Topic : 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
6. ReturnStatus

Attributes for the tables:

1. Branch

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

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

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

4. Customer

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

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

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

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

1. Retrieve the book title, category, and rental price of all available books.
2. List the employee names and their respective salaries in descending order of salary.
3. Retrieve the book titles and the corresponding customers who have issued those books.
4. Display the total count of books in each category.
5. Retrieve the employee names and their positions for the employees whose salaries are above Rs.50,000.
6. List the customer names who registered before 2022-01-01 and have not issued any books yet.
7. Display the branch numbers and the total count of employees in each branch.
8. Display the names of customers who have issued books in the month of June 2023.
9. Retrieve book_title from book table containing history.
10. Retrieve the branch numbers along with the count of employees for branches having more than 5 employees
11. Retrieve the names of employees who manage branches and their respective branch addresses.
12. Display the names of customers who have issued books with a rental price higher than Rs. 25.

```
1 •   CREATE DATABASE LIBRARY;
2 •   USE LIBRARY;
3 • ⊖ CREATE TABLE BRANCH(
4      BRANCH_NO INT PRIMARY KEY,
5      MANAGER_ID INT,
6      BRANCH_ADDRESS VARCHAR(255),
7      CONTACT_NO VARCHAR(20)
8      );
9 •   INSERT INTO BRANCH (BRANCH_NO, MANAGER_ID, BRANCH_ADDRESS, CONTACT_NO)
10     VALUES
```

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

BRANCH_NO	MANAGER_ID	BRANCH_ADDRESS	CONTACT_NO
1	101	123 Main St, City A	123-456-7890
2	102	456 Oak Ave, City B	987-654-3210
3	103	789 Elm Blvd, City C	555-123-4567
4	104	321 Pine Ln, City D	777-888-9999
5	105	555 Maple Dr, City E	444-222-3333

104 ● SELECT * FROM BRANCH;

Branch_no	Manager_Id	Branch_address	Contact_no
1	101	123 Main St, City A	123-456-7890
2	102	456 Elm St, City B	987-654-3210
3	103	789 Oak St, City C	555-123-4567
4	104	321 Pine St, City D	111-222-3333
5	105	567 Maple St, City E	999-888-7777

105 ● SELECT * FROM EMPLOYEE;

Emp_Id	Emp_name	Position	Salary	Branch_no
101	John Doe	Manager	60000.00	1
102	Jane Smith	Librarian	45000.00	2
103	Michael Brown	Assistant Librarian	40000.00	1
104	Emily Johnson	Clerk	35000.00	3
105	David Lee	Assistant Manager	55000.00	2

106 ● SELECT * FROM BOOKS;

ISBN	Book_title	Category	Rental_Price	Status	Author
978-0-306-40615-7	Introduction to Algorithms	Computer Science	40.00	yes	Thomas H. Cormen
978-0132350884	Clean Code: A Handbook of Agile Software Craf...	Software Engineering	35.00	yes	Robert C. Martin
978-0135957059	Database System Concepts	Database Management	45.00	no	Abraham Silberschatz
978-0321125217	Design Patterns: Elements of Reusable Object-...	Software Engineering	50.00	yes	Erich Gamma
978-0321334879	The Mythical Man-Month: Essays on Software E...	Software Engineering	30.00	yes	Frederick P. Brooks Jr.

106 ● SELECT * FROM BOOKS;

Book_title	Category	Rental_Price	Status	Author	Publisher
Introduction to Algorithms	Computer Science	40.00	yes	Thomas H. Cormen	MIT Press
Clean Code: A Handbook of Agile Software Craf...	Software Engineering	35.00	yes	Robert C. Martin	Prentice Hall
Database System Concepts	Database Management	45.00	no	Abraham Silberschatz	McGraw-Hill
Design Patterns: Elements of Reusable Object-...	Software Engineering	50.00	yes	Erich Gamma	Addison-Wesley Pro
The Mythical Man-Month: Essays on Software E...	Software Engineering	30.00	yes	Frederick P. Brooks Jr.	Addison-Wesley Pro

107 ● SELECT * FROM CUSTOMER;

| Customer_Id	Customer_name	Customer_address	Reg_date
1	Alice Johnson	789 Green St, Town X	2021-12-15
2	Bob Smith	456 Red St, Town Y	2022-02-28
3	Eve Brown	123 Blue St, Town Z	2023-01-10
4	Charlie Lee	987 Purple St, Town W	2021-08-20
5	Grace Taylor	654 Yellow St, Town V	2022-11-05

108 ● SELECT * FROM ISSUESTATUS;

| Issue_Id	Issued_cust	Issued_book_name	Issue_date	Isbn_book
1	1	Introduction to Algorithms	2023-05-10	978-0-306-40615-7
2	2	Clean Code: A Handbook of Agile Software Craf...	2023-06-15	978-0132350884
3	3	Design Patterns: Elements of Reusable Object-...	2023-04-20	978-0321125217
4	4	The Mythical Man-Month: Essays on Software E...	2023-06-05	978-0321334879
5	5	Introduction to Algorithms	2023-05-30	978-0-306-40615-7

```
109 ●     SELECT * FROM RETURNSTATUS;
```

