

**A PROJECT ON LIBRARY MANAGEMENT SYSTEM
USING SQL**

- Create database named ‘Library’ and add tables as given below:

1. Branch

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

Ans:

create database Library;

use Library;

Create table Branch (

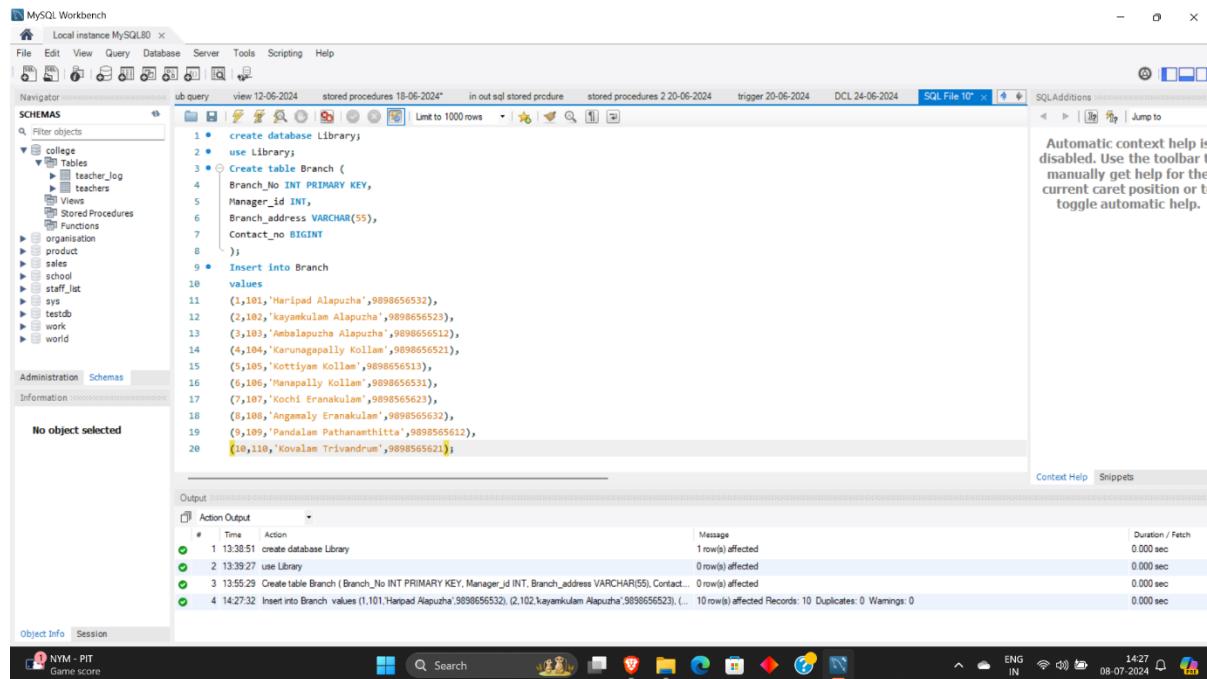
Branch_No INT PRIMARY KEY,

Manager_id INT,

Branch_address VARCHAR(55),

Contact_no BIGINT

);



The screenshot shows the MySQL Workbench interface. In the SQL editor tab, the following SQL code is written:

```

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(55),
7     Contact_no BIGINT
8 );
9 • Insert into Branch
10    values
11     (1,101,'Haripad Alapuzha',9898656532),
12     (2,102,'Kayanakulam Alapuzha',9898656523),
13     (3,103,'Ambalapuzha Alapuzha',9898656512),
14     (4,104,'Karunagappally Kollam',9898656521),
15     (5,105,'Kottiyam Kollam',9898656513),
16     (6,106,'Manapally Kollam',9898656531),
17     (7,107,'Kochi Ernakulam',9898656523),
18     (8,108,'Angamaly Ernakulam',9898565632),
19     (9,109,'Pandalam Pathanayathitta',9898565612),
20     (10,110,'Kovalam Trivandrum',9898565621);

```

The Output tab shows the results of the actions:

#	Time	Action	Message	Duration / Fetch
1	13:38:51	create database Library	1 row(s) affected	0.000 sec
2	13:39:27	use Library	0 row(s) affected	0.000 sec
3	13:55:29	Create table Branch (Branch_No INT PRIMARY KEY, Manager_id INT, Branch_address VARCHAR(55), Contact_no BIGINT);	0 row(s) affected	0.000 sec
4	14:27:32	Insert into Branch values (1,101,Haripad Alapuzha',9898656532), (2,102,Kayanakulam Alapuzha',9898656523), (3,103,Ambalapuzha Alapuzha',9898656512), (4,104,Karunagappally Kollam',9898656521), (5,105,Kottiyam Kollam',9898656513), (6,106,Manapally Kollam',9898656531), (7,107,Kochi Ernakulam',9898656523), (8,108,Angamaly Ernakulam',9898565632), (9,109,Pandalam Pathanayathitta',9898565612), (10,110,Kovalam Trivandrum',9898565621);	10 row(s) affected Records: 10 Duplicates: 0 Warnings: 0	0.000 sec

