**Module 3: Library Management System**

```
51 •    SHOW TABLES;
52
```

Result Grid | Filter Rows:

| Tables_in_library |
| --- |
| books |
| branch |
| customer |
| employee |
| issuestatus |
| returnstatus |

Result Grid | Filter Rows: | Edit:

| Branch_no | Manager_id | Branch_address | Contact_no |
| --- | --- | --- | --- |
| 101 | 1 | Main Street, City A | 9876543210 |
| 102 | 2 | Elm Road, City B | 8765432109 |
| 103 | 3 | Oak Avenue, City C | 7654321098 |
| 104 | 4 | Maple Lane, City D | 6543210987 |
| NULL | NULL | NULL | NULL |

| Emp_id | Emp_name | Position | Salary | Branch_no |
| --- | --- | --- | --- | --- |
| 1 | John Smith | Manager | 75000 | 101 |
| 2 | Mary Johnson | Manager | 72000 | 102 |
| 3 | Robert Brown | Manager | 70000 | 103 |
| 4 | Linda Davis | Manager | 68000 | 104 |
| 5 | James Wilson | Assistant | 45000 | 101 |
| 6 | Karen Miller | Librarian | 55000 | 102 |
| 7 | David Moore | Assistant | 48000 | 103 |
| 8 | Susan Taylor | Librarian | 52000 | 104 |
| 9 | George King | Assistant | 46000 | 101 |
| 10 | Henry Queen | Clerk | 40000 | 101 |
| 11 | Lucy Prince | Assistant | 47000 | 101 |
| 12 | Michael Bishop | Clerk | 41000 | 101 |
| 13 | Emma Duke | Assistant | 49000 | 101 |
| 14 | Sophia Baron | Assistant | 45000 | 102 |
| 15 | Olivia Count | Clerk | 42000 | 102 |
| 16 | Liam Marquess | Assistant | 44000 | 102 |
| 17 | Mia Earl | Assistant | 43000 | 102 |
| 18 | Noah Knight | Clerk | 40000 | 102 |
| NULL | NULL | NULL | NULL | NULL |

| ISBN | Book_title | Category | Rental_price | Status | Author | Publisher |
|------|-----------|----------|--------------|--------|--------|-----------|
| 1001 | History of Time | History | 30.00 | yes | Stephen Hawking | Penguin Books |
| 1002 | Advanced Physics | Science | 40.00 | no | Albert Einstein | Springer |
| 1003 | Basic Mathematics | Math | 20.00 | yes | John Doe | McGraw Hill |
| 1004 | Fictional World | Fiction | 25.00 | yes | Jane Austen | Oxford Press |
| 1005 | World History | History | 35.00 | no | Eric Hobsbawm | Cambridge Press |
| 1006 | Modern Chemistry | Science | 30.00 | yes | Linus Pauling | Wiley |
| 1007 | The Art of Coding | Tech | 50.00 | no | Alan Turing | MIT Press |
| 1008 | Fantasy Chronicles | Fiction | 20.00 | yes | J.K. Rowling | Bloomsbury |
| NULL | NULL | | NULL | NULL | NULL | NULL | NULL |

| Customer_id | Customer_name | Customer_address | Reg_date |
|-------------|---------------|------------------|----------|
| 201 | Alice Green | 10 Main Street | 2021-10-01 |
| 202 | Bob White | 15 Elm Road | 2022-05-20 |
| 203 | Charlie Black | 25 Oak Avenue | 2023-01-15 |
| 204 | Daisy Blue | 30 Maple Lane | 2021-12-10 |
| 205 | Eve Red | 12 Hill Street | 2020-07-25 |
| NULL | NULL | NULL | NULL |

| Issue_id | Issued_cust | Issued_book_name | Issue_date | Isbn_book |
|----------|-------------|------------------|------------|-----------|
| 301 | 201 | History of Time | 2023-06-05 | 1001 |
| 302 | 202 | World History | 2023-06-10 | 1005 |
| 303 | 203 | Advanced Physics | 2023-07-01 | 1002 |
| 304 | 201 | The Art of Coding | 2023-06-20 | 1007 |
| NULL | NULL | NULL | NULL | NULL |

| Return_id | Return_cust | Return_book_name | Return_date | Isbn_book2 |
|-----------|-------------|------------------|-------------|------------|
| 401 | 201 | History of Time | 2023-07-01 | 1001 |
| 402 | 202 | World History | 2023-07-10 | 1005 |
| 403 | 203 | Advanced Physics | 2023-08-01 | 1002 |
| NULL | NULL | NULL | NULL | NULL |

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

```
 99        -- Q1
100 •     SELECT Book_title,Category,rental_price FROM Books
101       WHERE Status = 'yes';
102
```

