

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

```

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(15)
8 );
9 • CREATE TABLE Employee (
10    Emp_Id INT PRIMARY KEY,
11    Emp_name VARCHAR(255),
12    Position VARCHAR(100),
13    Salary DECIMAL(10, 2),
14    Branch_no INT,
15    FOREIGN KEY (Branch_no) REFERENCES Branch(Branch_no)
16 );
17

```

Output

#	Time	Action	Message	Duration / Fetch
1	09:06:23	CREATE DATABASE library	1 row(s) affected	0.000 sec
2	09:06:26	USE library	0 row(s) affected	0.000 sec
3	09:07:00	CREATE TABLE Branch (Branch_no INT PRIMARY KEY, Manager_Id INT, Branch_address VARCHAR(255), Contact_no VARCHAR(15));	0 row(s) affected	0.015 sec
4	09:07:45	CREATE TABLE Employee (Emp_Id INT PRIMARY KEY, Emp_name VARCHAR(255), Position VARCHAR(100), Salary DECIMAL(10, 2), Branch_no INT, FOREIGN KEY (Branch_no) REFERENCES Branch(Branch_no));	0 row(s) affected	0.047 sec

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

```

11     Emp_name VARCHAR(255),
12     Position VARCHAR(100),
13     Salary DECIMAL(10, 2),
14     Branch_no INT,
15     FOREIGN KEY (Branch_no) REFERENCES Branch(Branch_no)
16   );
17 • CREATE TABLE Books (
18     ISBN VARCHAR(13) PRIMARY KEY,
19     Book_title VARCHAR(255),
20     Category VARCHAR(100),
21     Rental_Price DECIMAL(10, 2),
22     Status ENUM('yes', 'no'),
23     Author VARCHAR(255),
24     Publisher VARCHAR(255)
25   );
26 • CREATE TABLE Customer (
27     Customer_Id INT PRIMARY KEY,
28     Customer_name VARCHAR(255),
29     Customer_address VARCHAR(255),
30     Reg_date DATE
31   );
32

```

Output:

#	Time	Action	Message	Duration / Fetch
1	09:06:23	CREATE DATABASE library	1 row(s) affected	0.000 sec
2	09:06:26	USE library	0 row(s) affected	0.000 sec
3	09:07:00	CREATE TABLE Branch (Branch_no INT PRIMARY KEY, Manager_Id INT, Branch_address VARCHAR(255))	0 row(s) affected	0.015 sec
4	09:07:45	CREATE TABLE Employee (Emp_Id INT PRIMARY KEY, Emp_name VARCHAR(255), Position VARCHAR(100), Salary DECIMAL(10, 2), Branch_no INT, FOREIGN KEY (Branch_no) REFERENCES Branch(Branch_no))	0 row(s) affected	0.047 sec
5	09:09:45	CREATE TABLE Books (ISBN VARCHAR(13) PRIMARY KEY, Book_title VARCHAR(255), Category VARCHAR(100), Rental_Price DECIMAL(10, 2), Status ENUM('yes', 'no'), Author VARCHAR(255), Publisher VARCHAR(255))	0 row(s) affected	0.032 sec
6	09:10:01	CREATE TABLE Customer (Customer_Id INT PRIMARY KEY, Customer_name VARCHAR(255), Customer_address VARCHAR(255), Reg_date DATE)	0 row(s) affected	0.032 sec

5. IssueStatus

- Issue_Id
 - Set as PRIMARY KEY
 - Issued_cust – Set as FOREIGN KEY and it refer customer_id in CUSTOMER table
 - 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

MySQL Workbench

Local instance MySQL80

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

- Filter objects
- keralateachersdb
- keralaworkersdb
- mydatabase
- product
- salary
- sales
- school
- sys
- testdb

Administration Schemas

No object selected

```

29     Customer_address VARCHAR(255),
30     Reg_date DATE
31   );
32 • CREATE TABLE IssueStatus (
33     Issue_Id INT PRIMARY KEY,
34     Issued_cust INT,
35     Issued_book_name VARCHAR(255),
36     Issue_date DATE,
37     Isbn_book VARCHAR(13),
38     FOREIGN KEY (Issued_cust) REFERENCES Customer(Customer_Id),
39     FOREIGN KEY (Isbn_book) REFERENCES Books(ISBN)
40   );
41 • CREATE TABLE ReturnStatus (
42     Return_Id INT PRIMARY KEY,
43     Return_cust INT,
44     Return_book_name VARCHAR(255),
45     Return_date DATE,
46     Isbn_book2 VARCHAR(13),
47     FOREIGN KEY (Return_cust) REFERENCES Customer(Customer_Id),
48     FOREIGN KEY (Isbn_book2) REFERENCES Books(ISBN)
49   );
50

```

SQLAdditions

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

Context Help Snippets

Action Output

#	Time	Action	Message	Duration / Fetch
3	09:07:00	CREATE TABLE Branch (Branch_no INT PRIMARY KEY, Manager_Id INT, Branch_address VARCHAR(255), Contact_no VARCHAR(13), Return_book_name VARCHAR(255), Return_date DATE, Isbn_book2 VARCHAR(13), FOREIGN KEY (Return_cust) REFERENCES Customer(Customer_Id), FOREIGN KEY (Isbn_book2) REFERENCES Books(ISBN))	0 row(s) affected	0.015 sec
4	09:07:45	CREATE TABLE Employee (Emp_Id INT PRIMARY KEY, Emp_name VARCHAR(255), Position VARCHAR(255), Salary DECIMAL(10,2), Branch_no INT, Manager_Id INT, FOREIGN KEY (Branch_no) REFERENCES Branch(Branch_no), FOREIGN KEY (Manager_Id) REFERENCES Employee(Emp_Id))	0 row(s) affected	0.047 sec
5	09:09:45	CREATE TABLE Books (ISBN VARCHAR(13) PRIMARY KEY, Book_title VARCHAR(255), Category VARCHAR(255), Author_name VARCHAR(255), Price DECIMAL(10,2))	0 row(s) affected	0.032 sec
6	09:10:01	CREATE TABLE Customer (Customer_Id INT PRIMARY KEY, Customer_name VARCHAR(255), Customer_address VARCHAR(255), Customer_email VARCHAR(255), Customer_contact_no VARCHAR(13))	0 row(s) affected	0.032 sec

ENTERING DATAS;

MySQL Workbench

Local instance MySQL80

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

- Filter objects
- keralateachersdb
- keralaworkersdb
- mydatabase
- product
- salary
- sales
- school
- sys
- testdb