Inserting Values:

Insert into Branch

values

(1,101,'Haripad Alapuzha',9898656532),
(2,102,'kayamkulam Alapuzha',9898656523),
(3,103,'Ambalapuzha Alapuzha',9898656512),
(4,104,'Karunagapally Kollam',9898656521),
(5,105,'Kottiyam Kollam',9898656513),
(6,106,'Manapally Kollam',9898656531),
(7,107,'Kochi Eranakulam',9898565623),
(8,108,'Angamaly Eranakulam',9898565632),
(9,109,'Pandalam Pathanamthitta',9898565612),
(10,110,'Kovalam Trivandrum',9898565621);

Displaying Table Branch:

Select* from Branch;

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

```
ub query view 12-06-2024 stored procedures 18-06-2024* in out sql stored procedure stored procedures 2 20-06-2024 trigger 20-06-2024 DCL 24-06-2024 SQL File 10* ×
File Edit View Query Database Server Tools Scripting Help
Navigator
SCHEMAS
  college
    Tables
      teacher_log
      teachers
    Views
    Stored Procedures
    Functions
  organisation
  product
  sales
  staff
  staff_list
  sys
  testdb
  work
  world
Administration Schemas
Information
No object selected
Branch 1 ×
Output:
Action Output
# Time Action Message Duration / Fetch
1 13:38:51 create database Library 1 row(s) affected 0.000 sec
2 13:39:27 use Library 0 row(s) affected 0.000 sec
3 13:55:29 Create table Branch ( Branch_No INT PRIMARY KEY, Manager_id INT, Branch_address VARCHAR(55), Conta... 0 row(s) affected 0.000 sec
4 14:27:32 Insert into Branch values (1,101,Haripad Alapuzha,9898656532), (2,102,kayamkulam Alapuzha,9898656523), (3,103,'Ambalapuzha Alapuzha',9898656512), (4,104,'Karunagapally Kollam',9898656521), (5,105,'Kottiyam Kollam',9898656513), (6,106,'Manapally Kollam',9898656531), (7,107,'Kochi Eranakulam',9898565623), (8,108,'Angamaly Eranakulam',9898565632), (9,109,'Pandalam Pathanamthitta',9898565612), (10,110,'Kovalam Trivandrum',9898565621);
5 14:28:14 select* from Branch LIMIT 0, 1000
10 rows(s) returned
0.000 sec / 0.000 sec
Object Info Session
NYM - PIT Game score
Search
ENG IN 14:28 08-07-2024

```

The results pane shows the data inserted into the Branch table:

Branch_No	Manager_id	Branch_address	Contact_no
1	101	Haripad Alapuzha	9898656532
2	102	kayamkulam Alapuzha	9898656523
3	103	Ambalapuzha Alapuzha	9898656512
4	104	Karunagapally Kollam	9898656521
5	105	Kottiyam Kollam	9898656513

