

Library Management System

Topic : Library Management System

To build a project based on Library Management System. It keeps track of all information about books in the library, their cost, status and total number of books available in the library.

1) TABLE BRANCH

```
2
3  -- Library Management System
4 • Create Database Library;
5
6 • use library;
7 • Create Table Branch (
8     branch_no int auto_increment primary key ,
9     manager_id int,
10    branch_address varchar(200),
11    contact_no bigint);
12
13 • Insert into branch (manager_id,branch_address,contact_no)
14    values
15    (1,'trivandrum','04936274831'),
16    (2, 'Kochi', '04842345678'),
17    (3, 'Kozhikode', '04953456789'),
18    (4, 'Thrissur', '04874567890');
19
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content: |

	branch_no	manager_id	branch_address	contact_no
▶	1	1	trivandrum	4936274831
	2	2	Kochi	4842345678
	3	3	Kozhikode	4953456789
	4	4	Thrissur	4874567890
	NULL	NULL	NULL	NULL

branch 50

2) TABLE EMPLOYEE

```
31
32 • Create TABLE employee (
33     branch_no int,
34     employee_id int primary key,
35     emp_name char(50) not null ,
36     emp_position varchar(25),
37     emp_salary bigint,
38     FOREIGN KEY (Branch_no) REFERENCES Branch(Branch_no)
39 );
40
41 • desc employee;
42
43 • INSERT INTO Employee (Branch no, Employee id, Emp name, Emp position, Emp salary)
```

branch_no	employee_id	emp_name	emp_position	emp_salary
1	101	Amal Das	Clerk	25000
1	102	Nikhil Raj	Assistant	30000
1	103	Anoop S.	Manager	55000
2	201	Reena Nair	Librarian	40000
2	202	Sanjay Menon	Clerk	25000
2	203	Divya M.	Assistant	28000
3	301	Priya Varma	Manager	50000
3	302	Vishnu Kumar	Assistant	32000
4	401	Anjali R.	Clerk	26000
4	402	Ravi P.	Librarian	42000

3) TABLE BOOKS

```
58
59
60 Create Table Books (
61     ISBN char(13) primary key,
62     Book_Title varchar(100) not null,
63     Category varchar(20),
64     Rental price decimal(10,2),
```

ISBN	Book Title	Category	Rental_price	Status	Author	Publisher
9780143033234	A Tale of Two Cities	Novel	30.00	yes	Charles Dickens	Penguin Books
9780143066383	The God of Small Things	Novel	60.00	No	Arundhati Roy	Penguin Books
9780143100674	Malgudi Days	Short Stories	30.00	yes	R.K. Narayan	Penguin Books
9780143419126	The Guide	Novel	50.00	No	R.K. Narayan	Penguin Books
9780143426873	Swargavathil Thurakkunna Sam...	Short Stories	45.00	yes	M. Mukundan	DC Books
9780143427542	Aadujeevitham	Novel	45.00	yes	Benyamin	DC Books
9780143427993	Pather Panchali	Novel	45.00	yes	Bibhutibhushan Bandyopadhyay	Penguin Books
9780670083712	Khasakkinte Ithihasam	Novel	40.00	yes	O.V. Vijayan	DC Books
9788126429787	Balyakalasakhi	Novel	45.00	yes	Vaikom Muhammad Basheer	DC Books
9788129119466	The White Tiger	Novel	60.00	No	Aravind Adiga	HarperCollins
9788172234980	Mayyazhippuzhayude Theerang...	Novel	50.00	yes	M. Mukundan	DC Books
9788172234985	Midnights Children	Novel	55.00	yes	Salman Rushdie	Jonathan Cape
9788172235147	Interpreter of Maladies	Short Stories	35.00	yes	Jhumpa Lahiri	HarperCollins
9788172238455	Life of Pi	Novel	45.00	yes	Yann Martel	Canongate Bo...
9788172238476	Train to Pakistan	Novel	40.00	yes	Khushwant Singh	Penguin Books
9789386348420	Randamoozham	Novel	55.00	yes	M.T. Vasudevan Nair	Current Books
9789386348487	Nalukettu	Novel	55.00	No	M.T. Vasudevan Nair	DC Books
9789386348498	Pathummayude Aadu	Novel	35.00	No	Vaikom Muhammad Basheer	DC Books
9789386348499	Oru Desathinte Katha	Novel	50.00	No	S.K. Pottekkatt	DC Books
9789386348505	Chemmeen	Novel	40.00	yes	Thakazhi Sivasankara Pillai	DC Books

4) TABLE CUSTOMER

