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:

Attributes for the tables:
1. Branch
Branch_no - Set as PRIMARY KEY
Manager_Id
Branch_address
Contact_no

```
-- 1. Creating Branch Table
create table Branch(
Branch_no int unique PRIMARY KEY ,
Manager_Id int unique,
Branch_address varchar(45),
Contact_no bigint check (contact_no between 1111111111 and 9999999999));
```

```
insert into Branch values
(1256, 6001,'Central Road - Kochi', 9952354656),
(2256, 6002, 'Main Street - Kozhikode', 9563263678),
(3256, 6003, 'Beach Road - Trivandrum', 9984965265),
(4256, 6004, 'Market Road - Palakkad', 9785854875),
(5256, 6005, 'Hilltop Drive - Wayanad', 8126265586),
(6256, 6006, 'River View Road - Thrissur', 8656495627),
(7256, 6007, 'Port Road - Kannur', 8129567448),
(8256, 6008, 'Valley Road - Idukki', 8256401178),
(9256, 6009, 'Main Ave - Kollam', 8129295770);
```

```
29 •  select * from Branch;
```

Result Grid | Filter Rows: | Edit:

Branch_no	Manager_Id	Branch_address	Contact_no
1256	6001	Central Road - Kochi	9952354656
2256	6002	Main Street - Kozhikode	9563263678
3256	6003	Beach Road - Trivandrum	9984965265
4256	6004	Market Road - Palakkad	9785854875
5256	6005	Hilltop Drive - Wayanad	8126265586
6256	6006	River View Road - Thrissur	8656495627
7256	6007	Port Road - Kannur	8129567448
8256	6008	Valley Road - Idukki	8256401178
9256	6009	Main Ave - Kollam	8129295770
NULL	NULL	NULL	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

```
-- 2. Creating Employee Table
create table Employee(
Emp_Id int unique PRIMARY KEY,
Emp_name varchar(30) not null,
Position varchar(30),
Salary int,
Branch_no int,
foreign key(Branch_no) references Branch(Branch_no) on delete cascade);

insert into Employee values
(1101, 'Anjali Krishna', 'Manager', 65000, 1256),
(1102, 'Rohan Nair', 'Assistant Manager', 55000, 2256),
(1103, 'Lakshmi Priya', 'Library Technician', 20000, 3256),
(1104, 'Arjun Menon', 'Library Assistant', 18000, 4256),
(1105, 'Sunita George', 'Cataloguer', 22000, 5256),
(1106, 'Vishnu Pillai', 'Accountant', 52000, 6256),
(1107, 'Priyanka Iyer', 'Assistant Librarian', 42000, 7256),
(1108, 'Kiran Varma', 'Library Technician', 20000, 8256),
(1109, 'Geetha Kumari', 'Library Assistant', 48000, 9256),
(1110, 'Mohammed Anwar', 'Clerk', 22000, 1256);
```

```
52 •  select * from Employee;
```

Result Grid | Filter Rows: | Edit:

Emp_Id	Emp_name	Position	Salary	Branch_no
1101	Anjali Krishna	Manager	65000	1256
1102	Rohan Nair	Assistant Manager	55000	2256
1103	Lakshmi Priya	Library Technician	20000	3256
1104	Arjun Menon	Library Assistant	18000	4256
1105	Sunita George	Cataloguer	22000	5256
1106	Vishnu Pillai	Accountant	52000	6256
1107	Priyanka Iyer	Assistant Librarian	42000	7256
1108	Kiran Varma	Library Technician	20000	8256
1109	Geetha Kumari	Library Assistant	48000	9256
1110	Mohammed Anwar	Clerk	22000	1256
NULL	NULL	NULL	NULL	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

```
-- 3. Creating Books Table
create table Books(
ISBN bigint PRIMARY KEY,
Book_title varchar(100),
Category varchar(50),
Rental_Price int,
Status enum('Yes' , 'No') default 'Yes',
Author Varchar(40),
Publisher varchar(100));

insert into Books values
(9788171300100, 'Khasakkinte Ithihasam', 'Fiction', 150, 'Yes', 'O.V. Vijayan', 'DC Books'),
(9788171303583, 'Chemmeen', 'Romance', 130, 'Yes', 'Thakazhi Sivasankara Pillai', 'DC Books'),
(9788126415885, 'Aadujeevitham', 'Drama', 120, 'Yes', 'Benyamin', 'Green Books'),
(9788122610839, 'Naalukettu', 'Classic', 140, 'Yes', 'M.T. Vasudevan Nair', 'Current Books'),
(9788184233177, 'Manju', 'Fiction', 110, 'No', 'M.T. Vasudevan Nair', 'H & C Publishing House'),
(9789386224585, 'The God of Small Things', 'Fiction', 160, 'No', 'Arundhati Roy', 'Penguin Books'),
(9788126438884, 'Ente Katha', 'Autobiography', 130, 'Yes', 'Kamala Surayya', 'DC Books'),
(9788126479085, 'Oru Desathinte Katha', 'Fiction', 115, 'Yes', 'S.K. Pottekkatt', 'DC Books'),
(9788122615797, 'Randamoozham', 'Mythology', 180, 'No', 'M.T. Vasudevan Nair', 'Current Books'),
(9788126403395, 'Aarachar', 'Historical Fiction', 200, 'Yes', 'K.R. Meera', 'DC Books');
```

```
76 •    select * from Books;
```