Administration Schemas

No object selected

```

44     Return_book_name VARCHAR(255),
45     Return_date DATE,
46     Isbn_book2 VARCHAR(13),
47     FOREIGN KEY (Return_cust) REFERENCES Customer(Customer_Id),
48     FOREIGN KEY (Isbn_book2) REFERENCES Books(ISBN)
49   );
50 • INSERT INTO Branch (Branch_no, Manager_Id, Branch_address, Contact_no) VALUES
51   (1, 101, 'MG Road, Kochi', '0484-1234567'),
52   (2, 102, 'SM Street, Kozhikode', '0495-2345678'),
53   (3, 103, 'Statue, Thiruvananthapuram', '0471-3456789'),
54   (4, 104, 'East Fort, Thrissur', '0487-4567890');
55 • INSERT INTO Employee (Emp_Id, Emp_name, Position, Salary, Branch_no) VALUES
56   (101, 'Anil Kumar', 'Manager', 70000, 1),
57   (102, 'Bina Raj', 'Manager', 68000, 2),
58   (103, 'Chetan K', 'Clerk', 30000, 1),
59   (104, 'Divya S', 'Assistant', 35000, 2),
60   (105, 'Elan A', 'Clerk', 32000, 3),
61   (106, 'Fathima N', 'Manager', 72000, 3),
62   (107, 'Gopi C', 'Assistant', 34000, 4),
63   (108, 'Hema R', 'Manager', 69000, 4),
64   (109, 'Irfan M', 'Clerk', 31000, 2);
65

```

SQLAdditions

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

Context Help Snippets

Action Output

#	Time	Action	Message	Duration / Fetch
5	09:09:45	CREATE TABLE Books (ISBN VARCHAR(13) PRIMARY KEY, Book_title VARCHAR(255), Category VARCHAR(255), Author_name VARCHAR(255), Price DECIMAL(10,2))	0 row(s) affected	0.032 sec
6	09:10:01	CREATE TABLE Customer (Customer_Id INT PRIMARY KEY, Customer_name VARCHAR(255), Customer_address VARCHAR(255), Customer_email VARCHAR(255), Customer_contact_no VARCHAR(13))	0 row(s) affected	0.032 sec
7	09:10:34	CREATE TABLE IssueStatus (Issue_Id INT PRIMARY KEY, Issued_cust INT, Issued_book_name VARCHAR(255), Issue_date DATE, Isbn_book VARCHAR(13), FOREIGN KEY (Issued_cust) REFERENCES Customer(Customer_Id), FOREIGN KEY (Isbn_book) REFERENCES Books(ISBN))	0 row(s) affected	0.032 sec
8	09:10:48	CREATE TABLE ReturnStatus (Return_Id INT PRIMARY KEY, Return_cust INT, Return_book_name VARCHAR(255), Return_date DATE, Isbn_book2 VARCHAR(13), FOREIGN KEY (Return_cust) REFERENCES Customer(Customer_Id), FOREIGN KEY (Isbn_book2) REFERENCES Books(ISBN))	0 row(s) affected	0.031 sec
9	09:11:31	INSERT INTO Branch (Branch_no, Manager_Id, Branch_address, Contact_no) VALUES (1, 101, 'MG Road, Kochi', '0484-1234567')	4 row(s) affected Records: 4 Duplicates: 0 Warnings: 0	0.032 sec
10	09:11:57	INSERT INTO Employee (Emp_Id, Emp_name, Position, Salary, Branch_no) VALUES (101, 'Anil Kumar', 'Manager', 70000, 1)	9 row(s) affected Records: 9 Duplicates: 0 Warnings: 0	0.016 sec

MySQL Workbench

Local instance MySQL80 X

File Edit View Query Database Server Tools Scripting Help

Navigator: Schemas

Filter objects

- keralteachersdb
- keralaworkersdb
- mydatabase
- product
- salary
- sales
- school
- sys
- testdb

Administration Schemas

Information

No object selected

SQL File 3* X

```

51  (1, 101, 'MG Road, Kochi', '0484-1234567'),
52  (2, 102, 'SM Street, Kozhikode', '0495-2345678'),
53  (3, 103, 'Statue, Thiruvananthapuram', '0471-3456789'),
54  (4, 104, 'East Fort, Thrissur', '0487-4567890');

55 • INSERT INTO Employee (Emp_Id, Emp_name, Position, Salary, Branch_no) VALUES
56  (101, 'Anil Kumar', 'Manager', 70000, 1),
57  (102, 'Bina Raj', 'Manager', 68000, 2),
58  (103, 'Chetan K', 'Clerk', 30000, 1),
59  (104, 'Divya S', 'Assistant', 35000, 2),
60  (105, 'Elan A', 'Clerk', 32000, 3),
61  (106, 'Fathima N', 'Manager', 72000, 3),
62  (107, 'Gopi C', 'Assistant', 34000, 4),
63  (108, 'Hema R', 'Manager', 69000, 4),
64  (109, 'Irfan M', 'Clerk', 31000, 2);

65 • INSERT INTO Books (ISBN, Book_title, Category, Rental_Price, Status, Author, Publisher) \
66  ('9781234560012', 'Kochi: Queen of the Arabian Sea', 'History', 50.00, 'yes', 'A. R. Raj',
67  ('9781234560029', 'The Backwaters of Kerala', 'Travel', 30.00, 'no', 'B. K. Nair', 'DC Bo
68  ('9781234560036', 'God\'s Own Country', 'Tourism', 45.00, 'yes', 'C. P. Menon', 'Current
69  ('9781234560043', 'Kerala: A Culinary Journey', 'Food', 60.00, 'yes', 'D. S. Ramesh', 'Pe
70  ('9781234560050', 'The Art of Kathakali', 'Culture', 55.00, 'no', 'E. T. John', 'Mathrubh
71  ('9781234560067', 'Ayurveda: The Science of Life', 'Health', 40.00, 'yes', 'F. U. Pillai'
72

```

SQLAdditions: < > | [?] | Jump to

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

Context Help Snippets

Output:

#	Time	Action	Message	Duration / Fetch
6	09:27:20	CREATE TABLE Customer (Customer_Id INT PRIMARY KEY, Customer_name VARCHAR(100), Custo...	0 row(s) affected	0.032 sec
7	09:27:32	CREATE TABLE IssueStatus (Issue_Id INT PRIMARY KEY, Issued_cust INT, Issued_book_name VAR...	0 row(s) affected	0.047 sec
8	09:27:54	CREATE TABLE ReturnStatus (Return_Id INT PRIMARY KEY, Return_cust INT, Return_book_name ...	0 row(s) affected	0.032 sec
9	09:29:02	INSERT INTO Branch (Branch_no, Manager_Id, Branch_address, Contact_no) VALUES (1, 101, MG Road, Ko...	4 row(s) affected Records: 4 Duplicates: 0 Warnings: 0	0.016 sec
10	09:29:30	INSERT INTO Employee (Emp_Id, Emp_name, Position, Salary, Branch_no) VALUES (101, Anil Kumar, 'Manag...	9 row(s) affected Records: 9 Duplicates: 0 Warnings: 0	0.016 sec
11	09:30:22	INSERT INTO Books (ISBN, Book_title, Category, Rental_Price, Status, Author, Publisher) VALUES (97812345...	6 row(s) affected Records: 6 Duplicates: 0 Warnings: 0	0.016 sec