```
99
100 • CREATE TABLE Customer (
101     Customer_Id INT PRIMARY KEY,
102     Customer_name VARCHAR(100) NOT NULL,
103     Customer_address VARCHAR(255),
104     Reg_date DATE
105 );
106
107
108 • INSERT INTO Customer (Customer_Id, Customer_name, Customer_address, Reg_date)
109 VALUES
110 (1, 'Ravi Kumar', '123 MG Road, Kochi, Kerala', '2023-01-15'),
111 (2, 'Anjali Menon', '45 SP Nagar, Trivandrum, Kerala', '2022-12-20'),
```

Customer_Id	Customer_name	Customer_address	Reg_date
1	Ravi Kumar	123 MG Road, Kochi, Kerala	2023-01-15
2	Anjali Menon	45 SP Nagar, Trivandrum, Kerala	2022-12-20
3	Vikram Raj	67 Gandhi Road, Thrissur, Kerala	2023-02-10
4	Meera Nair	89 Nehru Avenue, Kozhikode, K...	2022-11-05
5	Arjun Das	101 Palm Street, Kochi, Kerala	2023-03-22
6	Lakshmi Priya	23 Sea View, Trivandrum, Kerala	2022-09-17
7	Kiran Mohan	56 Hilltop Road, Thrissur, Kerala	2023-04-12
8	Nandini Ramesh	78 MG Road, Kozhikode, Kerala	2022-10-10
9	Suresh Iyer	12 Lakeview Street, Kochi, Kerala	2023-01-25
10	Divya S	34 Temple Road, Trivandrum, ...	2023-05-05
11	Arun Kumar	abc MG Road, bathery, Kerala	2021-01-15
NULL	NULL	NULL	NULL

5) TABLE ISSUE STATUS

```

128
129 • CREATE TABLE IssueStatus (
130     Issue_Id INT PRIMARY KEY,
131     Issued_customer INT,
132     Issued_book_name VARCHAR(100),
133     Issue_date DATE,
134     Isbn_book VARCHAR(13),
135     FOREIGN KEY (Issued_customer) REFERENCES Customer(Customer_Id),
136     FOREIGN KEY (Isbn_book) REFERENCES Books(ISBN)
137 );
138
139

```

	Issue_Id	Issued_customer	Issued_book_name	Issue_date	Isbn_book
▶	1	1	Aadujeevitham	2023-06-01	9780143427542
	2	2	The God of Small Things	2023-06-05	9780143066383
	3	3	Interpreter of Maladies	2023-06-10	9788172235147
	4	4	Khasakkinte Ithihasam	2023-06-15	9780670083712
	5	5	Balyakalasakhi	2023-06-20	9788126429787
	6	6	The White Tiger	2023-06-25	9788129119466
	7	7	Malgudi Days	2023-06-30	9780143100674
	8	8	Chemmeen	2023-07-05	9789386348505
	9	9	Train to Pakistan	2023-07-10	9788172238476
	10	10	Oru Desathinte Katha	2023-07-15	9789386348499
*	NULL	NULL	NULL	NULL	NULL

6) TABLE RETURN STATUS

```

156
157 • CREATE TABLE ReturnStatus (
158     Return_Id INT PRIMARY KEY,
159     Return_cust INT,
160     Return_book_name VARCHAR(100),
161     Return_date DATE,
162     Isbn_book2 VARCHAR(13),
163     FOREIGN KEY (Return_cust) REFERENCES Customer(Customer_Id),
164     FOREIGN KEY (Isbn_book2) REFERENCES Books(ISBN)
165 );
166
167 • INSERT INTO ReturnStatus (Return_Id, Return_cust, Return_book_name, Return_date, Isbn_book2)
168     VALUES

```

	Return_Id	Return_cust	Return_book_name	Return_date	Isbn_book2
▶	1	1	Aadujeevitham	2023-06-20	9780143427542
	2	2	The God of Small Things	2023-06-25	9780143066383
	3	3	Interpreter of Maladies	2023-07-01	9788172235147
	4	4	Khasakkinte Ithihasam	2023-07-05	9780670083712
	5	5	Balyakalasakhi	2023-07-10	9788126429787
	6	6	The White Tiger	2023-07-15	9788129119466
	7	7	Malgudi Days	2023-07-20	9780143100674
	8	8	Chemmeen	2023-07-25	9789386348505
	9	9	Train to Pakistan	2023-07-30	9788172238476
	10	10	Oru Desathinte Katha	2023-08-01	9789386348499
*	NULL	NULL	NULL	NULL	NULL

1. Retrieve the book title, category, and rental price of all available books.

```
182
183 -- 1. Retrieve the book title, category, and rental price of all available books.
184
185 • SELECT BOOK_TITLE,CATEGORY,RENTAL_PRICE FROM BOOKS
186 WHERE STATUS = 'YES';
187
188
```

BOOK_TITLE	CATEGORY	RENTAL_PRICE
A Tale of Two Cities	Novel	30.00
Malgudi Days	Short Stories	30.00
Swargavathil Thurakkunna Sam...	Short Stories	45.00
Aadujeevitham	Novel	45.00
Pather Panchali	Novel	45.00
Khasakkinte Ithihasam	Novel	40.00
Balyakalasakhi	Novel	45.00
Mayyazhippuzhayude Theerang...	Novel	50.00
Midnights Children	Novel	55.00
Interpreter of Maladies	Short Stories	35.00
Life of Pi	Novel	45.00
Train to Pakistan	Novel	40.00
Randamoozham	Novel	55.00
Chemmeen	Novel	40.00

2. List the employee names and their respective salaries in descending order of salary.