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

ISBN	Book_title	Category	Rental_Price	Status	Author	Publisher
9788122610839	Naalukettu	Classic	140	Yes	M.T. Vasudevan Nair	Current Books
9788122615797	Randamoozham	Mythology	180	No	M.T. Vasudevan Nair	Current Books
9788126403395	Aarachar	Historical Fiction	200	Yes	K.R. Meera	DC Books
9788126415885	Aadujeevitham	Drama	120	Yes	Benyamin	Green Books
9788126438884	Ente Katha	Autobiography	130	Yes	Kamala Surayya	DC Books
9788126479085	Oru Desathinte Katha	Fiction	115	Yes	S.K. Pottekkatt	DC Books
9788171300100	Khasakkinte Ithihasam	Fiction	150	Yes	O.V. Vijayan	DC Books
9788171303583	Chemmeen	Romance	130	Yes	Thakazhi Sivasankara Pillai	DC Books
9788184233177	Manju	Fiction	110	No	M.T. Vasudevan Nair	H & C Publishing House
9789386224585	The God of Small Things	Fiction	160	No	Arundhati Roy	Penguin Books
NULL	NULL	NULL	NULL	NULL	NULL	NULL

4. Customer
Customer_Id - Set as PRIMARY KEY
Customer_name
Customer_address
Reg_date

```sql
-- 4. Creating Customer Table
create table Customer(
Customer_Id int unique PRIMARY KEY,
Customer_name varchar(30) not null,
Customer_address varchar(40),
Reg_date date);
```

```sql
insert into Customer values
(1, 'Anju Mohan', 'Malappuram, Kerala', '2023-01-15'),
(2, 'Rahul Raj', 'Kochi, Kerala', '2023-02-20'),
(3, 'Sneha Pillai', 'Kozhikode, Kerala', '2023-03-10'),
(4, 'Arun Dev', 'Kannur, Kerala', '2021-05-01'),
(5, 'Lakshmi Nair', 'Palakkad, Kerala', '2023-05-25'),
(6, 'Vishnu Prasad', 'Thrissur, Kerala', '2023-06-15'),
(7, 'Anita Dinesh', 'Kochi, Kerala', '2021-08-06'),
(8, 'Sajith Kumar', 'Alappuzha, Kerala', '2023-08-30'),
(9, 'Neethu Suresh', 'Kochi, Kerala', '2023-09-12'),
(10, 'Akhil Menon', 'Kozhikode, Kerala', '2023-10-05');
```

```sql
98  select* from Customer;
```

Result Grid | Filter Rows: | Edit:

Customer_Id	Customer_name	Customer_address	Reg_date
1	Anju Mohan	Malappuram, Kerala	2023-01-15
2	Rahul Raj	Kochi, Kerala	2023-02-20
3	Sneha Pillai	Kozhikode, Kerala	2023-03-10
4	Arun Dev	Kannur, Kerala	2021-05-01
5	Lakshmi Nair	Palakkad, Kerala	2023-05-25
6	Vishnu Prasad	Thrissur, Kerala	2023-06-15
7	Anita Dinesh	Kochi, Kerala	2021-08-06
8	Sajith Kumar	Alappuzha, Kerala	2023-08-30
9	Neethu Suresh	Kochi, Kerala	2023-09-12
10	Akhil Menon	Kozhikode, Kerala	2023-10-05
NULL	NULL	NULL	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

```
-- 5. Creating IssueStatus Table
create table IssueStatus(
Issue_Id int not null PRIMARY KEY,
Issued_cust int,
Issued_book_name varchar(100),
Issue_date date,
Isbn_book bigint,
foreign key (Issued_cust) references Customer(Customer_id),
foreign key (Isbn_book) references Books(ISBN));

insert into IssueStatus values
(0001, 3, 'Chemmeen', '2024-03-05', 9788171303583),
(0002, 9, 'Ente Katha', '2024-03-06', 9788126438884),
(0003, 5, 'Khasakkinte Ithihasam', '2024-02-28', 9788171300100),
(0004, 2, 'Aarachar', '2024-03-05', 9788126403395),
(0005, 6, 'Chemmeen', '2023-06-10', 9788171303583);
```

```
118 •  select * from IssueStatus;
```

