Library Management System

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

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

```sql
-- Create a Database called 'Library'
CREATE DATABASE library;
USE library;
-- create table "Branch"
CREATE TABLE Branch
(Branch_no VARCHAR(10) PRIMARY KEY,
Manager_id VARCHAR(10),
Branch_address VARCHAR(30),
Contact_no VARCHAR(15));
-- Create table "Employee"
CREATE TABLE Employee
(Emp_id VARCHAR(10) PRIMARY KEY,
Emp_name VARCHAR(30),
Position VARCHAR(30),
Salary DECIMAL(10,2),
Branch_no VARCHAR(10),FOREIGN KEY (Branch_no) REFERENCES Branch(Branch_no));
```

```sql
CREATE TABLE Books
(ISBN VARCHAR(100) PRIMARY KEY,
Book_title VARCHAR(100),
Category VARCHAR(30),
Rental_Price DECIMAL(10,2),
Status ENUM('Yes','No'),
Author VARCHAR(30),
Publisher VARCHAR(30));

-- Create table "Customer"
CREATE TABLE Customer
(Customer_Id VARCHAR(10) PRIMARY KEY,
Customer_name VARCHAR(30),
Customer_address VARCHAR(30),
Reg_date DATE);
```

```sql
54  •    INSERT INTO branch VALUES
55       ('B001', 'M101', '123 Main St', '+919099988676'),
56       ('B002', 'M102', '456 Elm St', '+919099988677'),
57       ('B003', 'M103', '789 Oak St', '+919099988678'),
58       ('B004', 'M104', '567 Pine St', '+919099988679'),
59       ('B005', 'M105', '890 Maple St', '+919099988680');
60  •    SELECT * FROM branch;
```

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

Branch_no	Manager_id	Branch_address	Contact_no
B001	M101	123 Main St	+919099988676
B002	M102	456 Elm St	+919099988677
B003	M103	789 Oak St	+919099988678
B004	M104	567 Pine St	+919099988679
B005	M105	890 Maple St	+919099988680
NULL	NULL	NULL	NULL

```sql
62  •    INSERT INTO employee VALUES
63       ('E101', 'John Doe', 'Manager', 60000.00,'B001'),
64       ('E102', 'Jane Smith', 'Clerk', 45000.00,'B002'),
65       ('E103', 'Mike Johnson', 'Librarian', 55000.00,'B003'),
66       ('E104', 'Emily Davis', 'Assistant', 40000.00,'B004'),
67       ('E105', 'Sarah Brown', 'Assistant', 42000.00,'B005'),
68       ('E106', 'Michelle Ramirez', 'Assistant', 43000.00,'B004'),
```

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

Emp_id	Emp_name	Position	Salary	Branch_no
E101	John Doe	Manager	60000.00	B001
E102	Jane Smith	Clerk	45000.00	B002
E103	Mike Johnson	Librarian	55000.00	B003
E104	Emily Davis	Assistant	40000.00	B004
E105	Sarah Brown	Assistant	42000.00	B005
E106	Michelle Ramirez	Assistant	43000.00	B004
E107	Michael Thompson	Manager	62000.00	B002

```sql
76  INSERT INTO customer VALUES
77     ('C101', 'Alice Johnson', '123 Main St', '2021-05-15'),
78     ('C102', 'Bob Smith', '456 Elm St', '2021-06-20'),
79     ('C103', 'Carol Davis', '789 Oak St', '2021-07-10'),
80     ('C104', 'Dave Wilson', '567 Pine St', '2021-08-05'),
81     ('C105', 'Eve Brown', '890 Maple St', '2021-09-25'),
82     ('C106', 'Frank Thomas', '234 Cedar St', '2021-10-15'),
```

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

Customer_Id	Customer_name	Customer_address	Reg_date
C101	Alice Johnson	123 Main St	2021-05-15
C102	Bob Smith	456 Elm St	2021-06-20
C103	Carol Davis	789 Oak St	2021-07-10
C104	Dave Wilson	567 Pine St	2021-08-05
C105	Eve Brown	890 Maple St	2021-09-25
C106	Frank Thomas	234 Cedar St	2021-10-15
C107	Grace Taylor	345 Walnut St	2021-11-20

```sql
89  INSERT INTO books VALUES
90     ('978-0-09-957807-2', 'The Catcher in the Rye', 'Classic', 7.00, 'yes', 'J.D. Salinger', 'Little, Brown and Company')
91     ('978-0-330-25864-8', 'Animal Farm', 'Classic', 5.50, 'yes', 'George Orwell', 'Penguin Books'),
92     ('978-0-14-118776-1', 'One Hundred Years of Solitude', 'Literary Fiction', 6.50, 'yes', 'Gabriel Garcia Marquez', 'Pe
93     ('978-0-525-47535-5', 'The Great Gatsby', 'Classic', 8.00, 'yes', 'F. Scott Fitzgerald', 'Scribner'),
94     ('978-0-141-44171-6', 'Jane Eyre', 'Classic', 4.00, 'yes', 'Charlotte Bronte', 'Penguin Classics'),
95     ('978-0-307-37840-1', 'The Alchemist', 'Fiction', 2.50, 'yes', 'Paulo Coelho', 'HarperOne'),
```