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**

Ans:

```
create table Employee (
```

Emp_id INT PRIMARY KEY,

Emp_Name VARCHAR(55),

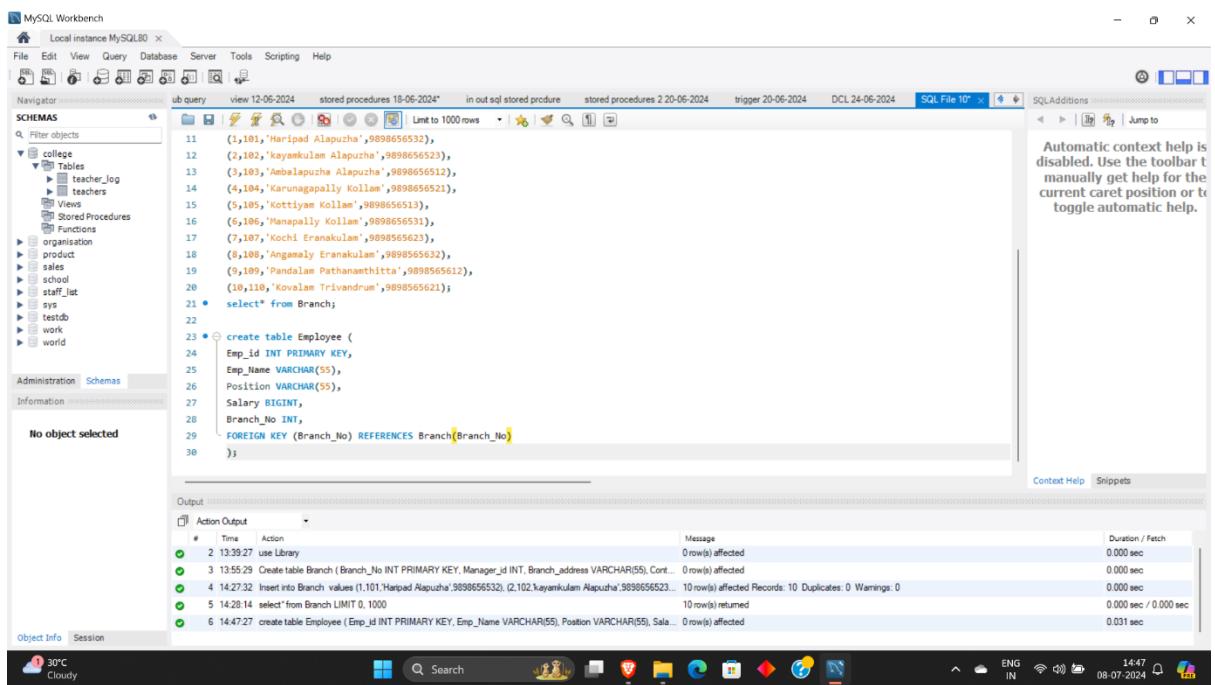
Position VARCHAR(55),

Salary BIGINT,

Branch_No INT,

FOREIGN KEY (Branch_No) REFERENCES Branch(Branch_No)

);



Inserting Values in Employee Table:

Insert into Employee

Values

(1001,'Arun','Librarian',55000,1),

(1002,'Athira','Library Assistant',40000,1),
(1003,'Nithin','Librarian',45000,2),
(1004,'Aswin','Library Assistant',30000,2),
(1005,'Nandu','Manager',60000,3),
(1006,'Sheeba','Librarian',45000,3),
(1007,'Adhil','Supervisor',30000,4),
(1008,'Aparna','Clerk',20000,4),
(1009,'Greeshma','Librarian',35000,5),
(1010,'Amal','Security',25000,5),
(1011,'Mridul','Library Assistant',30000,6),
(1012,'Amrutha','Clerk',20000,6),
(1013,'Manu','Manager',50000,7),
(1014,'Appu','Security',25000,7),
(1015,'Nithya','Library Assistsnt',35000,8),
(1016,'Lekshmi','Clerk',25000,8),
(1017,'Sooraj','Supervisor',55000,9),
(1018,'Abhin','Librarian',35000,9),
(1019,'Hareesh','Library Assistant',30000,10),
(1020,'Jidhun','Security',15000,10);

The screenshot shows the MySQL Workbench interface with the 'Employee' table selected in the Navigator pane. The main pane displays the following SQL query and its results:

```

34 • Insert Into Employee
Values
35
36 (1001,'Arun','Librarian',55000,1),
37 (1002,'Athira','Library Assistant',40000,1),
38 (1003,'Nithin','Librarian',45000,2),
39 (1004,'Aswin','Library Assistant',30000,2),
40 (1005,'Nandu','Manager',60000,3),
41 (1006,'Sheeba','Librarian',45000,3),
42 (1007,'Adhil','Supervisor',30000,4),
43 (1008,'Aparna','Clerk',20000,4),
44 (1009,'Greeshma','Librarian',35000,5),
45 (1010,'Amal','Security',25000,5),
46 (1011,'Mridul','Library Assistant',30000,6),
47 (1012,'Amrutha','Clerk',20000,6),
48 (1013,'Manu','Manager',50000,7),
49 (1014,'Appu','Security',25000,7),
50 (1015,'Nithya','Library Assistant',35000,8),
51 (1016,'Lekshmi','Clerk',25000,8),
52 (1017,'Sooraj','Supervisor',35000,9),
53 (1018,'Abhin','Librarian',35000,9),
54 (1019,'Hareesh','Library Assistant',30000,10),
55 (1020,'Jidhun','Security',15000,10);

```

The Output pane shows the execution log:

- 5 14:28:14 selected from Branch LIMIT 0, 1000 10 row(s) returned 0.000 sec / 0.000 sec
- 6 14:47:27 create table Employee (Emp_Id INT PRIMARY KEY, Emp_Name VARCHAR(55), Position VARCHAR(55), Sala... 0 row(s) affected 0.031 sec
- 7 14:48:38 describe Employee 5 row(s) refetched 0.000 sec / 0.000 sec