Result Grid | Filter Rows: | Edit: | Export/Impo

Issue_Id	Issued_cust	Issued_book_name	Issue_date	Isbn_book
1	3	Chemmeen	2024-03-05	9788171303583
2	9	Ente Katha	2024-03-06	9788126438884
3	5	Khasakkinte Ithihasam	2024-02-28	9788171300100
4	2	Aarachar	2024-03-05	9788126403395
5	6	Chemmeen	2023-06-10	9788171303583
NULL	NULL	NULL	NULL	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

```sql
-- 6. Creating ReturnStatus Table
create table ReturnStatus(
Return_Id int not null PRIMARY KEY,
Return_cust int,
Return_book_name varchar(100),
Return_date date,
Isbn_book2 bigint,
foreign key (Isbn_book2) references Books(ISBN));

insert into ReturnStatus values
(01, 3, 'Chemmeen', '2024-03-07', 9788171303583),
(02, 9, 'Ente Katha', '2024-03-07', 9788126438884),
(03, 5, 'Khasakkinte Ithihasam', '2024-02-28', 9788171300100);
```

```sql
135 •  select * from ReturnStatus;
```

Result Grid | Filter Rows: | Edit: | Export/Import:

Return_Id	Return_cust	Return_book_name	Return_date	Isbn_book2
1	3	Chemmeen	2024-03-07	9788171303583
2	9	Ente Katha	2024-03-07	9788126438884
3	5	Khasakkinte Ithihasam	2024-02-28	9788171300100
NULL	NULL	NULL	NULL	NULL

Display all the tables and Write the queries for the following :

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

```
138     -- 1. Retrieve the book title, category, and rental price of all available books.
139 •   select Book_title, Category, Rental_Price from books where Status = 'Yes';
```

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

Book_title	Category	Rental_Price
Naalukettu	Classic	140
Aarachar	Historical Fiction	200
Aadujeevitham	Drama	120
Ente Katha	Autobiography	130
Oru Desathinte Katha	Fiction	115
Khasakkinte Ithihasam	Fiction	150
Chemmeen	Romance	130

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

```
142     -- 2. List the employee names and their respective salaries in descending order of salary.
143 •   select Emp_Name, Salary from Employee order by salary desc;
```

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

Emp_Name	Salary
Anjali Krishna	65000
Rohan Nair	55000
Vishnu Pillai	52000
Geetha Kumari	48000
Priyanka Iyer	42000
Sunita George	22000
Mohammed Anwar	22000
Lakshmi Priya	20000
Kiran Varma	20000
Arjun Menon	18000

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

```
146     -- 3. Retrieve the book titles and the corresponding customers who have issued those books.
147 •   select b.Book_title, c.Customer_Name from Books b
148     join IssueStatus i on b.isbn = i.Isbn_book
149     join Customer c on i.issued_cust = c.customer_Id;
```

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

Book_title	Customer_Name
Chemmeen	Sneha Pillai
Ente Katha	Neethu Suresh
Khasakkinte Ithihasam	Lakshmi Nair
Aarachar	Rahul Raj
Chemmeen	Vishnu Prasad

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

```
151     -- 4. Display the total count of books in each category.
152 •   select Category, count(Category) as 'No Of Books' from Books group by Category;
```

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

Category	No Of Books
Classic	1
Mythology	1
Historical Fiction	1
Drama	1
Autobiography	1
Fiction	4
Romance	1

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

```
155     -- 5. Retrieve the employee names and their positions for the employees whose salaries are above Rs.50,000.
156 •   select Emp_Name, Position from Employee where Salary > 50000;
```

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

Emp_Name	Position
Anjali Krishna	Manager
Rohan Nair	Assistant Manager
Vishnu Pillai	Accountant

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

```
159    -- 6. List the customer names who registered before 2022-01-01 and have not issued any books yet.
160 •  select Customer_Name from Customer where Reg_date < '2022-01-01' and
161    customer_id not in(select issued_cust from IssueStatus);
```

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

Customer_Name
Arun Dev
Anita Dinesh

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

```
164    -- 7. Display the branch numbers and the total count of employees in each branch.
165 •  select Branch_no, count(*) as 'No Of Employee' from Employee group by Branch_no;
```

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

Branch_no	No Of Employee
1256	2
2256	1
3256	1
4256	1
5256	1
6256	1
7256	1
8256	1
9256	1

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

```
168    -- 8. Display the names of customers who have issued books in the month of June 2023.
169 •  select C.Customer_Name from customer C join IssueStatus i on c.Customer_id = i.issued_cust
170    where monthname(Issue_date) = 'June' and year(Issue_date) = 2023;
```

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

Customer_Name
Vishnu Prasad

9. Retrieve book_title from book table containing history.

```
173     -- 9. Retrieve book_title from book table containing history.
174 •   select Book_Title, Category from Books where Category Like 'Histor%';
```

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

Book_Title	Category
Aarachar	Historical Fiction

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

```
177     -- 10.Retrieve the branch numbers along with the count of employees for branches having more than 5 employees
178 •   select Branch_No from Employee where Branch_No in
179     (select Branch_No From Employee group by Branch_No having count(*)>5);
```

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

Branch_No