Object Info Session

MySQL Workbench

Local instance MySQL80 X

File Edit View Query Database Server Tools Scripting Help

Navigator: Schemas

Filter objects

- keralteachersdb
- keralaworkersdb
- mydatabase
- product
- salary
- sales
- school
- sys
- testdb

Administration Schemas

Information

No object selected

Query 1 X

```

62  (107, 'Gopi C', 'Assistant', 34000, 4),
63  (108, 'Hema R', 'Manager', 69000, 4),
64  (109, 'Irfan M', 'Clerk', 31000, 2);

65 • INSERT INTO Books (ISBN, Book_title, Category, Rental_Price, Status, Author, Publisher) \
66  ('9781234560012', 'Kochi: Queen of the Arabian Sea', 'History', 50.00, 'yes', 'A. R. Raj',
67  ('9781234560029', 'The Backwaters of Kerala', 'Travel', 30.00, 'no', 'B. K. Nair', 'DC Bo
68  ('9781234560036', 'God\'s Own Country', 'Tourism', 45.00, 'yes', 'C. P. Menon', 'Current
69  ('9781234560043', 'Kerala: A Culinary Journey', 'Food', 60.00, 'yes', 'D. S. Ramesh', 'Pe
70  ('9781234560050', 'The Art of Kathakali', 'Culture', 55.00, 'no', 'E. T. John', 'Mathrubh
71  ('9781234560067', 'Ayurveda: The Science of Life', 'Health', 40.00, 'yes', 'F. U. Pillai'
72 • INSERT INTO Customer (Customer_Id, Customer_name, Customer_address, Reg_date) VALUES
73  (201, 'Arun V', 'Vytilla, Kochi', '2021-12-31'),
74  (202, 'Beena P', 'Kallai, Kozhikode', '2022-01-15'),
75  (203, 'Chitra S', 'Palayam, Thiruvananthapuram', '2021-11-20'),
76  (204, 'Dinesh K', 'Punkunnam, Thrissur', '2022-02-10'),
77  (205, 'Elina J', 'Cherai, Kochi', '2023-01-05'),
78  (206, 'Firoz H', 'Kozhikode Beach, Kozhikode', '2023-03-22');
79 • INSERT INTO IssueStatus (Issue_Id, Issued_cust, Issued_book_name, Issue_date, ISBN_book)
80  (301, 201, 'Kochi: Queen of the Arabian Sea', '2023-06-15', '9781234560012'),
81  (302, 202, 'The Backwaters of Kerala', '2023-06-18', '9781234560029'),
82  (303, 203, 'God\'s Own Country', '2023-07-05', '9781234560036');

```

SQLAdditions: < > | [?] | Jump to

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

Context Help Snippets

Output:

#	Time	Action	Message	Duration / Fetch
8	09:37:46	CREATE TABLE ReturnStatus (Return_Id INT PRIMARY KEY, Return_cust INT, Return_book_name ...	0 row(s) affected	0.047 sec
9	09:37:56	INSERT INTO Branch (Branch_no, Manager_Id, Branch_address, Contact_no) VALUES (1, 101, MG Road, Ko...	4 row(s) affected Records: 4 Duplicates: 0 Warnings: 0	0.015 sec
10	09:38:04	INSERT INTO Employee (Emp_Id, Emp_name, Position, Salary, Branch_no) VALUES (101, Anil Kumar, 'Manag...	9 row(s) affected Records: 9 Duplicates: 0 Warnings: 0	0.016 sec
11	09:38:14	INSERT INTO Books (ISBN, Book_title, Category, Rental_Price, Status, Author, Publisher) VALUES (97812345...	6 row(s) affected Records: 6 Duplicates: 0 Warnings: 0	0.016 sec
12	09:38:21	INSERT INTO Customer (Customer_Id, Customer_name, Customer_address, Reg_date) VALUES (201, Arun V...	6 row(s) affected Records: 6 Duplicates: 0 Warnings: 0	0.016 sec
13	09:42:08	INSERT INTO IssueStatus (Issue_Id, Issued_cust, Issued_book_name, Issue_date, ISBN_book) VALUES (301, ...	3 row(s) affected Records: 3 Duplicates: 0 Warnings: 0	0.016 sec

Object Info Session

MySQL Workbench

Local instance MySQL80

File Edit View Query Database Server Tools Scripting Help

Navigator

Schemas

Filter objects

- keralateachersdb
- keralaworkersdb
- mydatabase
- product
- salary
- sales
- school
- sys
- testdb

Administration Schemas

Information

No object selected

Query 1

```

65 • INSERT INTO Books (ISBN, Book_title, Category, Rental_Price, Status, Author, Publisher) VALUES ('9781234560012', 'Kochi: Queen of the Arabian Sea', 'History', 50.00, 'yes', 'A. R. Raj', 'DC Books')
66 ('9781234560029', 'The Backwaters of Kerala', 'Travel', 30.00, 'no', 'B. K. Nair', 'DC Books')
67 ('9781234560036', 'God's Own Country', 'Tourism', 45.00, 'yes', 'C. P. Menon', 'Current')
68 ('9781234560043', 'Kerala: A Culinary Journey', 'Food', 60.00, 'yes', 'D. S. Ramesh', 'Peacock')
69 ('9781234560050', 'The Art of Kathakali', 'Culture', 55.00, 'no', 'E. T. John', 'Mathrubhumi')
70 ('9781234560067', 'Ayurveda: The Science of Life', 'Health', 40.00, 'yes', 'F. U. Pillai', 'Pillai')
71 ('9781234560074', 'The Art of Kathakali', 'Culture', 55.00, 'no', 'E. T. John', 'Mathrubhumi')
72 • INSERT INTO Customer (Customer_Id, Customer_name, Customer_address, Reg_date) VALUES
73 (201, 'Arun V', 'Vytilla, Kochi', '2021-12-31'),
74 (202, 'Beena P', 'Kallai, Kozhikode', '2022-01-15'),
75 (203, 'Chitra S', 'Palayam, Thiruvananthapuram', '2021-11-20'),
76 (204, 'Dinesh K', 'Punkunnam, Thrissur', '2022-02-10'),
77 (205, 'Elina J', 'Cherai, Kochi', '2023-01-05'),
78 (206, 'Firoz H', 'Kozhikode Beach, Kozhikode', '2023-03-22');
79 • INSERT INTO IssueStatus (Issue_Id, Issued_cust, Issued_book_name, Issue_date, ISBN_book)
80 (301, 201, 'Kochi: Queen of the Arabian Sea', '2023-06-15', '9781234560012'),
81 (302, 202, 'The Backwaters of Kerala', '2023-06-18', '9781234560029'),
82 (303, 203, 'God's Own Country', '2023-07-05', '9781234560036');
83 • INSERT INTO ReturnStatus (Return_Id, Return_cust, Return_book_name, Return_date, ISBN_book)
84 (401, 201, 'Kochi: Queen of the Arabian Sea', '2023-06-20', '9781234560012'),
85 (402, 202, 'The Backwaters of Kerala', '2023-06-25', '9781234560029');
86

