# **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

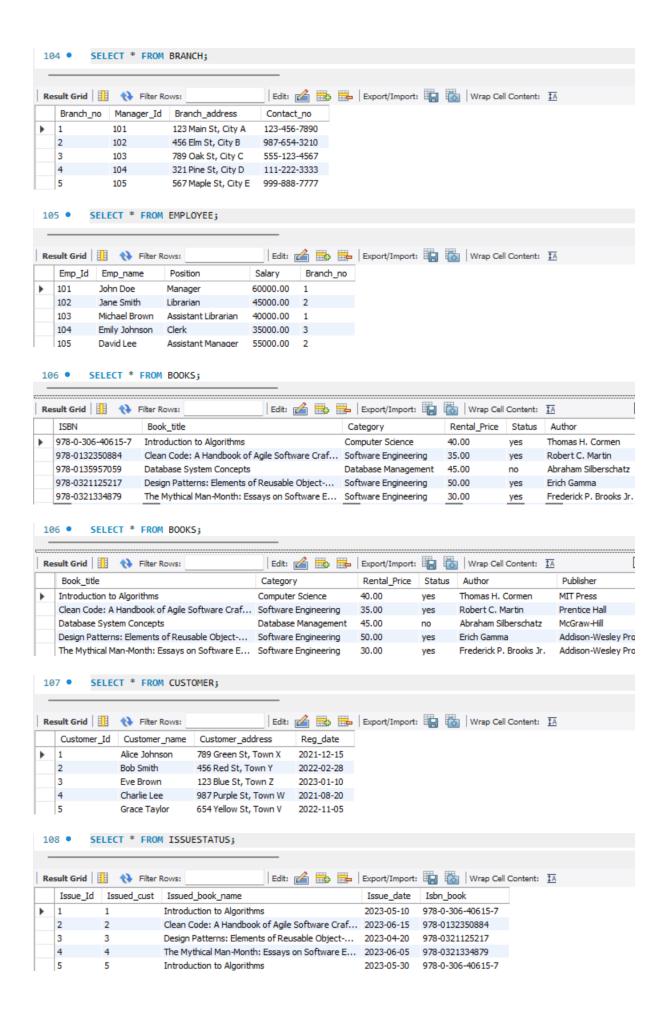
#### 6. ReturnStatus

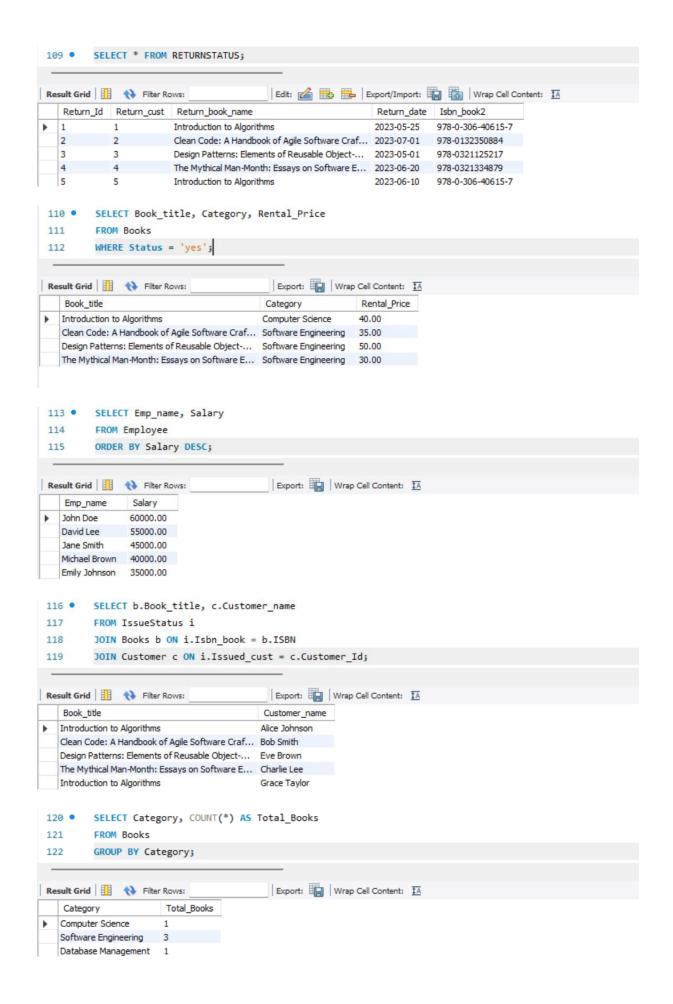
- Return Id Set as PRIMARY KEY
- Return cust
- Return\_book\_name
- Return\_date
- Isbn\_book2 Set as FOREIGN KEY and it should refer isbn in BOOKS table