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

| Book_title | Category | rental_price |
|---|---|---|
| History of Time | History | 30.00 |
| Basic Mathematics | Math | 20.00 |
| Fictional World | Fiction | 25.00 |
| Modern Chemistry | Science | 30.00 |
| Fantasy Chronicles | Fiction | 20.00 |

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

```
103        -- Q2
104 ●      SELECT Emp_name,salary FROM Employee
105        ORDER BY salary DESC;
106
```

**Result Grid** | Filter Rows: | Export:

| Emp_name | salary |
|---|---|
| ▶ John Smith | 75000 |
| Mary Johnson | 72000 |
| Robert Brown | 70000 |
| Linda Davis | 68000 |
| Karen Miller | 55000 |
| Susan Taylor | 52000 |
| David Moore | 48000 |
| James Wilson | 45000 |

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

```
107        -- Q3
108 ●      SELECT I.Issued_book_name,C.Customer_id,C.Customer_name
109        FROM IssueStatus I
110        JOIN Customer C ON I.Issued_cust = C.Customer_Id;
```

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

| Issued_book_name | Customer_id | Customer_name |
|---|---|---|
| ▶ History of Time | 201 | Alice Green |
| World History | 202 | Bob White |
| Advanced Physics | 203 | Charlie Black |
| The Art of Coding | 201 | Alice Green |

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

```
112        -- Q4
113  ●     SELECT Category,count(Category) AS BOOK_COUNT FROM Books
114        GROUP BY Category;
```

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

| Category | BOOK_COUNT |
|----------|------------|
| History  | 2          |
| Science  | 2          |
| Math     | 1          |
| Fiction  | 2          |
| Tech     | 1          |

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

```
116        -- Q5
117  ●     SELECT Emp_name,position,salary FROM Employee WHERE Salary > 50000;
118
```

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

| Emp_name      | position  | salary |
|---------------|-----------|--------|
| John Smith    | Manager   | 75000  |
| Mary Johnson  | Manager   | 72000  |
| Robert Brown  | Manager   | 70000  |
| Linda Davis   | Manager   | 68000  |
| Karen Miller  | Librarian | 55000  |
| Susan Taylor  | Librarian | 52000  |

Result Grid

Form Editor

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

```
119        -- Q6
120  ●     SELECT Customer_name FROM Customer
121        WHERE Reg_date < '2022-01-01'
122        AND Customer_id NOT IN (SELECT Issued_cust FROM IssueStatus);
123
```

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

| Customer_name |
|---------------|
| Daisy Blue    |
| Eve Red       |

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

```
124        -- Q7
125 ●      SELECT Branch_no,count(*) FROM Employee
126        GROUP BY Branch_no;
127
```

| Branch_no | count(*) |
|-----------|----------|
| ▶ 101 | 7 |
| 102 | 7 |
| 103 | 2 |
| 104 | 2 |

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

```
128        -- Q8
129 ●      SELECT DISTINCT C.customer_name
130        FROM Customer C JOIN IssueStatus I ON C.Customer_id = I.Issued_cust
131        WHERE I.Issue_date BETWEEN '2023-06-01' AND '2023-06-30';
132        |
133
```

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

| customer_name |
|---------------|
| ▶ Alice Green |
| Bob White |

9. Retrieve book_title from book table containing history.

```
133        -- Q9
134 ●      SELECT Book_title FROM Books
135        WHERE Book_title LIKE '%history%';
136
```

Result Grid | Filter Rows: | Export:

| Book_title |
|------------|
| ▶ History of Time |
| World History |

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

```
147        -- Q10
148 •      SELECT Branch_no,count(*) FROM Employee
149        GROUP BY Branch_no
```

Result Grid | Filter Rows: | Export:

| Branch_no | count(*) |
|-----------|----------|
| ▶ 101     | 7        |
| 102       | 7        |

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

```
152        -- Q11
153 •      SELECT E.emp_name,B.Branch_address
154        FROM Employee E Join Branch B ON E.emp_id = B.manager_id;
```

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

| emp_name      | Branch_address       |
|---------------|----------------------|
| ▶ John Smith  | Main Street, City A   |
| Mary Johnson  | Elm Road, City B      |
| Robert Brown  | Oak Avenue, City C    |
| Linda Davis   | Maple Lane, City D    |

12. Display the names of customers who have issued books with a rental price higher than Rs. 25.

```
156        -- Q12
157 •      SELECT  C.customer_name,B.Book_title,B.Rental_price FROM Customer C
158        JOIN IssueStatus I ON C.Customer_id = I.Issued_cust JOIN Books B ON I.Isbn_book = B.ISBN
159        WHERE Rental_price > 25;
```

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

| customer_name | Book_title       | Rental_price |
|---------------|------------------|--------------|
| ▶ Alice Green | History of Time  | 30.00        |
| Charlie Black | Advanced Physics | 40.00        |
| Bob White     | World History    | 35.00        |
| Alice Green   | The Art of Coding| 50.00        |