```

SQLAdditions

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

Context Help Snippets

Output

#	Time	Action	Message	Duration / Fetch
9	09:37:56	INSERT INTO Branch (Branch_no, Manager_Id, Branch_address, Contact_no) VALUES (1, 101, 'MG Road, Kochi', '9845678901')	4 row(s) affected Records: 4 Duplicates: 0 Warnings: 0	0.015 sec
10	09:38:04	INSERT INTO Employee (Emp_Id, Emp_name, Position, Salary, Branch_no) VALUES (101, 'Anil Kumar', 'Manager', 120000, 1)	9 row(s) affected Records: 9 Duplicates: 0 Warnings: 0	0.016 sec
11	09:38:14	INSERT INTO Books (ISBN, Book_title, Category, Rental_Price, Status, Author, Publisher) VALUES ('9781234560012', 'Kochi: Queen of the Arabian Sea', 'History', 50.00, 'yes', 'A. R. Raj', 'DC Books')	6 row(s) affected Records: 6 Duplicates: 0 Warnings: 0	0.016 sec
12	09:38:21	INSERT INTO Customer (Customer_Id, Customer_name, Customer_address, Reg_date) VALUES (201, 'Arun V', 'Vytilla, Kochi', '2021-12-31')	6 row(s) affected Records: 6 Duplicates: 0 Warnings: 0	0.016 sec
13	09:42:08	INSERT INTO IssueStatus (Issue_Id, Issued_cust, Issued_book_name, Issue_date, ISBN_book) VALUES (301, 201, 'Kochi: Queen of the Arabian Sea', '2023-06-15', '9781234560012')	3 row(s) affected Records: 3 Duplicates: 0 Warnings: 0	0.016 sec
14	09:42:44	INSERT INTO ReturnStatus (Return_Id, Return_cust, Return_book_name, Return_date, ISBN_book) VALUES (401, 201, 'Kochi: Queen of the Arabian Sea', '2023-06-20', '9781234560012')	2 row(s) affected Records: 2 Duplicates: 0 Warnings: 0	0.016 sec

Object Info Session

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 with a query editor and a result grid. The query retrieves book titles, categories, and rental prices for books with a status of 'yes'.

```

80   (301, 201, 'Kochi: Queen of the Arabian Sea', '2023-06-15', '9781234560012'),
81   (302, 202, 'The Backwaters of Kerala', '2023-06-18', '9781234560029'),
82   (303, 203, 'God's Own Country', '2023-07-05', '9781234560036');
83 • INSERT INTO ReturnStatus (Return_Id, Return_cust, Return_book_name, Return_date, ISBN_book)
84   (401, 201, 'Kochi: Queen of the Arabian Sea', '2023-06-20', '9781234560012'),
85   (402, 202, 'The Backwaters of Kerala', '2023-06-25', '9781234560029');
86
87 • SELECT Book_title, Category, Rental_Price
88   FROM Books
89   WHERE Status = 'yes';

```

Result Grid:

Book_title	Category	Rental_Price
Kochi: Queen of the Arabian Sea	History	50.00
God's Own Country	Tourism	45.00
Kerala: A Culinary Journey	Food	60.00
Ayurveda: The Science of Life	Health	40.00

Action Output:

#	Time	Action	Message	Duration / Fetch
10	09:38:04	INSERT INTO Employee (Emp_Id, Emp_name, Position, Salary, Branch_no) VALUES (101, 'Anil Kumar', 'Manager', 72000.00)	9 row(s) affected Records: 9 Duplicates: 0 Warnings: 0	0.016 sec
11	09:38:14	INSERT INTO Books (ISBN, Book_title, Category, Rental_Price, Status, Author, Publisher) VALUES ('9781234560012', 'Kochi: Queen of the Arabian Sea', 'History', 50.00, 'yes', 'Anil Kumar', 'Publisher A')	6 row(s) affected Records: 6 Duplicates: 0 Warnings: 0	0.016 sec
12	09:38:21	INSERT INTO Customer (Customer_Id, Customer_name, Customer_address, Reg_date) VALUES (201, 'Arun Varghese', 'Kochi, India', '2023-06-15')	6 row(s) affected Records: 6 Duplicates: 0 Warnings: 0	0.016 sec
13	09:42:08	INSERT INTO IssueStatus (Issue_Id, Issued_cust, Issued_book_name, Issue_date, ISBN_book) VALUES (301, 201, 'Kochi: Queen of the Arabian Sea', '2023-06-15', '9781234560012')	3 row(s) affected Records: 3 Duplicates: 0 Warnings: 0	0.016 sec
14	09:42:44	INSERT INTO ReturnStatus (Return_Id, Return_cust, Return_book_name, Return_date, ISBN_book) VALUES (401, 201, 'Kochi: Queen of the Arabian Sea', '2023-06-20', '9781234560012')	2 row(s) affected Records: 2 Duplicates: 0 Warnings: 0	0.016 sec
15	09:43:49	SELECT Book_title, Category, Rental_Price FROM Books WHERE Status = 'yes' LIMIT 0, 1000	4 row(s) returned	0.000 sec / 0.000 sec

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

The screenshot shows the MySQL Workbench interface with a query editor and a result grid. The query retrieves employee names and salaries, ordered by salary in descending order.

```

84   (401, 201, 'Kochi: Queen of the Arabian Sea', '2023-06-20', '9781234560012'),
85   (402, 202, 'The Backwaters of Kerala', '2023-06-25', '9781234560029');
86
87 • SELECT Book_title, Category, Rental_Price
88   FROM Books
89   WHERE Status = 'yes';
90
91 • SELECT Emp_name, Salary
92   FROM Employee
93   ORDER BY Salary DESC;