Displaying Employee Table:

`select* from Employee;`

The screenshot shows the MySQL Workbench interface with the 'Employee' table selected in the Navigator pane. The main pane displays the following SQL query and its results:

```

42 (1007,'Adhil','Supervisor',30000,4),
43 (1008,'Aparna','Clerk',20000,4),
44 (1009,'Greeshma','Librarian',35000,5),
45 (1010,'Amal','Security',25000,5),
46 (1011,'Mridul','Library Assistant',30000,6),
47 (1012,'Amrutha','Clerk',20000,6),
48 (1013,'Manu','Manager',50000,7),
49 (1014,'Appu','Security',25000,7),
50 (1015,'Nithya','Library Assistant',35000,8),
51 (1016,'Lekshmi','Clerk',25000,8),
52 (1017,'Sooraj','Supervisor',35000,9),
53 (1018,'Abhin','Librarian',35000,9),
54 (1019,'Hareesh','Library Assistant',30000,10),
55 (1020,'Jidhun','Security',15000,10);
56 • select* from Employee;

```

The Result Grid pane shows the data from the Employee table:

Emp_Id	Emp_Name	Position	Salary	Branch_No
1001	Arun	Librarian	55000	1
1002	Athira	Library Assistant	40000	1
1003	Nithin	Librarian	45000	2
1004	Aswin	Library Assistant	30000	2
1005	Nandu	Manager	60000	3
1006	Sheeba	Librarian	45000	3

The Output pane shows the execution log:

- 9 15:35:34 Insert into Employee Values (1001,'Arun','Librarian',55000,1), (1002,'Athira','Library Assistant',40000,1), (1003,'Nithin','Librarian',45000,2), (1004,'Aswin','Library Assistant',30000,2), (1005,'Nandu','Manager',60000,3), (1006,'Sheeba','Librarian',45000,3); 20 row(s) affected Records: 20 Duplicates: 0 Warnings: 0 0.000 sec
- 10 15:36:08 select* from Employee LIMIT 0, 1000 20 row(s) returned 0.000 sec / 0.000 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**

Ans:

CREATE TABLE Books (

ISBN VARCHAR(20) PRIMARY KEY,

Book_title VARCHAR(255),

Category VARCHAR(100),

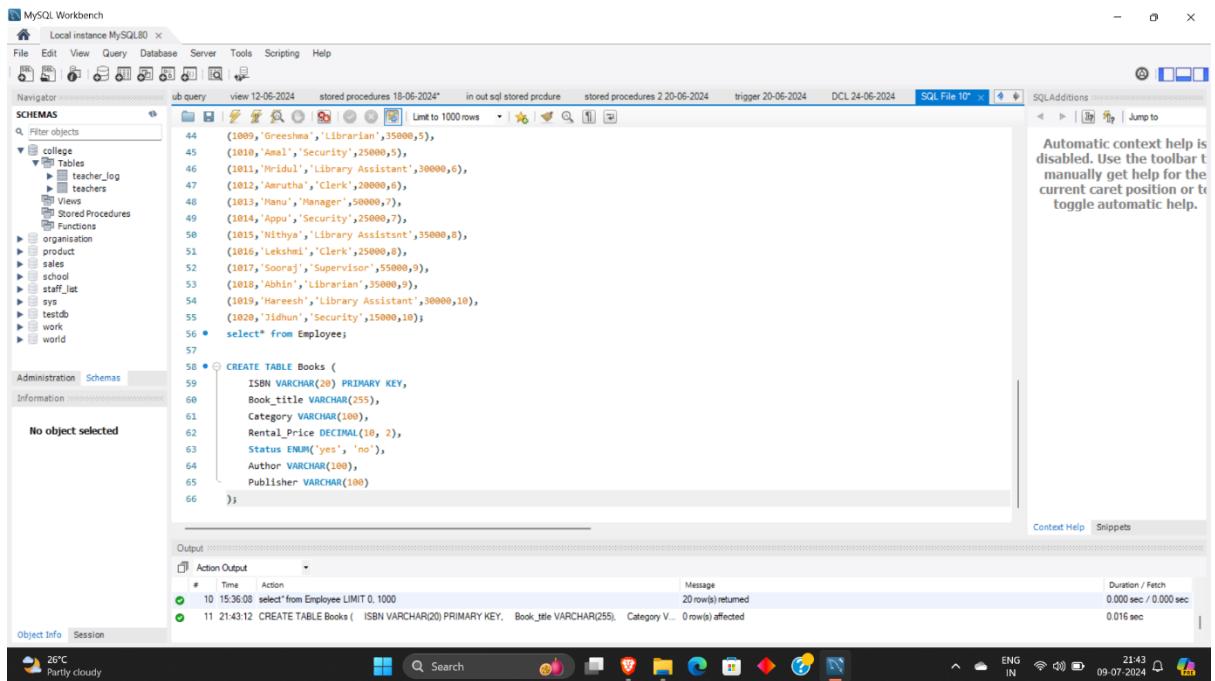
Rental_Price DECIMAL(10, 2),

Status ENUM('yes', 'no'),

Author VARCHAR(100),

Publisher VARCHAR(100)

