

Library Management System

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

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

The screenshot shows the MySQL Workbench interface. The left sidebar displays the 'SCHEMAS' tree with 'library' selected. The main editor contains the following SQL query:

```
82
83 -- 1. Retrieve the book title, category, and rental price of all available books.
84 • SELECT Book_title, Category, Rental_Price
85 FROM BOOKS
86 WHERE Status = 'Yes';
87
```

The 'Result Grid' shows the following data:

Book_title	Category	Rental_Price
1984	Dystopian	20
The_Catcher_in_the_Rye	Fiction	20
Homo_Deus_A_Brief_History_o...	Nonfiction	50
Sapiens_A_Brief_History_of_H...	Nonfiction	30
21_Lessons_for_the_21st_Cent...	Nonfiction	25
MobyDick	Fiction	25
Becoming	Biography	20
The_Fellowship_of_the_Ring	Fantasy	30
The_Two_Towers	Fantasy	30
The_Return_of_the_King	Fantasy	50
The_Hobbit	Fantasy	25
The_Road_to_Character	Nonfiction	50

The 'Output' pane at the bottom shows the execution of the query, returning 44 rows.

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

The screenshot shows the MySQL Workbench interface. The left sidebar displays the 'SCHEMAS' tree with 'library' selected. The main editor contains the following SQL query:

```
87
88 -- 2. List the employee names and their respective salaries in descending order of salary.
89 • SELECT Emp_name, Salary
90 FROM Employee
91 ORDER BY Salary DESC;
92
```

The 'Result Grid' shows the following data:

Emp_name	Salary
Brian_Adams	69000
Patricia_Lewis	60000
Christopher_Walker	59000
Michael_Smith	58000
Alice_Johnson	56000
Susan_Wright	56000
David_Brown	55000
James_White	55000
Tony_Greek	55000
Jennifer_Lee	52000
Linda_Thompson	52000
Elizabeth_Young	52000

The 'Output' pane at the bottom shows the execution of the query, returning 27 rows.

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

The screenshot shows the MySQL Workbench interface. The SQL editor contains the following query:

```
92
93 -- 3. Retrieve the book titles and the corresponding customers who have rented those books.
94 • SELECT B.Book_title, C.Customer_Name FROM Books B
95 JOIN Issue_Status I ON B.ISBN = I.Isbn_Book
96 JOIN Customer C WHERE I.Issued_Cust = C.Customer_Id;
97
```

The Result Grid displays the following data:

Book_title	Customer_Name
The_Great_Gatsby	Oscar_Clark
To_Kill_a_Mockingbird	Paula_Lewis
A_Brief_History_of_Time	Quentin_Walker
The_Catcher_in_the_Rye	Rachel_Hall
1984	Samuel_Young
The_Road	Tina_King
Becoming	Ulysses_Green
Where_the_Crawdads_Sing	Victoria_Adams
The_Handmaids_Tale	Walter_Baker
Sapiens_A_Brief_History_of_H...	Xena_Carter
The_Universe_in_a_Nutshell	Yolanda_Scott
The_Theory_of_Everything	Zachary_Perez

The Action Output pane shows the execution of the query, indicating 39 rows returned.

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

The screenshot shows the MySQL Workbench interface. The SQL editor contains the following query:

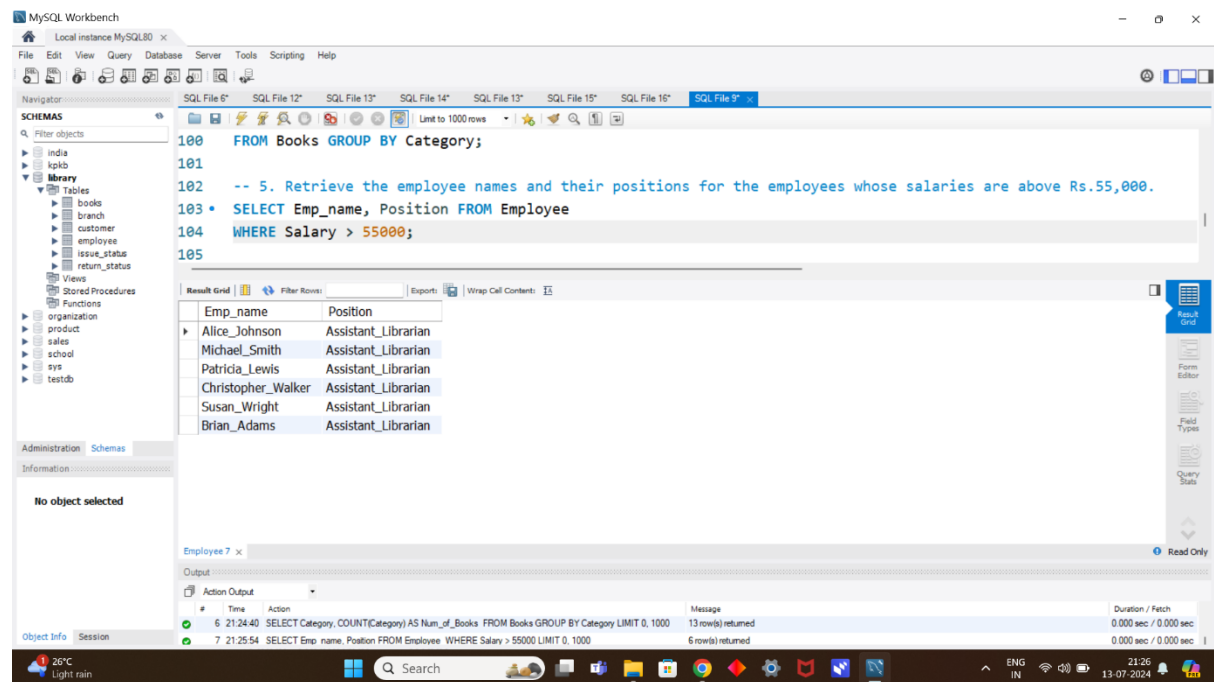
```
96 JOIN Customer C WHERE I.Issued_Cust = C.Customer_Id;
97
98 -- 4. Display the total count of books in each category.
99 • SELECT Category, COUNT(Category) AS Num_of_Books
100 FROM Books GROUP BY Category;
101
```

The Result Grid displays the following data:

Category	Num_of_Books
Dystopian	4
Fiction	11
Nonfiction	4
Biography	4
Fantasy	5
Romance	1
Young_Adult	1
Science	5
History	1
Memoir	1
Thriller	3
Historical Fi...	3

The Action Output pane shows the execution of the query, indicating 13 rows returned.

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



The screenshot shows the MySQL Workbench interface. The SQL editor contains the following query:

```

100 FROM Books GROUP BY Category;
101
102 -- 5. Retrieve the employee names and their positions for the employees whose salaries are above Rs.55,000.
103 • SELECT Emp_name, Position FROM Employee
104 WHERE Salary > 55000;
105

```

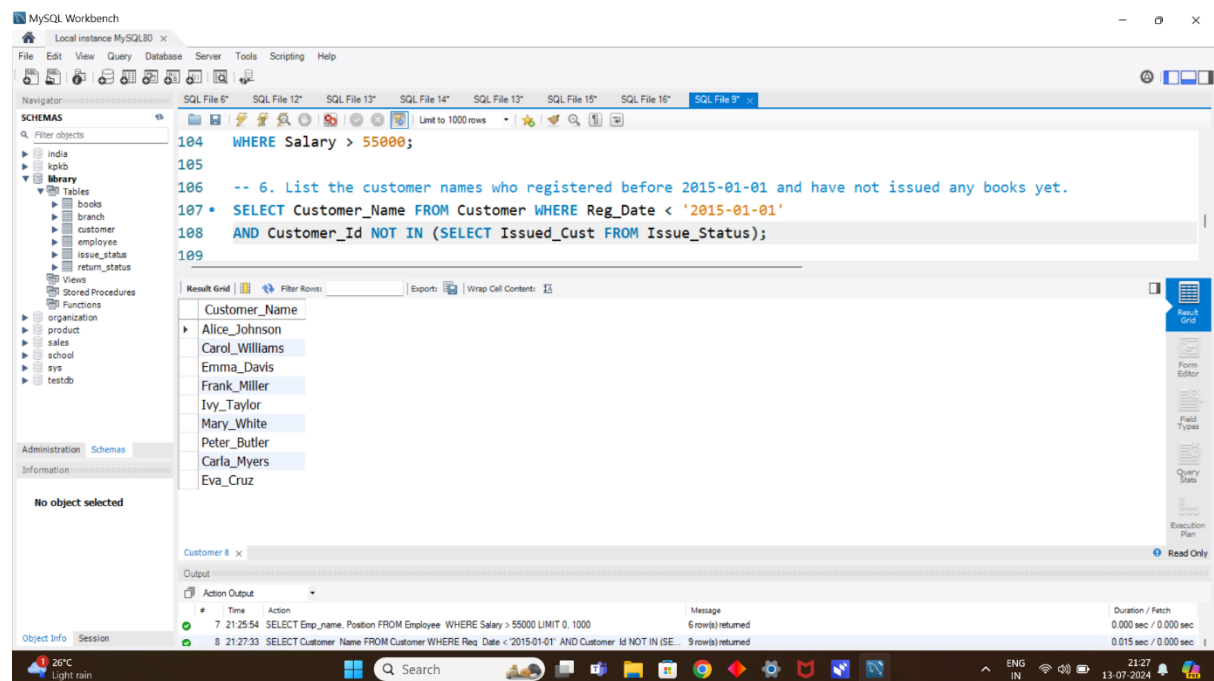
The Result Grid displays the following data:

Emp_name	Position
Alice_Johnson	Assitont_Librarian
Michael_Smith	Assistant_Librarian
Patricia_Lewis	Assistant_Librarian
Christopher_Walker	Assistant_Librarian
Susan_Wright	Assistant_Librarian
Brian_Adams	Assistant_Librarian

The Output tab shows the execution details:

#	Time	Action	Message	Duration / Fetch
6	21:24:40	SELECT Category, COUNT(Category) AS Num_of_Books FROM Books GROUP BY Category LIMIT 0, 1000	13 row(s) returned	0.000 sec / 0.000 sec
7	21:25:54	SELECT Emp_name, Position FROM Employee WHERE Salary > 55000 LIMIT 0, 1000	6 row(s) returned	0.000 sec / 0.000 sec

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



The screenshot shows the MySQL Workbench interface. The SQL editor contains the following query:

```

104 WHERE Salary > 55000;
105
106 -- 6. List the customer names who registered before 2015-01-01 and have not issued any books yet.
107 • SELECT Customer_Name FROM Customer WHERE Reg_Date < '2015-01-01'
108 AND Customer_Id NOT IN (SELECT Issued_Cust FROM Issue_Status);
109

```

The Result Grid displays the following data:

Customer_Name
Alice_Johnson
Carol_Williams
Emma_Davis
Frank_Miller
Ivy_Taylor
Mary_White
Peter_Butler
Carla_Myers
Eva_Cruz

The Output tab shows the execution details:

#	Time	Action	Message	Duration / Fetch
7	21:25:54	SELECT Emp_name, Position FROM Employee WHERE Salary > 55000 LIMIT 0, 1000	6 row(s) returned	0.000 sec / 0.000 sec
8	21:27:33	SELECT Customer_Name FROM Customer WHERE Reg_Date < '2015-01-01' AND Customer_Id NOT IN (SE...	9 row(s) returned	0.015 sec / 0.000 sec

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

The screenshot shows the MySQL Workbench interface. The SQL editor contains the following query:

```
-- 7. Display the branch numbers and the total count of employees in each branch.
SELECT Branch_num, COUNT(Emp_Id) AS Num_of_Emp
FROM Employee GROUP BY Branch_num;
```

The Result Grid displays the following data:

Branch_num	Num_of_Emp
101	6
102	1
103	1
104	1
105	1
106	1
107	1
108	1
109	3
110	1
111	1
112	1
113	1

The Action Output pane shows the execution of the query, indicating that 20 rows were returned.

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

The screenshot shows the MySQL Workbench interface. The SQL editor contains the following query:

```
-- 8. Display the names of customers who have issued books in the month of June 2023.
SELECT C.Customer_name, I.Issue_Date FROM Customer C JOIN
Issue_Status I ON C.Customer_Id = I.Issued_cust
WHERE I.Issue_Date BETWEEN '2023-06-01' AND '2023-06-30';
```

The Result Grid displays the following data:

Customer_name	Issue_Date
Yolanda_Scott	2023-06-05
Howard_Morgan	2023-06-19
Queenie_Lee	2023-06-02
Zane_Hunter	2023-06-11

The Action Output pane shows the execution of the query, indicating that 4 rows were returned.