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,
        MANAGER_ID INT,
 5
        BRANCH ADDRESS VARCHAR(255),
 7
        CONTACT NO VARCHAR(20)
 8
        );
 9 •
        INSERT INTO BRANCH (BRANCH_NO, MANAGER_ID, BRANCH_ADDRESS, CONTACT_NO)
Edit: 🕍 🖶 Export/Import: 📳 🦝 Wrap Cell Content: 🖽
  BRANCH_NO MANAGER_ID BRANCH_ADDRESS CONTACT_NO
             101
  1
                        123 Main St, City A 123-456-7890
                        456 Oak Ave, City B 987-654-3210
            102
  2
             103
  3
                         789 Elm Blvd, City C 555-123-4567
                       321 Pine Ln, City D 777-888-9999
            104
                       555 Maple Dr, City E 444-222-3333
```





```
123 • SELECT Emp_name, Position
124
       FROM Employee
125
       WHERE Salary > 50000;
                                  Export: Wrap Cell Content: 1A
Emp_name Position
  John Doe
           Manager
  David Lee Assistant Manager
126 • SELECT Customer_name
127 FROM Customer
    WHERE Reg date < '2022-01-01'
       AND Customer_Id NOT IN (SELECT Issued_cust FROM IssueStatus);
129
                                  Export: Wrap Cell Content: IA
Customer_name
130 • SELECT e.Branch_no, COUNT(*) AS Total_Employees
       FROM Employee e
131
132
       GROUP BY e.Branch_no;
                                  Export: Wrap Cell Content: IA
Branch_no Total_Employees
1
           2
  2
 3
133 • SELECT DISTINCT c.Customer name
134
      FROM Customer c
135
       JOIN IssueStatus i ON c.Customer_Id = i.Issued_cust
       WHERE MONTH(i.Issue_date) = 6 AND YEAR(i.Issue_date) = 2023;
136
Export: Wrap Cell Content: TA
 Customer_name
Bob Smith
 Charlie Lee
137 • SELECT Book_title
138
      FROM Books
       WHERE Category LIKE '%history%';
139
Export: Wrap Cell Content: IA
  Book_title
```

```
137 • SELECT Book_title
138
     FROM Books
        WHERE Category LIKE '%COMPUTER SCIENCE%';
139
                                    Export: Wrap Cell Content: IA
Book_title
▶ Introduction to Algorithms
140 • SELECT Branch_no, COUNT(*) AS Total_Employees
       FROM Employee
141
       GROUP BY Branch_no
142
        HAVING COUNT(*) > 1;
143
Export: Wrap Cell Content: $\frac{1}{4}
   Branch_no Total_Employees
           2
  2
           2
       SELECT Branch_no, COUNT(*) AS Total_Employees
140 •
141
        FROM Employee
        GROUP BY Branch_no
142
        HAVING COUNT(*) > 5;
                                     Export: Wrap Cell Content: IA
Branch_no Total_Employees
144 • SELECT e.Emp_name, b.Branch_address
        FROM Employee e
145
        JOIN Branch b ON e.Branch_no = b.Branch_no
        WHERE e.Position = 'Manager';
147
Export: Wrap Cell Content: IA
  Emp_name Branch_address
John Doe 123 Main St, City A
148 • SELECT DISTINCT c.Customer name
149
       FROM Customer c
        JOIN IssueStatus i ON c.Customer_Id = i.Issued_cust
150
        JOIN Books b ON i.Isbn_book = b.ISBN
151
        WHERE b.Rental_Price > 25;
152
Export: Wrap Cell Content: IA
   Customer_name
Alice Johnson
  Grace Taylor
  Bob Smith
  Eve Brown
  Charlie Lee
```