);



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

- Schemas:** The current schema is "Local instance MySQL80".
- Navigator:** Shows the database structure with tables like college, teacher_log, teachers, Views, Stored Procedures, Functions, organization, product, sales, school, staff_list, testdb, work, and world.
- SQL Editor:** Contains the SQL code for creating the Books table:

```

CREATE TABLE Books (
    ISBN VARCHAR(20) PRIMARY KEY,
    Book_title VARCHAR(255),
    Category VARCHAR(100),
    Rental_Price DECIMAL(10, 2),
    Status ENUM('yes', 'no'),
    Author VARCHAR(100),
    Publisher VARCHAR(100)
);

```
- Output:** Displays the results of the query execution:

#	Time	Action	Message	Duration / Fetch
10	15:36:08	select* from Employee LIMIT 0, 1000	20 row(s) returned	0.000 sec / 0.000 sec
11	21:43:12	CREATE TABLE Books (ISBN VARCHAR(20) PRIMARY KEY, Book_title VARCHAR(255), Category V...	0 row(s) affected	0.016 sec
- System Bar:** Shows the system tray with icons for battery, network, and date/time (21:43, 09-07-2024).

Inserting Values in Books Table:

INSERT INTO Books

VALUES

('9780141439600', 'Pride and Prejudice', 'Fiction', 12.99, 'yes', 'Jane Austen', 'Penguin Classics'),

('9780061122415', 'To Kill a Mockingbird', 'Fiction', 10.50, 'yes', 'Harper Lee', 'Harper Perennial Modern Classics'),

('9780140187398', '1984', 'Fiction', 9.99, 'yes', 'George Orwell', 'Penguin Books'),

('9780060850524', 'The Catcher in the Rye', 'Fiction', 11.95, 'yes', 'J.D. Salinger', 'Little, Brown and Company'),

('9780743273565', 'The Great Gatsby', 'Fiction', 8.99, 'yes', 'F. Scott Fitzgerald', 'Scribner'),

('9780547928227', 'The Hobbit', 'Fantasy', 14.99, 'yes', 'J.R.R. Tolkien', 'Mariner Books'),

('9780544003415', 'Harry Potter and the Sorcerer\\'s Stone', 'Fantasy', 16.99, 'yes', 'J.K. Rowling', 'Scholastic'),

('9780062315007', 'The Hunger Games', 'Young Adult', 9.75, 'yes', 'Suzanne Collins', 'Scholastic Press'),

('9780141439471', 'Jane Eyre', 'Fiction', 13.50, 'yes', 'Charlotte Bronte', 'Penguin Classics'),

('9780062695233', 'Where the Crawdads Sing', 'Fiction', 18.95, 'yes', 'Delia Owens', 'G.P. Putnam\\'s Sons');