9. Retrieve book_title from book table containing history.

The screenshot shows the MySQL Workbench interface. The SQL editor contains the following query:

```
117 Issue_Status I ON C.Customer_Id = I.Issued_cust
118 WHERE I.Issue_Date BETWEEN '2023-06-01' AND '2023-06-30';
119
120 -- 9. Retrieve book_title from book table containing history.
121 • SELECT Book_title FROM Books
122 WHERE Book_title LIKE '%History%';
123
```

The Results grid shows the following data:

Book_title
Homo_Deus_A_Brief_History_O...
Sapiens_A_Brief_History_of_H...
A_Brief_History_of_Time

The Action Output pane shows the execution log:

#	Time	Action	Message	Duration / Fetch
8	21:27:33	SELECT Customer_Name FROM Customer WHERE Reg_Date < '2015-01-01' AND Customer_Id NOT IN (SE...	9 row(s) returned	0.015 sec / 0.000 sec
9	21:29:19	SELECT Branch_num, COUNT(Emp_Id) AS Num_of_Emp FROM Employee GROUP BY Branch_num LIMIT 0...	20 row(s) returned	0.000 sec / 0.000 sec
10	21:31:36	SELECT C.Customer_name, I.Issue_Date FROM Customer C JOIN Issue_Status I ON C.Customer_Id = I.Issue...	4 row(s) returned	0.000 sec / 0.000 sec
11	21:39:07	SELECT Book_title FROM Books WHERE Book_title LIKE "%History%"; LIMIT 0, 1000	3 row(s) returned	0.000 sec / 0.000 sec

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

The screenshot shows the MySQL Workbench interface. The SQL editor contains the following query:

```
121 • SELECT Book_title FROM Books
122 WHERE Book_title LIKE '%History%';
123
124 -- 10. Retrieve the branch numbers along with the count of employees for branches having more than 2 employees.
125 • SELECT Branch_num AS branch_no, COUNT(Emp_Id) AS count_of_emp FROM Employee
126 GROUP BY Branch_no HAVING COUNT(Emp_Id) > 2;
127
```

The Results grid shows the following data:

branch_no	count_of_emp
101	6
109	3

The Action Output pane shows the execution log:

#	Time	Action	Message	Duration / Fetch
9	21:29:19	SELECT Branch_num, COUNT(Emp_Id) AS Num_of_Emp FROM Employee GROUP BY Branch_num LIMIT 0...	20 row(s) returned	0.000 sec / 0.000 sec
10	21:31:36	SELECT C.Customer_name, I.Issue_Date FROM Customer C JOIN Issue_Status I ON C.Customer_Id = I.Issue...	4 row(s) returned	0.000 sec / 0.000 sec
11	21:39:07	SELECT Book_title FROM Books WHERE Book_title LIKE "%History%"; LIMIT 0, 1000	3 row(s) returned	0.000 sec / 0.000 sec
12	21:42:19	SELECT Branch_num AS branch_no, COUNT(Emp_Id) AS count_of_emp FROM Employee GROUP BY Bran...	2 row(s) returned	0.000 sec / 0.000 sec

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

The screenshot shows the MySQL Workbench interface. The SQL editor contains the following query:

```

125 • SELECT Branch_num AS branch_no, COUNT(Emp_Id) AS count_of_emp FROM Employee
126 GROUP BY Branch_no HAVING COUNT(Emp_Id) > 2;
127
128 -- 11. Retrieve the names of employees who manage branches and their respective branch addresses.
129 • SELECT E.Emp_name, B.Branch_address FROM Employee E LEFT JOIN Branch B
130 ON E.branch_num = B.Branch_no;
131

```

The Result Grid shows the following data:

Emp_name	Branch_address
Alice_Johnson	123 Main St Anytown CA 12345
Jennifer_Lee	456 Elm St Othertown NY 90210
Michael_Smith	789 Oak St Somewhere TX 789...
David_Brown	321 Maple St Smallville IL 60123
Emily_Davis	901 Park Ave Bigcity FL 33101
John_Wilson	234 Walnut St Suburbia PA...
Linda_Thompson	567 Cedar St Librariaville MI 48...
James_White	890 Lakeside Dr Laketown WI 5...
Karen_Harris	345 Vine St Vineland NJ 08360
Robert_Martin	678 Broadway Broadwaytown ...
Patricia_Lewis	5678 State St Statville IN 47905

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

The screenshot shows the MySQL Workbench interface. The SQL editor contains the following query:

```

131
132 -- 12. Display the names of customers who have issued books with a rental price higher than Rs. 25.
133 • SELECT C.Customer_name FROM CUSTOMER C JOIN Issue_Status I ON C.Customer_Id = I.Issued_Cust JOIN Books B
134 ON B.ISBN = I.Isbn_book WHERE Rental_Price > 25;
135

```

The Result Grid shows the following data:

Customer_name
Cindy_Turner
Xena_Carter
Thomas_Kelly
Ursula_James
Victor_Hughes
Susan_Ford
Abby_Collins
Paula_Lewis
Wendy_Long
Walter_Baker
Fred_Griffin
Zachary_Perez