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:-

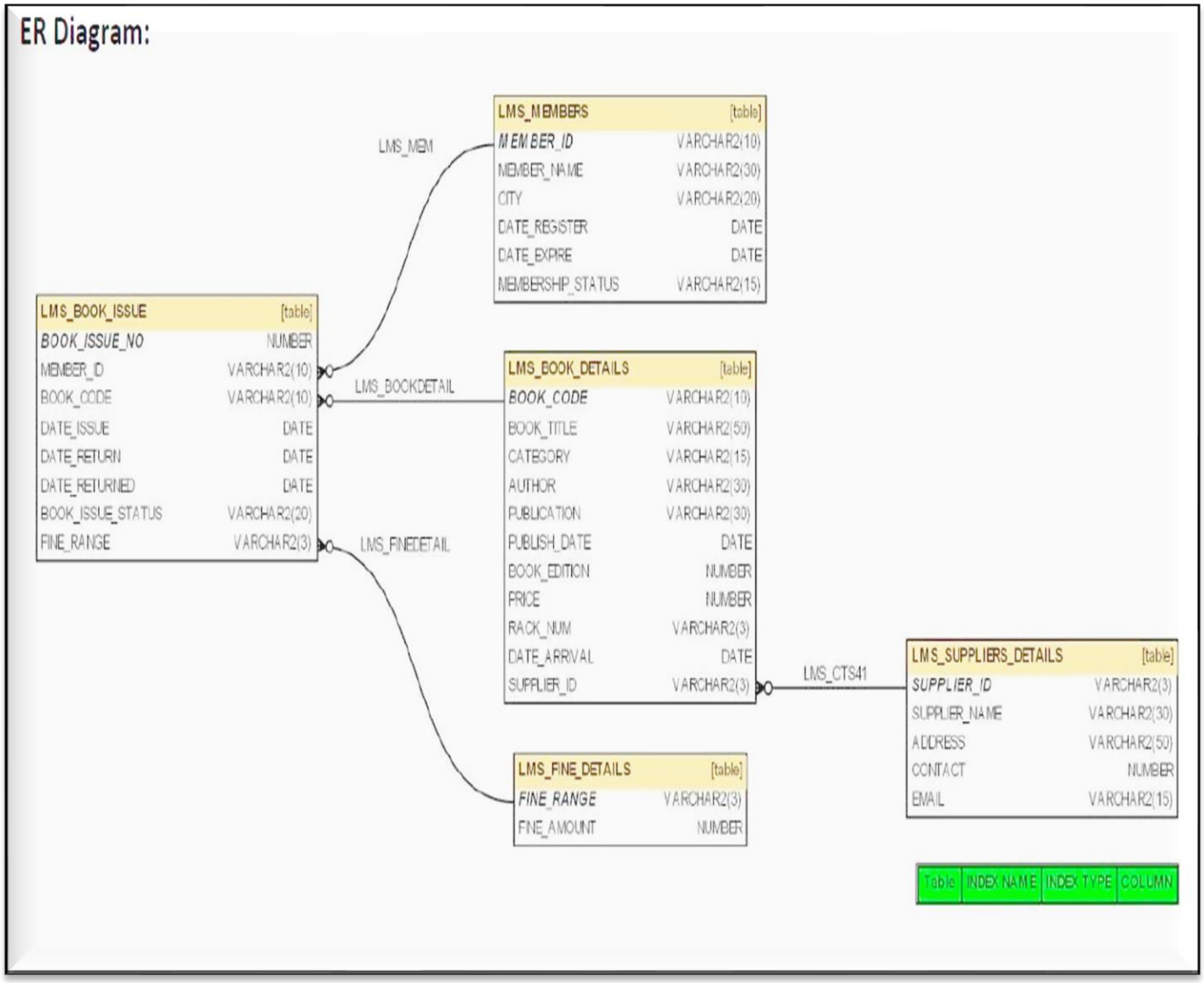
Table 1: - LMS_MEMBERS

Table 2: - LMS_SUPPLIERS_DETAILS

Table 3: - LMS_FINE_DETAILS

Table 4: - LMS_BOOK_DETAILS

Table 5: - LMS_BOOK_ISSUE



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)
```