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

- Schemas:** A tree view showing the database structure with tables like college, teacher_log, teachers, Views, Stored Procedures, Functions, organization, product, sales, school, staff_list, testdb, work, and world.
- SQL Editor:** Contains the SQL code for creating the Books table and inserting 10 book records. The table structure includes columns: ISBN (PRIMARY KEY), Book_title, Category, Rental_Price, Status (ENUM 'yes', 'no'), Author, and Publisher.
- Output:** Shows the execution results of the SQL statements. It lists two rows: the creation of the Books table and the insertion of 10 book records. The insertion row includes the ISBN, Book_title, Category, Rental_Price, Status, Author, and Publisher for each book.
- System Bar:** Includes icons for file operations, search, and system status (e.g., battery level, network, time).

```
CREATE TABLE Books (
    ISBN VARCHAR(20) PRIMARY KEY,
    Book_title VARCHAR(255),
    Category VARCHAR(100),
    Rental_Price DECIMAL(10, 2),
    Status ENUM('yes', 'no'),
    Author VARCHAR(100),
    Publisher VARCHAR(100)
);

INSERT INTO Books
VALUES
    ('9780141439600', 'Pride and Prejudice', 'Fiction', 12.99, 'yes', 'Jane Austen', 'Penguin Classics'),
    ('9780061122415', 'To Kill a Mockingbird', 'Fiction', 10.5, 'yes', 'Harper Lee', 'Harper Perennial Modern Classics'),
    ('9780140187398', '1984', 'Fiction', 9.99, 'yes', 'George Orwell', 'Penguin Books'),
    ('9780060850524', 'The Catcher in the Rye', 'Fiction', 11.95, 'yes', 'J.D. Salinger', 'Little, Brown and Company'),
    ('9780743273565', 'The Great Gatsby', 'Fiction', 8.99, 'yes', 'F. Scott Fitzgerald', 'Scribner'),
    ('9780547928227', 'The Hobbit', 'Fantasy', 14.99, 'yes', 'J.R.R. Tolkien', 'Mariner Books'),
    ('9780544003415', 'Harry Potter and the Sorcerer\\\'s Stone', 'Fantasy', 16.99, 'yes', 'J.K. Rowling', 'Scholastic'),
    ('9780062315007', 'The Hunger Games', 'Young Adult', 9.75, 'yes', 'Suzanne Collins', 'Scholastic Press'),
    ('9780141439471', 'Jane Eyre', 'Fiction', 13.5, 'yes', 'Charlotte Bronte', 'Penguin Classics'),
    ('9780062695233', 'Where the Crawdads Sing', 'Fiction', 18.95, 'yes', 'Delia Owens', 'G.P. Putnam\\\'s Sons');
```

Displaying the Table Books

select* from Books;

The screenshot shows the MySQL Workbench interface. In the top navigation bar, 'File', 'Edit', 'View', 'Query', 'Database', 'Server', 'Tools', 'Scripting', and 'Help' are visible. The 'Query' tab is selected. Below the toolbar, the 'Navigator' pane shows the schema 'college' with tables like 'teacher_log', 'teachers', 'Views', 'Stored Procedures', 'Functions', 'organization', 'product', 'sales', 'school', 'staff_list', 'sys', 'testdb', 'work', and 'world'. The 'Information' pane below the navigator shows 'No object selected'. The main area displays the results of the SQL query:

```
66  );
67  );
68  • INSERT INTO Books
69  VALUES
70  ('9780141439600', 'Pride and Prejudice', 'Fiction', 12.99, 'yes', 'Jane Austen', 'Penguin Classics'),
71  ('9780061122415', 'To Kill a Mockingbird', 'Fiction', 10.50, 'yes', 'Harper Lee', 'Harper Perennial Modern Classics'),
72  ('9780140187398', '1984', 'Fiction', 9.99, 'yes', 'George Orwell', 'Penguin Books'),
73  ('9780060050524', 'The Catcher in the Rye', 'Fiction', 11.95, 'yes', 'J.D. Salinger', 'Little, Brown and Company'),
74  ('9780743273565', 'The Great Gatsby', 'Fiction', 8.99, 'yes', 'F. Scott Fitzgerald', 'Scribner'),
75  ('9780547928227', 'The Hobbit', 'Fantasy', 14.99, 'yes', 'J.R.R. Tolkien', 'Mariner Books'),
76  ('9780544003415', 'Harry Potter and the Sorcerer\'s Stone', 'Fantasy', 16.99, 'yes', 'J.K. Rowling', 'Scholastic'),
77  ('9780062315087', 'The Hunger Games', 'Young Adult', 9.75, 'yes', 'Suzanne Collins', 'Scholastic Press'),
78  ('9780141439471', 'Jane Eyre', 'Fiction', 13.50, 'yes', 'Charlotte Bronte', 'Penguin Classics'),
79  ('9780062695233', 'Where the Crawdads Sing', 'Fiction', 18.95, 'yes', 'Delia Owens', 'G.P. Putnam\'s Sons')
80  • select* from Books;
```

The results grid shows the following data:

ISBN	Book_Title	Category	Rental_Price	Status	Author	Publisher
9780060050524	The Catcher in the Rye	Fiction	11.95	yes	J.D. Salinger	Little, Brown and Company
9780061122415	To Kill a Mockingbird	Fiction	10.50	yes	Harper Lee	Harper Perennial Modern Classics
9780062315007	The Hunger Games	Young Adult	9.75	yes	Suzanne Collins	Scholastic Press
9780062695233	Where the Crawdads Sing	Fiction	18.95	yes	Dela Owens	G.P. Putnam's Sons
9780140187398	1984	Fiction	9.99	yes	George Orwell	Penguin Books
9780141439471	Jane Eyre	Fiction	13.50	yes	Charlotte Bronte	Penguin Classics

