Library Management System

PROJECT WORK

MYSQL

MODULE:03

Introduction

As a data science and machine learning student at Entri Elevate, your Library Management System project is a great way to apply your SQL skills.

Objectives:

- **Data Management**: Efficiently manage book, customer, issue, and return data.

- **User-Friendly Queries**: Develop SQL queries for easy data retrieval.

- **Data Integrity**: Use primary and foreign keys to maintain data integrity.

  Components:

- **Books Table**: Stores book details, including availability.

- **Customer Table**: Contains customer information.

- **Issue Status Table**: Tracks book issues.

- **Return Status Table**: Records book returns.

01:Retrieve the book title, category, and rental price of all available books

Book_Title	Category	Rental_Price
Nerinoppam	Essay	12.00
Nashtanayika	Novel	12.50
Ormakuripukal	Autobiography	12.00
Agnisakshi	Novel	13.50
Tatvamasi	Essay	11.00
Rogavum Sahithyabhavanayum	Essay	10.50
Ayussinte Pusthakam	Noval	12.00
Dupe	Autobiography	11.00
Baheerinte Ediye	Autobiography	10.00
Jeevitham Oru Anugraham	Essay	10.00
EMS um Penkuttiyum	Stories	11.00
Chiri Malayalam	Humour	11.00
Irunda Vanasthilikal	Essay	10.00
Puliyum madhuravum	Autobiography	10.00
Snehichu Mthiyavade	Biography	10.00
Grand Final	Novel	13.00

Issued_book_Name	Customer_Name
Inninte Aakulathakal	Rajan
Aadu Jeevitham	Satheeshan
EMS um Penkuttiyum	Meera
Ningalanne Communi...	Varuna
Chiri Malayalam	Seenath
Aaryavarthanam	Mohanan
Marrayillathe	Prakashan
Irunda Vanasthilikal	Vilasini
Puliyum Madhuravum	Rohan kumar
Snehichu Mthiyavade	Fathima
Grand Final	Seenath
Thiranjedutha Kavit...	Aliya Meenu
Aadu jeevitham	Ganga pv
Nashtanayika	Rajan k
Tatvamasi	Savithri

Issued_book_Name	Customer_Name
Agnisakshi	Sangeeth
Nerinoppam	Aliya
Nashtanayika	Rajan
Ormakuripukal	Savithri
Shesham Vellithirayil	Kavya
Oxigen	Arun
Tatvamasi	Saritha
Mathilukal	Henna
Pathummayude Aadu	Sainaba
Dharmarajyam	Kavya Raj
Ayussinte Pusthakam	Fathima
Tipu Sulthan	Ganga
Dupe	Muhammad
Baheerinte Ediye	Aneesh
Jeevitham Oru Anug...	Ganesh

03:Retrieve the book titles and the corresponding customers who have issued those books:

04:Display the total count of books in each category:

```
239        -- 4 Display the total count of books in each category:
240 ●      SELECT Category, COUNT(*) AS Total_Books
```

Result Grid | | | Filter Rows: | Export: | Wrap Cell Content:

Category	Total_Books
Essay	6
Novel	4
Autobiography	5
Noval	5
Stories	3
Poetry	2
Play	2
Essai	1
Humour	1
Biography	1

5:Retrieve the employee names and their positions for the employees whose salaries are above Rs.25000

	Emp_Name	Position
▶	Kalidasan	Manager
	Shashindran	Manager
	Lalithambika	Manager
	Abdul Gafoor	Manager
	Gokul Das	Manager

06:List the customer names who registered before 2024-04-01 and have not issued any books yet:

Customer_Name
Sangeeth R
Muhammad M
Ganesh
Meera
Mohanan Master
Rohan kumar
Rajesh

7:Display the branch numbers and the total count of employees in each branch

Result Grid | Filter Rows:

Branch_No	Employee_Count
1001	2
1002	2
1003	2
1004	2
1005	2

8:Display the names of customers who have issued books in the February 2025

Customer_Name
Rohan kumar
Fathima
Seenath
Aliya Meenu
Ganga pv

Result Grid | Filter Rows:

09:Retrieve book titles from the book table containing 'Autobiography':

Result Grid | Filter Rows:

Book_Title
Ormakuripukal
Shesham Vellithirayil
Dupe
Baheerinte Ediye
Puliyum madhuravum

10:Retrieve the branch numbers along with the count of employees for branches having more than 5 employee:

Branch_NO	Employee_Count
1001	2
1002	2
1003	2
1004	2
1005	2

Result Grid | Filter Rows:

11: **Retrieve the names of employees who manage branches and their respective branch addresses**

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Emp_Name	Branch_Address
Shashindran	Chirayil,vadakara,Calicat
Kalidasan	Madakara,Vadakara,Calicat
Lalithambika	Onchiyam,Vadakara,calicat
Abdul Gafoor	Mukali,Vadakara,Calicat
Gokul Das	Chombala,Vadakara,Calicat

Emp_Name	Branch_Address
Shashindran	Chirayil,vadakara,Calicat
Kalidasan	Madakara,Vadakara,Calicat
Lalithambika	Onchiyam,Vadakara,calicat
Abdul Gafoor	Mukali,Vadakara,Calicat
Gokul Das	Chombala,Vadakara,Calicat

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

12:Display the names of customers who have issued books with a rental price higher than Rs. 13

Conclusion

- The Library Management System project not only helps you practice your SQL skills but also introduces you to real-world database management challenges. By working on this project, you will gain a deeper understanding of data handling, query optimization, and relational database design, all of which are crucial in data science and machine learning.