```
187
188 -- 2. List the employee names and their respective salaries in descending order of salary.
189 • SELECT EMP_NAME,EMP_SALARY FROM EMPLOYEE ORDER BY EMP_SALARY DESC;
190
```

EMP_NAME	EMP_SALARY
Anoop S.	55000
Priya Varma	50000
Ravi P.	42000
Reena Nair	40000
Vishnu Kumar	32000
Nikhil Raj	30000
Divya M.	28000
Anjali R.	26000
Amal Das	25000
Sanjay Menon	25000

3. Retrieve the book titles and the corresponding customers who have issued those books.

```
190
191 -- 3. Retrieve the book titles and the corresponding customers who have issued those books.
192
193 • SELECT Issued_book_name, Customer_name
194 FROM IssueStatus
195 JOIN Customer ON Issued_customer = Customer_Id;
196
```

Issued_book_name	Customer_name
Aadujeevitham	Ravi Kumar
The God of Small Things	Anjali Menon
Interpreter of Maladies	Vikram Raj
Khasakkinte Ithihasam	Meera Nair
Balyakalasakhi	Arjun Das
The White Tiger	Lakshmi Priya
Malgudi Days	Kiran Mohan
Chemmeen	Nandini Ramesh
Train to Pakistan	Suresh Iyer
Oru Desathinte Katha	Divya S

4. Display the total count of books in each category.

```
197
198 -- 4. Display the total count of books in each category.
199
200 • select category,count(*) from books group by category;
201
```

category	count(*)
Novel	17
Short Stories	3

5. Retrieve the employee names and their positions for the employees whose salaries are above Rs.50,000.

```
202
203 -- 5. Retrieve the employee names and their positions for the
204 -- employees whose salaries are above Rs.50,000.
205
206 • select emp_name,emp_salary from employee where emp_salary > 50000;
207
```

emp_name	emp_salary
Anoop S.	55000

6. List the customer names who registered before 2022-01-01 and have not issued any books yet.

```
212
213 -- 6. List the customer names who registered before 2022-01-01 and
214 -- have not issued any books yet.
215
216 • SELECT Customer_name
217 FROM Customer
218 WHERE Reg_date < '2022-01-01'
219 AND Customer_Id NOT IN (SELECT Issued_customer FROM IssueStatus);
220
```

Customer_name
Arun Kumar

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

```
220
221 -- 7. Display the branch numbers and the total count of employees in each branch.
222
223 • select branch_no, count(*)
224 as total_employees from employee group by branch_no;
225
226
```

branch_no	total_employees
1	3
2	3
3	2
4	2

8. Display the names of customers who have issued books in the month of June 2023.

```
225
226 -- 8. Display the names of customers who have issued books in the month of June 2023.
227
228 • SELECT C.Customer_name
229 FROM IssueStatus I
230 JOIN Customer C ON I.Issued_customer = C.Customer_Id
231 WHERE I.Issue_date BETWEEN '2023-06-01' AND '2023-06-30';
232
```

Customer_name
Ravi Kumar
Anjali Menon
Vikram Raj
Meera Nair
Arjun Das
Lakshmi Priya
Kiran Mohan

9. Retrieve book_title from book table containing history.

```
233 -- 9. Retrieve book_title from book table containing history.
234
235 • select book_title from books
236 join issuestatus where isbn_book = isbn ;
237
```

book_title
The God of Small Things
Malgudi Days
Aadujeevitham
Khasakkinte Ithihasam
Balyakalasakhi
The White Tiger
Interpreter of Maladies
Train to Pakistan
Oru Desathinte Katha
Chemmeen

10.Retrieve the branch numbers along with the count of employees for branches having more than 2 employees

```
238
239 -- 10.Retrieve the branch numbers along with the count
240 -- of employees for branches having more than 2 employees
241
242 • select branch_no , count(*) as total_employees
243   from employee group by branch_no having count(*) > 2;
244
245
```

Result Grid	
Filter Rows:	Export: Wrap Cell Content:
branch_no	total_employees
1	3
2	3

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

```
246
247 -- 11. Retrieve the names of employees who manage branches and
248 -- their respective branch addresses.
249
250 • select emp_name,branch_address, emp_position from branch b
251   join employee e on e.branch_no = b.branch_no
252   where emp_position = 'manager';
253
254
255
```

Result Grid		
Filter Rows:	Export:	Wrap Cell Content:
emp_name	branch_address	emp_position
Anoop S.	trivandrum	Manager
Priya Varma	Kozhikode	Manager

12. Display the names of customers who have issued books with a rental price higher than Rs. 25.

```
255 -- 12. Display the names of customers who have issued books
256 -- with a rental price higher than Rs. 25.
257
258 • select customer_name from issuestatus i
259   join books b on b.isbn = i.isbn_book
260   join customer c on i.issued_customer = c.customer_id
261   where b.rental_price >25;
262
263
```

customer_name
Anjali Menon
Kiran Mohan
Ravi Kumar
Meera Nair
Arjun Das
Lakshmi Priya
Vikram Raj
Suresh Iyer
Divya S
Nandini Ramesh

THE END