```

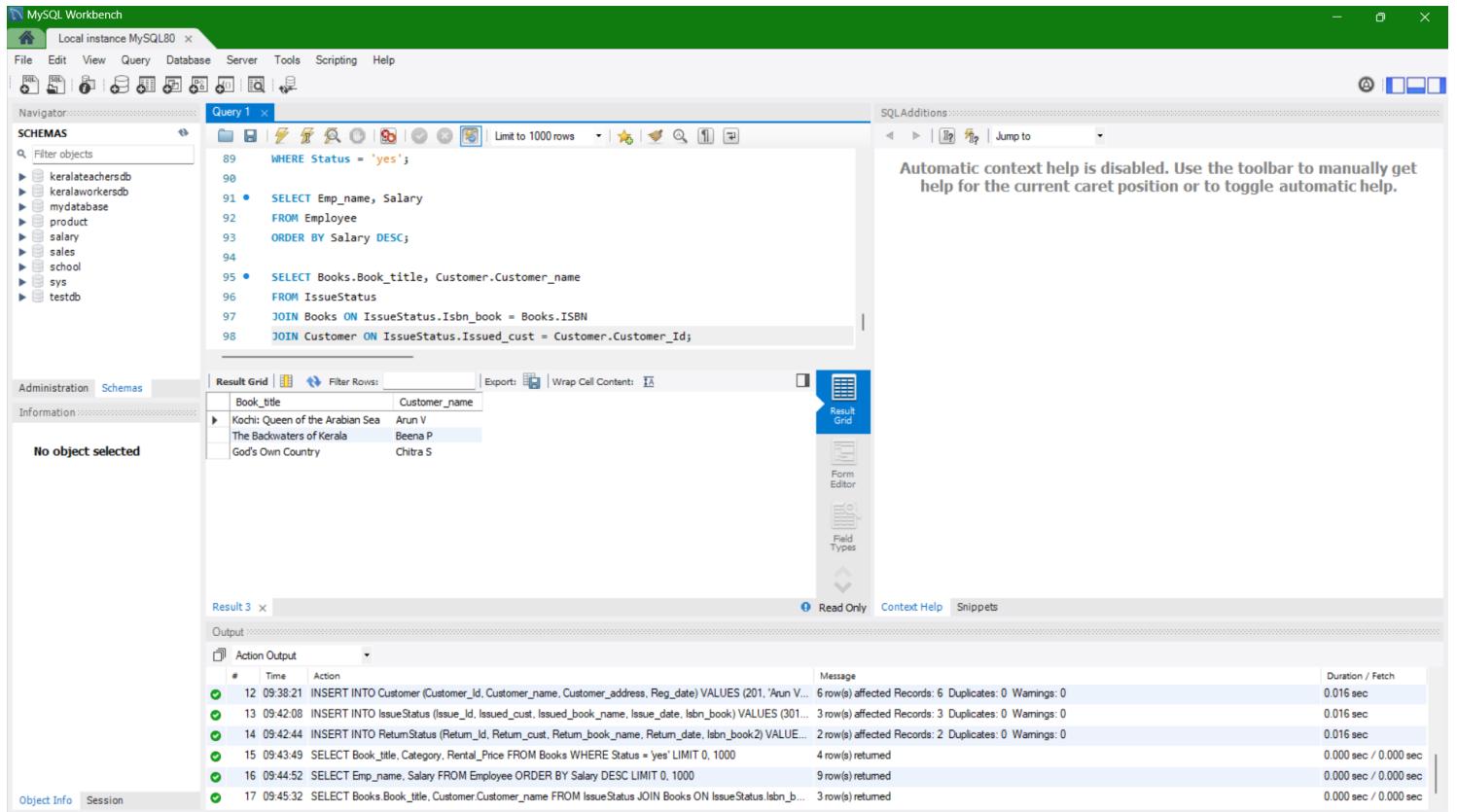
Result Grid:

Emp_name	Salary
Fathima N	72000.00
Anil Kumar	70000.00
Hema R	69000.00
Bina Raj	68000.00
Divya S	35000.00
Gopi C	34000.00
Elan A	32000.00
Irfan M	31000.00
Chetan K	30000.00

Action Output:

#	Time	Action	Message	Duration / Fetch
11	09:38:14	INSERT INTO Books (ISBN, Book_title, Category, Rental_Price, Status, Author, Publisher) VALUES ('9781234560012', 'Kochi: Queen of the Arabian Sea', 'History', 50.00, 'yes', 'Anil Kumar', 'Publisher A')	6 row(s) affected Records: 6 Duplicates: 0 Warnings: 0	0.016 sec
12	09:38:21	INSERT INTO Customer (Customer_Id, Customer_name, Customer_address, Reg_date) VALUES (201, 'Arun Varghese', 'Kochi, India', '2023-06-15')	6 row(s) affected Records: 6 Duplicates: 0 Warnings: 0	0.016 sec
13	09:42:08	INSERT INTO IssueStatus (Issue_Id, Issued_cust, Issued_book_name, Issue_date, ISBN_book) VALUES (301, 201, 'Kochi: Queen of the Arabian Sea', '2023-06-15', '9781234560012')	3 row(s) affected Records: 3 Duplicates: 0 Warnings: 0	0.016 sec
14	09:42:44	INSERT INTO ReturnStatus (Return_Id, Return_cust, Return_book_name, Return_date, ISBN_book) VALUES (401, 201, 'Kochi: Queen of the Arabian Sea', '2023-06-20', '9781234560012')	2 row(s) affected Records: 2 Duplicates: 0 Warnings: 0	0.016 sec
15	09:43:49	SELECT Book_title, Category, Rental_Price FROM Books WHERE Status = 'yes' LIMIT 0, 1000	4 row(s) returned	0.000 sec / 0.000 sec
16	09:44:52	SELECT Emp_name, Salary FROM Employee ORDER BY Salary DESC LIMIT 0, 1000	9 row(s) returned	0.000 sec / 0.000 sec

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



The screenshot shows the MySQL Workbench interface with a query editor containing the following SQL code:

```

89 WHERE Status = 'yes';
90
91 • SELECT Emp_name, Salary
92   FROM Employee
93 ORDER BY Salary DESC;
94
95 • SELECT Books.Book_title, Customer.Customer_name
96   FROM IssueStatus
97 JOIN Books ON IssueStatus.Issn_book = Books.ISBN
98 JOIN Customer ON IssueStatus.Issued_cust = Customer.Customer_Id;