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

Return_Id	Return_cust	Return_book_name	Return_date	Isbn_book2
1	1	Introduction to Algorithms	2023-05-25	978-0-306-40615-7
2	2	Clean Code: A Handbook of Agile Software Craf...	2023-07-01	978-0132350884
3	3	Design Patterns: Elements of Reusable Object-...	2023-05-01	978-0321125217
4	4	The Mythical Man-Month: Essays on Software E...	2023-06-20	978-0321334879
5	5	Introduction to Algorithms	2023-06-10	978-0-306-40615-7

```
110 ●     SELECT Book_title, Category, Rental_Price
111       FROM Books
112       WHERE Status = 'yes';
```

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

Book_title	Category	Rental_Price
Introduction to Algorithms	Computer Science	40.00
Clean Code: A Handbook of Agile Software Craf...	Software Engineering	35.00
Design Patterns: Elements of Reusable Object-...	Software Engineering	50.00
The Mythical Man-Month: Essays on Software E...	Software Engineering	30.00

```
113 ●     SELECT Emp_name, Salary
114       FROM Employee
115       ORDER BY Salary DESC;
```

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

Emp_name	Salary
John Doe	60000.00
David Lee	55000.00
Jane Smith	45000.00
Michael Brown	40000.00
Emily Johnson	35000.00

```
116 ●     SELECT b.Book_title, c.Customer_name
117       FROM IssueStatus i
118       JOIN Books b ON i.Isbn_book = b.ISBN
119       JOIN Customer c ON i.Issued_cust = c.Customer_Id;
```

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

Book_title	Customer_name
Introduction to Algorithms	Alice Johnson
Clean Code: A Handbook of Agile Software Craf...	Bob Smith
Design Patterns: Elements of Reusable Object-...	Eve Brown
The Mythical Man-Month: Essays on Software E...	Charlie Lee
Introduction to Algorithms	Grace Taylor

```
120 ●     SELECT Category, COUNT(*) AS Total_Books
121       FROM Books
122       GROUP BY Category;
```

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

Category	Total_Books
Computer Science	1
Software Engineering	3
Database Management	1

```sql
123 •   SELECT Emp_name, Position
124     FROM Employee
125     WHERE Salary > 50000;
```

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

Emp_name	Position
John Doe	Manager
David Lee	Assistant Manager

```sql
126 •   SELECT Customer_name
127     FROM Customer
128     WHERE Reg_date < '2022-01-01'
129     AND Customer_Id NOT IN (SELECT Issued_cust FROM IssueStatus);
```

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

Customer_name

```sql
130 •   SELECT e.Branch_no, COUNT(*) AS Total_Employees
131     FROM Employee e
132     GROUP BY e.Branch_no;
```

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

Branch_no	Total_Employees
1	2
2	2
3	1

```sql
133 •   SELECT DISTINCT c.Customer_name
134     FROM Customer c
135     JOIN IssueStatus i ON c.Customer_Id = i.Issued_cust
136     WHERE MONTH(i.Issue_date) = 6 AND YEAR(i.Issue_date) = 2023;
```

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

Customer_name
Bob Smith
Charlie Lee

```sql
137 •   SELECT Book_title
138     FROM Books
139     WHERE Category LIKE '%history%';
```

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

Book_title

```sql
137 •   SELECT Book_title
138     FROM Books
139     WHERE Category LIKE '%COMPUTER SCIENCE%';
```

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

Book_title
► Introduction to Algorithms

```sql
140 •   SELECT Branch_no, COUNT(*) AS Total_Employees
141     FROM Employee
142     GROUP BY Branch_no
143     HAVING COUNT(*) > 1;
```

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

Branch_no	Total_Employees
► 1	2
2	2

```sql
140 •   SELECT Branch_no, COUNT(*) AS Total_Employees
141     FROM Employee
142     GROUP BY Branch_no
143     HAVING COUNT(*) > 5;
```

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

Branch_no	Total_Employees

```sql
144 •   SELECT e.Emp_name, b.Branch_address
145     FROM Employee e
146     JOIN Branch b ON e.Branch_no = b.Branch_no
147     WHERE e.Position = 'Manager';
```

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

Emp_name	Branch_address
► John Doe	123 Main St, City A

```sql
148 •   SELECT DISTINCT c.Customer_name
149     FROM Customer c
150     JOIN IssueStatus i ON c.Customer_Id = i.Issued_cust
151     JOIN Books b ON i.Isbn_book = b.ISBN
152     WHERE b.Rental_Price > 25;
```

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

Customer_name
► Alice Johnson
Grace Taylor
Bob Smith
Eve Brown
Charlie Lee