 | GAYAN | R1 | 20.00 |
| LM004 | RADHA | R1 | 20.00 |
| LM005 | GURU | R0 | 0.00 |
| LM005 | GURU | R1 | 20.00 |
+-----+-----+-----+-----+
6 rows in set (0.00 sec)
```

- **Problem # 15:**

Write a query to display the book code, book title and rack number of the books which are placed in rack 'A1' and sort by book title in ascending order.

```
mysql> select BOOK_CODE, BOOK_TITLE, RACK_NUM from lms_book_details where RACK_NUM = "A1"
-> order by BOOK_TITLE asc;
+-----+-----+-----+
| BOOK_CODE | BOOK_TITLE | RACK_NUM |
+-----+-----+-----+
| BL000010 | Java ForvDummies | A1 |
| BL000003 | Java How To Do Program | A1 |
| BL000005 | Java How To Do Program | A1 |
| BL000002 | Java: The Complete Reference | A1 |
| BL000004 | Java: The Complete Reference | A1 |
| BL000006 | Java: The Complete Reference | A1 |
+-----+-----+-----+
6 rows in set (0.00 sec)
```

- **Problem # 16:**

Write a query to display the member id, member name, due date and date returned of the members who has returned the books after the due date. Hint: Date\_return is due date and Date\_returned is actual book return date.

```
mysql> select BOOK_CODE, BOOK_TITLE, RACK_NUM from lms_book_details where RACK_NUM = "A1"
-> order by BOOK_TITLE asc;
+-----+-----+-----+
| BOOK_CODE | BOOK_TITLE | RACK_NUM |
+-----+-----+-----+
| BL000010 | Java ForvDummies | A1 |
| BL000003 | Java How To Do Program | A1 |
| BL000005 | Java How To Do Program | A1 |
| BL000002 | Java: The Complete Reference | A1 |
| BL000004 | Java: The Complete Reference | A1 |
| BL000006 | Java: The Complete Reference | A1 |
+-----+-----+-----+
6 rows in set (0.00 sec)
```