```

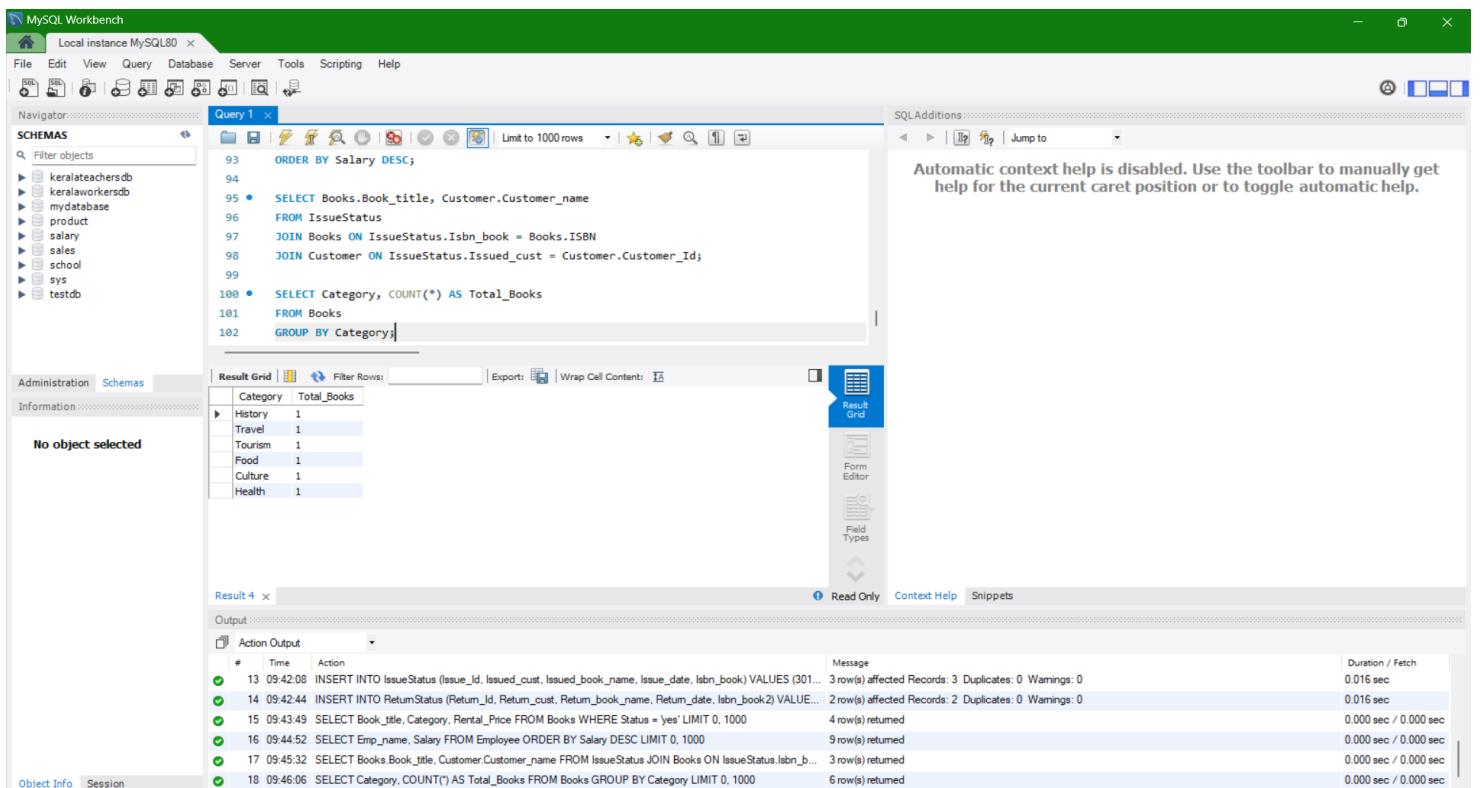
The results grid displays the following data:

Book_title	Customer_name
Kochi: Queen of the Arabian Sea	Arun V
The Backwaters of Kerala	Beena P
God's Own Country	Chitra S

The status bar at the bottom shows the following log entries:

- 12 09:38:21 INSERT INTO Customer (Customer_Id, Customer_name, Customer_address, Reg_date) VALUES (201, 'Arun V...', 6 row(s) affected Records: 6 Duplicates: 0 Warnings: 0 Duration / Fetch: 0.016 sec)
- 13 09:42:08 INSERT INTO IssueStatus (Issue_Id, Issued_cust, Issued_book_name, Issue_date, I... 3 row(s) affected Records: 3 Duplicates: 0 Warnings: 0 Duration / Fetch: 0.016 sec)
- 14 09:42:44 INSERT INTO ReturnStatus (Return_Id, Return_cust, Return_book_name, Return_date, I... 2 row(s) affected Records: 2 Duplicates: 0 Warnings: 0 Duration / Fetch: 0.016 sec)
- 15 09:43:49 SELECT Book_title, Category, Rental_Price FROM Books WHERE Status = yes' LIMIT 0, 1000 4 row(s) returned Duration / Fetch: 0.000 sec / 0.000 sec
- 16 09:44:52 SELECT Emp_name, Salary FROM Employee ORDER BY Salary DESC LIMIT 0, 1000 9 row(s) returned Duration / Fetch: 0.000 sec / 0.000 sec
- 17 09:45:32 SELECT Books.Book_title, Customer.Customer_name FROM IssueStatus JOIN Books ON IssueStatus.Issn_b... 3 row(s) returned Duration / Fetch: 0.000 sec / 0.000 sec

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



The screenshot shows the MySQL Workbench interface with a query editor containing the following SQL code:

```

93 ORDER BY Salary DESC;
94
95 • SELECT Books.Book_title, Customer.Customer_name
96   FROM IssueStatus
97 JOIN Books ON IssueStatus.Issn_book = Books.ISBN
98 JOIN Customer ON IssueStatus.Issued_cust = Customer.Customer_Id;
99
100 • SELECT Category, COUNT(*) AS Total_Books
101   FROM Books
102 GROUP BY Category;

```

The results grid displays the following data:

Category	Total_Books
History	1
Travel	1
Tourism	1
Food	1
Culture	1
Health	1

The status bar at the bottom shows the following log entries:

- 13 09:42:08 INSERT INTO IssueStatus (Issue_Id, Issued_cust, Issued_book_name, Issue_date, I... 3 row(s) affected Records: 3 Duplicates: 0 Warnings: 0 Duration / Fetch: 0.016 sec)
- 14 09:42:44 INSERT INTO ReturnStatus (Return_Id, Return_cust, Return_book_name, Return_date, I... 2 row(s) affected Records: 2 Duplicates: 0 Warnings: 0 Duration / Fetch: 0.016 sec)
- 15 09:43:49 SELECT Book_title, Category, Rental_Price FROM Books WHERE Status = yes' LIMIT 0, 1000 4 row(s) returned Duration / Fetch: 0.000 sec / 0.000 sec
- 16 09:44:52 SELECT Emp_name, Salary FROM Employee ORDER BY Salary DESC LIMIT 0, 1000 9 row(s) returned Duration / Fetch: 0.000 sec / 0.000 sec
- 17 09:45:32 SELECT Books.Book_title, Customer.Customer_name FROM IssueStatus JOIN Books ON IssueStatus.Issn_b... 3 row(s) returned Duration / Fetch: 0.000 sec / 0.000 sec
- 18 09:46:06 SELECT Category,COUNT(*) AS Total_Books FROM Books GROUP BY Category LIMIT 0, 1000 6 row(s) returned Duration / Fetch: 0.000 sec / 0.000 sec

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 with a query editor containing the following SQL code:

```

97 JOIN Books ON IssueStatus.Issn_book = Books.ISBN
98 JOIN Customer ON IssueStatus.Issued_cust = Customer.Customer_Id;
99
100 • SELECT Category, COUNT(*) AS Total_Books
101 FROM Books
102 GROUP BY Category;
103
104 • SELECT Emp_name, Position
105 FROM Employee
106 WHERE Salary > 50000;

```

The results grid displays the following data:

Emp_name	Position
Anil Kumar	Manager
Bina Raj	Manager
Fathima N	Manager
Hema R	Manager

The output pane shows the execution log:

#	Time	Action	Message	Duration / Fetch
14	09:42:44	INSERT INTO ReturnStatus (Return_Id, Return_cust, Return_book_name, Return_date, ISBN_Book2) VALUES	2 row(s) affected Records: 2 Duplicates: 0 Warnings: 0	0.016 sec
15	09:43:49	SELECT Book_title, Category, Rental_Price FROM Books WHERE Status = 'yes' LIMIT 0, 1000	4 row(s) returned	0.000 sec / 0.000 sec
16	09:44:52	SELECT Emp_name, Salary FROM Employee ORDER BY Salary DESC LIMIT 0, 1000	9 row(s) returned	0.000 sec / 0.000 sec
17	09:45:32	SELECT Books.Book_title, Customer.Customer_name FROM IssueStatus JOIN Books ON IssueStatus.Issn_book = Books.ISBN WHERE Status = 'yes' AND Customer.Customer_Id NOT IN (SELECT Issued_cust FROM IssueStatus)	3 row(s) returned	0.000 sec / 0.000 sec
18	09:46:06	SELECT Category, COUNT(*) AS Total_Books FROM Books GROUP BY Category LIMIT 0, 1000	6 row(s) returned	0.000 sec / 0.000 sec
19	09:46:56	SELECT Emp_name, Position FROM Employee WHERE Salary > 50000 LIMIT 0, 1000	4 row(s) returned	0.000 sec / 0.000 sec
20	09:47:26	SELECT Customer_name FROM Customer WHERE Reg_date < '2022-01-01' AND Customer_Id NOT IN (SELECT Issued_cust FROM IssueStatus)	0 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 with a query editor containing the following SQL code:

```

102 GROUP BY Category;
103
104 • SELECT Emp_name, Position
105 FROM Employee
106 WHERE Salary > 50000;
107
108 • SELECT Customer_name
109 FROM Customer
110 WHERE Reg_date < '2022-01-01'
111 AND Customer_Id NOT IN (SELECT Issued_cust FROM IssueStatus);

```

The results grid displays the following data:

Customer_name

The output pane shows the execution log:

#	Time	Action	Message	Duration / Fetch
15	09:43:49	SELECT Book_title, Category, Rental_Price FROM Books WHERE Status = 'yes' LIMIT 0, 1000	4 row(s) returned	0.000 sec / 0.000 sec
16	09:44:52	SELECT Emp_name, Salary FROM Employee ORDER BY Salary DESC LIMIT 0, 1000	9 row(s) returned	0.000 sec / 0.000 sec
17	09:45:32	SELECT Books.Book_title, Customer.Customer_name FROM IssueStatus JOIN Books ON IssueStatus.Issn_book = Books.ISBN WHERE Status = 'yes' AND Customer.Customer_Id NOT IN (SELECT Issued_cust FROM IssueStatus)	3 row(s) returned	0.000 sec / 0.000 sec
18	09:46:06	SELECT Category, COUNT(*) AS Total_Books FROM Books GROUP BY Category LIMIT 0, 1000	6 row(s) returned	0.000 sec / 0.000 sec
19	09:46:56	SELECT Emp_name, Position FROM Employee WHERE Salary > 50000 LIMIT 0, 1000	4 row(s) returned	0.000 sec / 0.000 sec
20	09:47:26	SELECT Customer_name FROM Customer WHERE Reg_date < '2022-01-01' AND Customer_Id NOT IN (SELECT Issued_cust FROM IssueStatus)	0 row(s) returned	0.000 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 with a query editor containing the following SQL code:

```
106 WHERE Salary > 50000;
107
108 •   SELECT Customer_name
109     FROM Customer
110    WHERE Reg_date < '2022-01-01'
111      AND Customer_Id NOT IN (SELECT Issued_cust FROM IssueStatus);
112
113 •   SELECT Branch_no, COUNT(*) AS Total_Employees
114     FROM Employee
115    GROUP BY Branch_no;
```

The results grid displays the following data:

Branch_no	Total_Employees
1	2
2	3
3	2
4	2

The output pane shows the execution log:

#	Time	Action	Message	Duration / Fetch
16	09:44:52	SELECT Emp_name, Salary FROM Employee ORDER BY Salary DESC LIMIT 0, 1000	9 row(s) returned	0.000 sec / 0.000 sec
17	09:45:32	SELECT Books.Book_title, Customer.Customer_name FROM IssueStatus JOIN Books ON IssueStatus.lisbn_b... JOIN Customer ON IssueStatus.Issued_cust = Customer.Customer_Id WHERE Issue_date BETWEEN '2023-06-01' AND '2023-06-30';	3 row(s) returned	0.000 sec / 0.000 sec
18	09:46:06	SELECT Category, COUNT(*) AS Total_Books FROM Books GROUP BY Category LIMIT 0, 1000	6 row(s) returned	0.000 sec / 0.000 sec
19	09:46:56	SELECT Emp_name, Position FROM Employee WHERE Salary > 50000 LIMIT 0, 1000	4 row(s) returned	0.000 sec / 0.000 sec
20	09:47:26	SELECT Customer_name FROM Customer WHERE Reg_date < '2022-01-01' AND Customer_Id NOT IN (SELECT Customer_Id FROM Employee WHERE Salary > 50000 LIMIT 0, 1000)	0 row(s) returned	0.000 sec / 0.000 sec
21	09:50:57	SELECT Branch_no, COUNT(*) AS Total_Employees FROM Employee GROUP BY Branch_no LIMIT 0, 1000	4 row(s) returned	0.000 sec / 0.000 sec

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

The screenshot shows the MySQL Workbench interface with a query editor containing the following SQL code:

```
111 AND Customer_Id NOT IN (SELECT Issued_cust FROM IssueStatus);
112
113 •   SELECT Branch_no, COUNT(*) AS Total_Employees
114     FROM Employee
115    GROUP BY Branch_no;
116
117 •   SELECT Customer.Customer_name
118     FROM IssueStatus
119    JOIN Customer ON IssueStatus.Issued_cust = Customer.Customer_Id
120   WHERE Issue_date BETWEEN '2023-06-01' AND '2023-06-30';
```

The results grid displays the following data:

Customer_name
Arun V
Beena P

The output pane shows the execution log:

#	Time	Action	Message	Duration / Fetch
17	09:45:32	SELECT Books.Book_title, Customer.Customer_name FROM IssueStatus JOIN Books ON IssueStatus.lisbn_b... JOIN Customer ON IssueStatus.Issued_cust = Customer.Customer_Id WHERE Issue_date BETWEEN '2023-06-01' AND '2023-06-30';	3 row(s) returned	0.000 sec / 0.000 sec
18	09:46:06	SELECT Category, COUNT(*) AS Total_Books FROM Books GROUP BY Category LIMIT 0, 1000	6 row(s) returned	0.000 sec / 0.000 sec
19	09:46:56	SELECT Emp_name, Position FROM Employee WHERE Salary > 50000 LIMIT 0, 1000	4 row(s) returned	0.000 sec / 0.000 sec
20	09:47:26	SELECT Customer_name FROM Customer WHERE Reg_date < '2022-01-01' AND Customer_Id NOT IN (SELECT Customer_Id FROM Employee WHERE Salary > 50000 LIMIT 0, 1000)	0 row(s) returned	0.000 sec / 0.000 sec
21	09:50:57	SELECT Branch_no, COUNT(*) AS Total_Employees FROM Employee GROUP BY Branch_no LIMIT 0, 1000	4 row(s) returned	0.000 sec / 0.000 sec
22	09:51:24	SELECT Customer.Customer_name FROM IssueStatus JOIN Customer ON IssueStatus.Issued_cust = Customer.Customer_Id WHERE Issue_date BETWEEN '2023-06-01' AND '2023-06-30';	2 row(s) returned	0.000 sec / 0.000 sec

9. Retrieve book_title from book table containing history.

The screenshot shows the MySQL Workbench interface with the following details:

- Schemas:** Local instance MySQL80
- Query Editor:** Query 1 contains the following SQL code:

```
115 GROUP BY Branch_no;
116
117 • SELECT Customer.Customer_name
118   FROM IssueStatus
119   JOIN Customer ON IssueStatus.Issued_cust = Customer.Customer_Id
120 WHERE Issue_date BETWEEN '2023-06-01' AND '2023-06-30';
121
122 • SELECT Book_title
123   FROM Books
124 WHERE Category LIKE '%History%';
```
- Result Grid:** Shows the result of the query, which is a single row: "Book_title" with value "Kochi: Queen of the Arabian Sea".
- Action Output:** Shows the execution log with 9 entries, all successful, indicating the execution of various queries related to the session.

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

The screenshot shows the MySQL Workbench interface with the following details:

- Schemas:** Local instance MySQL80
- Query Editor:** Query 1 contains the following SQL code:

```
120 WHERE Issue_date BETWEEN '2023-06-01' AND '2023-06-30';
121
122 • SELECT Book_title
123   FROM Books
124 WHERE Category LIKE '%History%';
125
126 • SELECT Branch_no, COUNT(*) AS Total_Employees
127   FROM Employee
128   GROUP BY Branch_no
129   HAVING COUNT(*) > 5;
```
- Result Grid:** Shows the result of the query, which is a single row: "Branch_no" with value "Total_Employees" and value "1".
- Action Output:** Shows the execution log with 13 entries, all successful, indicating the execution of various queries related to the session.

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

The screenshot shows the MySQL Workbench interface with a query editor containing the following SQL code:

```

124 WHERE Category LIKE '%History%';
125
126 •   SELECT Branch_no, COUNT(*) AS Total_Employees
127     FROM Employee
128   GROUP BY Branch_no
129   HAVING COUNT(*) > 5;
130
131 •   SELECT Employee.Emp_name, Branch.Branch_address
132     FROM Branch
133   JOIN Employee ON Branch.Manager_Id = Employee.Emp_Id;
    
```

The results grid displays the following data:

Emp_name	Branch_address
Anil Kumar	MG Road, Kochi
Bina Raj	SM Street, Kozhikode
Chetan K	Statue, Thiruvananthapuram
Divya S	East Fort, Thrissur

The output pane shows the following log entries:

#	Time	Action	Message	Duration / Fetch
20	09:47:26	SELECT Customer_name FROM Customer WHERE Reg_date < '2022-01-01' AND Customer_Id NOT IN (SELECT Customer_Id FROM BookIssue WHERE Issue_Status = 'Issued') AND Customer_name NOT IN (SELECT Customer_name FROM Customer WHERE Customer_name LIKE '%History%')	0 row(s) returned	0.000 sec / 0.000 sec
21	09:50:57	SELECT Branch_no, COUNT(*) AS Total_Employees FROM Employee GROUP BY Branch_no LIMIT 0, 1000	4 row(s) returned	0.000 sec / 0.000 sec
22	09:51:24	SELECT Customer.Customer_name FROM IssueStatus JOIN Customer ON IssueStatus.Issued_cust = Customer.Customer_Id WHERE IssueStatus.Issue_Status = 'Issued'	2 row(s) returned	0.000 sec / 0.000 sec
23	09:52:15	SELECT Book_title FROM Books WHERE Category LIKE '%History%' LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec
24	09:52:43	SELECT Branch_no, COUNT(*) AS Total_Employees FROM Employee GROUP BY Branch_no HAVING COUNT(*) > 5	0 row(s) returned	0.000 sec / 0.000 sec
25	09:53:29	SELECT Employee.Emp_name, Branch.Branch_address FROM Branch JOIN Employee ON Branch.Manager_Id = Employee.Emp_Id	4 row(s) returned	0.000 sec / 0.000 sec
26	09:53:58	SELECT Customer.Customer_name FROM IssueStatus JOIN Books ON IssueStatus.Issued_book = Books.ISBN	3 row(s) returned	0.000 sec / 0.000 sec

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 with a query editor containing the following SQL code:

```

130
131 •   SELECT Employee.Emp_name, Branch.Branch_address
132     FROM Branch
133   JOIN Employee ON Branch.Manager_Id = Employee.Emp_Id;
134
135 •   SELECT Customer.Customer_name
136     FROM IssueStatus
137   JOIN Books ON IssueStatus.Issued_book = Books.ISBN
138   JOIN Customer ON IssueStatus.Issued_cust = Customer.Customer_Id
139   WHERE Books.Rental_Price > 25;
    
```

The results grid displays the following data:

Customer_name
Arun V
Beena P
Chitra S

The output pane shows the following log entries:

#	Time	Action	Message	Duration / Fetch
21	09:50:57	SELECT Branch_no, COUNT(*) AS Total_Employees FROM Employee GROUP BY Branch_no LIMIT 0, 1000	4 row(s) returned	0.000 sec / 0.000 sec
22	09:51:24	SELECT Customer.Customer_name FROM IssueStatus JOIN Customer ON IssueStatus.Issued_cust = Customer.Customer_Id WHERE IssueStatus.Issue_Status = 'Issued'	2 row(s) returned	0.000 sec / 0.000 sec
23	09:52:15	SELECT Book_title FROM Books WHERE Category LIKE '%History%' LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec
24	09:52:43	SELECT Branch_no, COUNT(*) AS Total_Employees FROM Employee GROUP BY Branch_no HAVING COUNT(*) > 5	0 row(s) returned	0.000 sec / 0.000 sec
25	09:53:29	SELECT Employee.Emp_name, Branch.Branch_address FROM Branch JOIN Employee ON Branch.Manager_Id = Employee.Emp_Id	4 row(s) returned	0.000 sec / 0.000 sec
26	09:53:58	SELECT Customer.Customer_name FROM IssueStatus JOIN Books ON IssueStatus.Issued_book = Books.ISBN	3 row(s) returned	0.000 sec / 0.000 sec