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

ISBN	Book_title	Category	Rental_Price	Status	Author	Publisher
978-0-09-957807-9	A Game of Thrones	Fantasy	7.50	Yes	George R.R. Martin	Bantam
978-0-14-044930-3	The Histories	History	5.50	Yes	Herodotus	Penguin Classics
978-0-14-118776-1	One Hundred Years of Solitude	Literary Fiction	6.50	Yes	Gabriel Garcia Marquez	Penguin Books
978-0-141-44171-6	Jane Eyre	Classic	4.00	Yes	Charlotte Bronte	Penguin Classics
978-0-19-280551-1	The Guns of August	History	7.00	Yes	Barbara W. Tuchman	Oxford University Press
978-0-307-37840-1	The Alchemist	Fiction	2.50	Yes	Paulo Coelho	HarperOne
978-0-307-58837-1	Sapiens: A Brief History of Humankind	History	8.00	Yes	Yuval Noah Harari	Harper Perennial

```sql
110  INSERT INTO IssueStatus VALUES
111     ('IS101', 'C101', 'The Catcher in the Rye', '2023-06-01', '978-0-553-29698-2'),
112     ('IS102', 'C102', 'The Da Vinci Code', '2023-05-02', '978-0-7432-4722-4'),
113     ('IS103', 'C103', '1491: New Revelations of the Americas Before Columbus', '2023-05-03', '978-0-7432-7357-1'),
114     ('IS104', 'C104', 'Sapiens: A Brief History of Humankind', '2023-06-04', '978-0-307-58837-1'),
115     ('IS105', 'C105', 'The Diary of a Young Girl', '2023-05-05', '978-0-375-41398-8');
116  SELECT * FROM issuestatus;
```

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

Issue_Id	Issued_cust_id	Issued_book_name	Issue_date	Isbn_book
IS101	C101	The Catcher in the Rye	2023-06-01	978-0-553-29698-2
IS102	C102	The Da Vinci Code	2023-05-02	978-0-7432-4722-4
IS103	C103	1491: New Revelations of the Americas Before ...	2023-05-03	978-0-7432-7357-1
IS104	C104	Sapiens: A Brief History of Humankind	2023-06-04	978-0-307-58837-1
IS105	C105	The Diary of a Young Girl	2023-05-05	978-0-375-41398-8
NULL	NULL	NULL	NULL	NULL

```
118 ●    INSERT INTO ReturnStatus VALUES
119        ('RS101', 'C101', 'The Catcher in the Rye', '2023-06-06', '978-0-553-29698-2'),
120        ('RS102', 'C102', 'The Da Vinci Code', '2023-06-07', '978-0-7432-4722-4'),
121        ('RS103', 'C105', 'The Diary of a Young Girl', '2023-06-08', '978-0-375-41398-8'),
122        ('RS104', 'C108', 'The Histories', '2023-06-09', '978-0-14-044930-3'),
123        ('RS105', 'C110', 'A Game of Thrones', '2023-06-10', '978-0-09-957807-9');
124 ●    SELECT * FROM returnstatus;
```

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

Return_id	Return_cust	Return_book_name	Return_date	isbn_book2
RS101	C101	The Catcher in the Rye	2023-06-06	978-0-553-29698-2
RS102	C102	The Da Vinci Code	2023-06-07	978-0-7432-4722-4
RS103	C105	The Diary of a Young Girl	2023-06-08	978-0-375-41398-8
RS104	C108	The Histories	2023-06-09	978-0-14-044930-3
RS105	C110	A Game of Thrones	2023-06-10	978-0-09-957807-9
NULL	NULL	NULL	NULL	NULL

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

```
126        --  1. Retrieve the book title, category, and rental price of all available books.
127 ●    SELECT book_title, category, rental_price FROM books WHERE Status = 'Yes';
```

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

book_title	category	rental_price
A Game of Thrones	Fantasy	7.50
The Histories	History	5.50
One Hundred Years of Solitude	Literary Fiction	6.50
The Guns of August	History	7.00
The Alchemist	Fiction	2.50
Animal Farm	Classic	5.50
The Diary of a Young Girl	History	6.50