Below the results, the 'Object Info' and 'Session' panes are visible. The session pane shows the following log entries:

#	Time	Action	Message	Duration / Fetch
12	21:46:01	INSERT INTO Books VALUES ('9780141439600', 'Pride and Prejudice', 'Fiction', 12.99, 'yes', 'Jane Austen', 'Penguin Classics')	10 row(s) affected Records: 10 Duplicates: 0 Warnings: 0	0.046 sec
13	21:46:33	select* from Books LIMIT 0, 1000	10 row(s) returned	0.000 sec / 0.000 sec

4. Customer

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

Ans:

CREATE TABLE Customer (

Customer_Id INT PRIMARY KEY,

Customer_name VARCHAR(100),

Customer_address VARCHAR(255),

Reg_date DATE

);

The screenshot shows the MySQL Workbench interface. In the top-left pane, the 'Schemas' tree is visible, showing the 'college' schema with tables like 'books', 'branch', and 'teacher'. The main area contains a SQL editor window with the following code:

```

75 ('9780547928227', 'The Hobbit', 'Fantasy', 14.99, 'yes', 'J.R.R. Tolkien', 'Mariner Books'),
76 ('9780544003415', 'Harry Potter and the Sorcerer\'s Stone', 'Fantasy', 16.99, 'yes', 'J.K. Rowling', 'Scholastic'),
77 ('9780062315007', 'The Hunger Games', 'Young Adult', 9.75, 'yes', 'Suzanne Collins', 'Scholastic Press'),
78 ('9780814143947', 'Jane Eyre', 'Fiction', 13.50, 'yes', 'Charlotte Bronte', 'Penguin Classics'),
79 ('9780062695233', 'Where the Crawdads Sing', 'Fiction', 18.95, 'yes', 'Delia Owens', 'G.P. Putnam\'s Sons');

80 • select* from Books;
81
82 • CREATE TABLE Customer (
83     Customer_Id INT PRIMARY KEY,
84     Customer_name VARCHAR(100),
85     Customer_address VARCHAR(255),
86     Reg_date DATE
87 );
88
89 • INSERT INTO Customer
90     VALUES

```

Below the SQL editor is a results grid titled 'Customer 6' showing the following data:

Customer_Id	Customer_name	Customer_address	Reg_date
1	Anakha	Attingal, trivandrum	2023-05-15
2	Baby	Kuttanad, Alapuzha	2022-11-20
3	Ayana	Haripad, Alapuzha	2023-01-05
4	Ansana	Ankamaly, Eranakulam	2021-08-10
5	Amal	Kochi, Eranakulam	2022-03-25
6	Shyam	Kottiyam, Kollam	2023-07-02

The status bar at the bottom right shows the date as 09-07-2024 and the time as 22:01.

Inserting values to Customer Table and displaying :

