

Library Management System

You are going 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.

Create a database named library and following TABLES in the database:

1. Branch
2. Employee
3. Books
4. Customer
5. IssueStatus
5. ReturnStatus


Attributes for the tables:


1. Branch


- Branch_no - Set as PRIMARY KEY
- Manager_Id
- Branch_address
- Contact_no

```
10
11 • desc Branch;
12
```

Result Grid

 Filter Rows:

Export: 

Wrap Cell Content: 

	Field	Type	Null	Key	Default	Extra
▶	Branch_no	int	NO	PRI	NULL	
	Manager_Id	int	YES		NULL	
	Branch_address	varchar(20)	YES		NULL	
	Contact_no	bigint	YES		NULL	

2. Employee

- Emp_Id – Set as PRIMARY KEY
- Emp_name
- Position
- Salary
- Branch_no - Set as FOREIGN KEY and it refer Branch_no in Branch table

23 • desc employee;

Field	Type	Null	Key	Default	Extra
Emp_Id	int	NO	PRI	NULL	
Emp_name	varchar(20)	YES		NULL	
Position	varchar(20)	YES		NULL	
Salary	int	YES		NULL	
Branch_no	int	YES	MUL	NULL	

3. Books

- ISBN - Set as PRIMARY KEY
- Book_title
- Category
- Rental_Price
- Status [Give yes if book available and no if book not available]
- Author
- Publisher

34

35 • desc books;

Field	Type	Null	Key	Default	Extra
ISBN	varchar(20)	NO	PRI	NULL	
Book_title	varchar(50)	YES		NULL	
Category	varchar(20)	YES		NULL	
Rental_Price	int	YES		NULL	
Status	enum('yes','no')	YES		NULL	
Author	varchar(30)	YES		NULL	
Publisher	varchar(50)	YES		NULL	

4. Customer

- Customer_Id - Set as PRIMARY KEY
- Customer_name
- Customer_address
- Reg_date

43 • desc customer;

44

Field	Type	Null	Key	Default	Extra
Customer_Id	int	NO	PRI	NULL	
Customer_name	varchar(20)	YES		NULL	
Customer_address	varchar(20)	YES		NULL	
Reg_date	date	YES		NULL	

5. IssueStatus

- Issue_Id - Set as PRIMARY KEY
- Issued_cust – Set as FOREIGN KEY and it refer customer_id in CUSTOMER table
- Issued_book_name
- Issue_date
- Isbn_book – Set as FOREIGN KEY and it should refer isbn in BOOKS table

53 • desc IssueStatus;

54



Field	Type	Null	Key	Default	Extra
Issue_id	int	NO	PRI	NULL	
Issued_cust	int	YES	MUL	NULL	
Issued_book_name	varchar(50)	YES		NULL	
Issue_date	date	YES		NULL	
Isbn_book	varchar(50)	YES	MUL	NULL	

6. ReturnStatus

- Return_Id - Set as PRIMARY KEY
- Return_cust
- Return_book_name
- Return_date
- Isbn_book2 - Set as FOREIGN KEY and it should refer isbn in BOOKS table

```
65 • desc ReturnStatus;
```








```
66
```

Result Grid  Filter Rows: Export:  Wrap Cell Content: 

	Field	Type	Null	Key	Default	Extra
►	Return_Id	int	NO	PRI	NULL	
	Return_cust	varchar(20)	YES		NULL	
	Return_book_name	varchar(50)	YES		NULL	
	Return_date	date	YES		NULL	
	isbn_book2	varchar(20)	YES	MUL	NULL	

Display all the tables

```
11 • select * from branch;
```

Result Grid   Filter Rows: Edit:    Export/Import:  

	Branch_no	Manager_Id	Branch_address	Contact_no
►	1	101	Hyderabad	9075381823
	2	102	Trivandrum	8129330133
	3	103	Mumbai	9446109734
	4	104	Chennai	9947183391
	5	105	Kolkata	9895391143
★	NULL	NULL	NULL	NULL

```
22 • select * from employee;
```

Result Grid

Filter Rows:

Edit:

Export/Import:

	Emp_Id	Emp_name	Position	Salary	Branch_no
▶	201	Alice	Manager	80000	1
	202	Johnson	Librarian	55000	1
	203	Dean	Clerk	60000	2
	204	David	Accountant	41000	1
	205	Smriti	Library Assistant	32000	3
	206	Rohit	Librarian	44000	1
	207	Taylor	Library Assistant	42000	1
	208	James	Clerk	53000	4
	209	Virat	Cateloger	33000	5
	210	Siraj	Librarian	46000	1
	211	Basheer	Accountant	31000	2
	212	Priya	Library Assistant	22000	3
	213	Hannah	Librarian	34000	4
•	NULL	NULL	NULL	NULL	NULL


```
34 • select * from books;
```




```
35
```



Result Grid		Filter Rows:	Edit:	Export/Import:	Wrap Cell Content:	
ISBN	Book_title	Category	Rental_Price	Status	Author	Publisher
▶ 978-0-06-112008-4	To Kill a Mockingbird	Fiction	100	yes	Harper Lee	J.B. Lippincott & Co.
978-0-141-04847-4	The Silk Roads: A New History of the World	History	160	yes	Peter Frankopan	Bloomsbury
978-0-316-76948-8	The Catcher in the Rye	Fiction	130	yes	J.D. Salinger	Little, Brown and Company
978-0-374-53012-4	Leaves of Grass	Poems	100	yes	Walt Whitman	Dover Publications
978-0-375-50420-2	The Autobiography of Malcolm X	Autobiography	220	yes	Malcolm X	Ballantine Books
978-0-393-05889-6	Sapiens: A Brief History of Humankind	History	200	yes	Yuval Noah Harari	Harper
978-0-451-52919-3	Long Walk to Freedom	Autobiography	230	yes	Nelson Mandela	Little, Brown and Company
978-0-452-28423-4	1984	Fiction	150	yes	George Orwell	Secker & Warburg
978-0-670-03282-1	Guns, Germs, and Steel	History	180	yes	Jared Diamond	W.W. Norton
978-0-670-82162-3	The Book Thief	Fiction	140	yes	Markus Zusak	Knopf
978-0-679-76244-1	The Collected Poems of W.B. Yeats	Poems	90	yes	W.B. Yeats	Scribner
978-0-679-78161-9	Pride and Prejudice	Fiction	110	yes	Jane Austen	T. Egerton
978-0-7432-7356-5	The Great Gatsby	Fiction	120	no	F. Scott Fitzgerald	Charles Scribners Sons
978-0-7432-7358-8	Steve Jobs	Biography	250	yes	Walter Isaacson	Simon & Schuster
978-1-4767-2765-8	The Wright Brothers	Biography	240	no	David McCullough	Simon & Schuster
★ NULL	NULL	NULL	NULL	NULL	NULL	NULL

43 • `select * from customer;`

Result Grid

 Filter Rows:

Edit:   

Export/Import:  

Wrap Cell Cont

	Customer_Id	Customer_name	Customer_address	Reg_date
▶	1001	Aryan	123 Main St	2020-05-20
	1002	Justin	456 Oak St	2021-06-15
	1003	Stuart	789 Pine St	2022-01-10
	1004	Kelly	101 Maple St	2022-02-05
	1005	Kristie	202 Birch St	2022-03-20
	1006	Collins	303 Cedar St	2023-04-25
	1007	Robinson	404 Spruce St	2020-05-30
	1008	Grace	505 Redwood St	2023-06-10
	1009	Mark	606 Sequoia St	2023-07-15
	1010	Dominic	707 Fir St	2023-08-20
	1011	Nadal	888 Elm St	2022-11-11
	1012	Joe	999 Pine St	2020-09-09
	1013	Evans	111 Maple St	2022-02-28
	1014	Mathew	222 Birch St	2023-01-10
	1015	Alexander	333 Cedar St	2023-03-15
*	NULL	NULL	NULL	NULL

54 • `select * from IssueStatus;`

55

Result Grid

Filter Rows:

Edit:

Export/Import:

Wrap Cell Content:

	Issue_id	Issued_cust	Issued_book_name	Issue_date	Isbn_book
▶	301	1002	To Kill a Mockingbird	2023-05-20	978-0-06-112008-4
	302	1002	1984	2023-05-21	978-0-452-28423-4
	303	1003	The Great Gatsby	2023-05-22	978-0-7432-7356-5
	304	1004	Sapiens: A Brief History of Humankind	2023-06-01	978-0-393-05889-6
	305	1005	Guns, Germs, and Steel	2023-06-02	978-0-670-03282-1
	306	1006	The Silk Roads: A New History of the World	2023-06-03	978-0-141-04847-4
	307	1008	The Catcher in the Rye	2023-06-04	978-0-316-76948-8
	308	1008	The Book Thief	2023-06-05	978-0-670-82162-3
	309	1009	Pride and Prejudice	2023-06-06	978-0-679-78161-9
	310	1010	The Collected Poems of W.B. Yeats	2023-06-07	978-0-679-76244-1
	311	1011	Steve Jobs	2023-06-08	978-0-7432-7358-8
	312	1011	The Autobiography of Malcolm X	2023-06-09	978-0-375-50420-2
	313	1013	The Wright Brothers	2023-06-10	978-1-4767-2765-8
	314	1014	Long Walk to Freedom	2023-06-11	978-0-451-52919-3
	315	1015	Leaves of Grass	2023-06-12	978-0-374-53012-4
*	NULL	NULL	NULL	NULL	NULL

65 • `select * from ReturnStatus;`

Return_Id	Return_cust	Return_book_name	Return_date	isbn_book2
401	1002	To Kill a Mockingbird	2023-05-30	978-0-06-112008-4
402	1002	1984	2023-05-31	978-0-452-28423-4
403	1003	The Great Gatsby	2023-06-01	978-0-7432-7356-5
404	1004	Sapiens: A Brief History of Humankind	2023-06-10	978-0-393-05889-6
405	1005	Guns, Germs, and Steel	2023-06-11	978-0-670-03282-1
406	1006	The Silk Roads: A New History of the World	2023-06-12	978-0-141-04847-4
407	1008	The Catcher in the Rye	2023-06-13	978-0-316-76948-8
408	1008	The Book Thief	2023-06-14	978-0-670-82162-3
409	1009	Pride and Prejudice	2023-06-15	978-0-679-78161-9
410	1010	The Collected Poems of W.B. Yeats	2023-06-16	978-0-679-76244-1
411	1011	Steve Jobs	2023-06-17	978-0-7432-7358-8
412	1011	The Autobiography of Malcolm X	2023-06-18	978-0-375-50420-2
413	1013	The Wright Brothers	2023-06-19	978-1-4767-2765-8
414	1014	Long Walk to Freedom	2023-06-20	978-0-451-52919-3
415	1015	Leaves of Grass	2023-06-21	978-0-374-53012-4
NULL	NULL	NULL	NULL	NULL

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

```

178  -- Retrieve the book title, category, and rental price of all available books.
179 • select Book_title,Category,Rental_Price
180      from Books
181      where status='yes';

```

Book_title	Category	Rental_Price
To Kill a Mockingbird	Fiction	100
The Silk Roads: A New History of the World	History	160
The Catcher in the Rye	Fiction	130
Leaves of Grass	Poems	100
The Autobiography of Malcolm X	Autobiography	220
Sapiens: A Brief History of Humankind	History	200
Long Walk to Freedom	Autobiography	230
1984	Fiction	150
Guns, Germs, and Steel	History	180
The Book Thief	Fiction	140
The Collected Poems of W.B. Yeats	Poems	90
Pride and Prejudice	Fiction	110
Steve Jobs	Biography	250

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

```

183  -- List the employee names and their respective salaries in descending order of salary.
184  •  select Emp_name as 'Employee name',Salary
185  from Employee
186  order by Salary desc;
187

```

Result Grid	Filter Rows:	Export:	Wrap Cell Content:
Employee name	Salary		
▶ Alice	80000		
Dean	60000		
Johnson	55000		
James	53000		
Siraj	46000		
Rohit	44000		
Taylor	42000		
David	41000		
Hannah	34000		
Virat	33000		
Smriti	32000		
Basheer	31000		
Priya	22000		