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

```
129        --  2. List the employee names and their respective salaries in descending order of salary.
130 ●    SELECT emp_name, salary FROM employee ORDER BY Salary DESC;
```

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

emp_name	salary
Christopher Lee	65000.00
Michael Thompson	62000.00
John Doe	60000.00
Daniel Anderson	57000.00
Mike Johnson	55000.00
Jessica Taylor	46000.00
Jane Smith	45000.00

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

```
132        -- 3. Retrieve the book titles and the corresponding customers who have issued those books.
133 •      SELECT issuestatus.Issued_book_name, customer.Customer_name FROM issuestatus INNER JOIN
134        customer on issuestatus.Issued_cust_id = customer.Customer_Id;
```

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

Issued_book_name	Customer_name
The Catcher in the Rye	Alice Johnson
The Da Vinci Code	Bob Smith
1491: New Revelations of the Americas Before ...	Carol Davis
Sapiens: A Brief History of Humankind	Dave Wilson
The Diary of a Young Girl	Eve Brown

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

```
136        --  4. Display the total count of books in each category.
137 •      SELECT Category, COUNT(Book_title) FROM books GROUP BY Category;
138        |
```

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

Category	COUNT(Book_title)
Fantasy	2
History	7
Literary Fiction	1
Classic	4
Fiction	1
Mystery	1

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

```
139        --  5. Retrieve the employee names and their positions for the employees whose salaries are above Rs.50,000.
140 •      SELECT emp_name, position FROM employee WHERE Salary > 50000;
141        |
```

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

emp_name	position
John Doe	Manager
Mike Johnson	Librarian
Michael Thompson	Manager
Daniel Anderson	Librarian
Christopher Lee	Manager

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

```
142      -- 6. List the customer names who registered before 2022-01-01 and have not issued any books yet.
143 •    SELECT customer_name FROM customer WHERE Reg_date < '2022-01-01' AND Customer_Id NOT IN
144      (SELECT issued_cust_id FROM issuestatus);
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: $\overline{A}$

customer_name
Frank Thomas
Grace Taylor
Henry Anderson

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

```
146      -- 7. Display the branch numbers and the total count of employees in each branch.
147 •    SELECT branch_no, COUNT(emp_id) FROM employee GROUP BY branch_no;
148      
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: $\overline{A}$

branch_no	COUNT(emp_id)
B001	2
B002	2
B003	1
B004	3
B005	3

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

```
149      -- 8. Display the names of customers who have issued books in the month of June 2023.
150 •    SELECT customer.Customer_name FROM customer INNER JOIN issuestatus ON
151      customer.Customer_Id = issuestatus.Issued_cust_id WHERE issuestatus.Issue_date >= '2023-06-01' AND
152      issuestatus.Issue_date <= '2023-06-30';
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: $\overline{A}$

Customer_name
Alice Johnson
Dave Wilson

9. Retrieve book_title from book table containing history.

```
154    -- 9. Retrieve book_title from book table containing 'history'.
155 •  SELECT book_title FROM books WHERE Category = 'history';
```

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

book_title
The Histories
The Guns of August
Sapiens: A Brief History of Humankind
The Diary of a Young Girl
A People's History of the United States
Guns, Germs, and Steel: The Fates of Human S...
1491: New Revelations of the Americas Before ...

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

```
157    -- 10.Retrieve the branch numbers along with the count of employees for branches having more than 2 employees.
158 •  SELECT branch_no, COUNT(emp_id) FROM employee GROUP BY branch_no HAVING COUNT(Emp_id) > 2;
159    |
```

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

branch_no	COUNT(emp_id)
B004	3
B005	3

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

```
159    -- 11. Retrieve the names of employees who manage branches and their respective branch addresses.
160 •  SELECT employee.emp_name,branch.branch_no,branch.Branch_address FROM employee INNER JOIN Branch
161    on employee.Branch_no = Branch.Branch_no;
162    |
```

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

emp_name	branch_no	Branch_address
Mike Johnson	B003	789 Oak St
Emily Davis	B004	567 Pine St
Michelle Ramirez	B004	567 Pine St
Christopher Lee	B004	567 Pine St
Sarah Brown	B005	890 Maple St
Daniel Anderson	B005	890 Maple St
Laura Martinez	B005	890 Maple St

12. Display the names of customers who have issued books with a rental price higher than Rs. 7.

```
163     -- 12. Display the names of customers who have issued books with a rental price higher than Rs.7.
164 •   SELECT Issued_cust_id FROM issuestatus INNER JOIN books ON
165     ISBN=Isbn_book where books.Rental_Price> 7;
```

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

Issued_cust_id
C102
C104