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

```

188  -- Retrieve the book titles and the corresponding customers who have issued those books.
189  •  select c.Customer_name as 'Customer name',i.Issued_book_name as 'Book issued'
190  from Customer c
191  right join IssueStatus i on c.Customer_id = i.Issued_cust;

```

Result Grid	Filter Rows:	Export:	Wrap Cell Content:
Customer name	Book issued		
▶ Justin	To Kill a Mockingbird		
Justin	1984		
Stuart	The Great Gatsby		
Kelly	Sapiens: A Brief History of Humankind		
Kristie	Guns, Germs, and Steel		
Collins	The Silk Roads: A New History of the World		
Grace	The Catcher in the Rye		
Grace	The Book Thief		
Mark	Pride and Prejudice		
Dominic	The Collected Poems of W.B. Yeats		
Nadal	Steve Jobs		
Nadal	The Autobiography of Malcolm X		
Evans	The Wright Brothers		
Mathew	Long Walk to Freedom		
Alexander	Leaves of Grass		

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


```

193 -- Display the total count of books in each category.
194 • select Category, COUNT(*) as 'no.of books'
195 FROM Books
196 group by Category;
197

```

Result Grid			Filter Rows:	Export:	Wrap Cell Content:
	Category	no.of books			
▶	Fiction	6			
	History	3			
	Poems	2			
	Autobiography	2			
	Biography	2			

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

```

198 -- Retrieve the employee names and their positions for the employees whose salaries are above Rs.50,000.
199 • select Emp_name as name,Position
200 from Employee
201 where salary>50000;

```

Result Grid			Filter Rows:	Export:	Wrap Cell Content:
	name	Position			
▶	Alice	Manager			
	Johnson	Librarian			
	Dean	Clerk			
	James	Clerk			

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

```

203 -- List the customer names who registered before 2022-01-01 and have not issued any books yet.
204 • select c.Customer_name as 'customer name'
205 from Customer c
206 left join IssueStatus i on c.Customer_Id = i.Issued_cust
207 where i.Issued_cust is null
208 and c.Reg_date < '2022-01-01';

```

Result Grid			Filter Rows:	Export:	Wrap Cell Content:
	customer name				
▶	Aryan				
	Robinson				
	Joe				

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

```

210 -- Display the branch numbers and the total count of employees in each branch.
211 • select B.Branch_no,count(E.Emp_id) as 'no.of employees'
212 from Branch B
213 left join Employee E on B.Branch_no=E.Branch_no
214 group by Branch_no;

```

Result Grid	Filter Rows:	Export:	Wrap Cell Content:
Branch_no	no.of employees		
1	6		
2	2		
3	2		
4	2		
5	1		

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

```

216 -- Display the names of customers who have issued books in the month of June 2023.
217
218 • select c.customer_name
219 from customer c
220 join issuestatus i on c.customer_id = i.issued_cust
221 where i.issue_date between '2023-06-01' and '2023-06-30';

```

Result Grid	Filter Rows:	Export:	Wrap Cell Content:
customer_name			
Kelly			
Kristie			
Collins			
Grace			
Grace			
Mark			
Dominic			
Nadal			
Nadal			
Evans			
Mathew			
Alexander			

9. Retrieve book_title from book table containing history.

```

224 -- Retrieve book_title from book table containing history.
225 • select Book_title
226 from Books
227 where Category='history';
228

```

Result Grid	Filter Rows:	Export:	Wrap Cell Content:
Book_title			
The Silk Roads: A New History of the World			
Sapiens: A Brief History of Humankind			
Guns, Germs, and Steel			

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

```

229 -- Retrieve the branch numbers along with the count of employees for branches having more than 5 employees
230 • select b.Branch_no,Branch_address as branch_name,count(e.Emp_id) as 'employee count'
231 from Branch b
232 left join Employee e on b.Branch_no=e.Branch_no
233 Group by Branch_no,B.Branch_address
234 having count(E.Emp_id)>5;
235
---
```

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

	Branch_no	branch_name	employee count
▶	1	Hyderabad	6