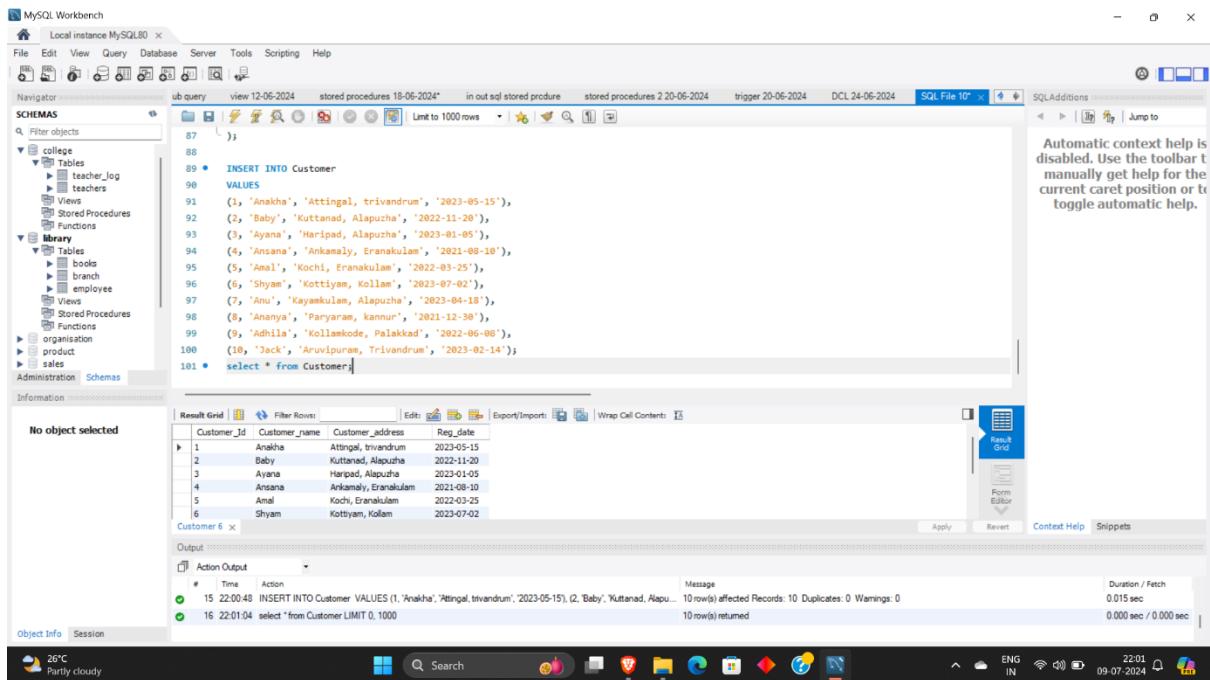
INSERT INTO Customer

VALUES

```

(1, 'Anakha', 'Attingal, trivandrum', '2023-05-15'),
(2, 'Baby', 'Kuttanad, Alapuzha', '2022-11-20'),
(3, 'Ayana', 'Haripad, Alapuzha', '2023-01-05'),
(4, 'Ansana', 'Ankamaly, Eranakulam', '2021-08-10'),
(5, 'Amal', 'Kochi, Eranakulam', '2022-03-25'),
(6, 'Shyam', 'Kottiyam, Kollam', '2023-07-02'),
(7, 'Anu', 'Kayamkulam, Alapuzha', '2023-04-18'),
(8, 'Ananya', 'Paryaram, kannur', '2021-12-30'),
(9, 'Adhila', 'Kollamkode, Palakkad', '2022-06-08'),
(10, 'Jack', 'Aruvipuram, Trivandrum', '2023-02-14');

```



5. IssueStatus Table

- **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

Ans:

CREATE TABLE IssueStatus (

Issue_Id INT PRIMARY KEY,

Issued_cust INT,

Issued_book_name VARCHAR(55),

Issue_date DATE,

Isbn_book VARCHAR(20),

FOREIGN KEY (Issued_cust) REFERENCES Customer(Customer_Id),

FOREIGN KEY (Isbn_book) REFERENCES Books(ISBN)

);

```

MySQL Workbench - Local instance MySQL80

File Edit View Query Database Server Tools Scripting Help
Navigator ub query view 12-06-2024 stored procedures 18-06-2024* in out sql stored procedure stored procedures 2 20-06-2024 trigger 20-06-2024 DCL 24-06-2024 SQL File 10* SQL Additions ...
Schemas
Q Filter object
college
  Tables
    teacher_log
    teachers
  Views
  Stored Procedures
  Functions
library
  Tables
    books
    branch
    employee
  Views
  Stored Procedures
  Functions
organization
product
sales
Administration Schemas
Information
No object selected

Object Info Session
26°C Party cloudy

```

```

1 INSERT INTO Customer
VALUES
(1, 'Anakha', 'Attinal, trivandrum', '2023-05-15'),
(2, 'Baby', 'Kuttanad, Alappuzha', '2022-11-20'),
(3, 'Ayan', 'Hiripad, Alappuzha', '2023-01-05'),
(4, 'Ansana', 'Ankamaly, Ernakulam', '2021-08-10'),
(5, 'Amal', 'Kochi, Ernakulam', '2022-03-25'),
(6, 'Shyam', 'Kottiyam, Kollam', '2023-07-02'),
(7, 'Anu', 'Kayamkulam, Alappuzha', '2023-04-18'),
(8, 'Ananya', 'Parayaram, Kannur', '2021-12-30'),
(9, 'Adhila', 'Kollamkode, Palakkad', '2022-06-08'),
(10, 'Jack', 'Aruvipuram, Trivandrum', '2023-02-14');

101 select * from Customer
102
103 CREATE TABLE IssueStatus (
Issue_Id INT PRIMARY KEY,
Issued_cust INT,
Issued_book_name VARCHAR(55),
Issue_date DATE,
ISBN_book VARCHAR(20),
FOREIGN KEY (Issued_cust) REFERENCES Customer(Customer_Id),
FOREIGN KEY (ISBN_book) REFERENCES Books(ISBN)
);

```

Output:

Action	Time	Action	Message	Duration / Fetch
16	22:01:04	select * from Customer LIMIT 0, 1000	10 row(s) returned	0.000 sec / 0.000 sec
17	22:06:42	CREATE TABLE IssueStatus (Issue_Id INT PRIMARY KEY, Issued_cust INT, Issued_book_name VA...)	0 row(s) affected	0.047 sec

Inserting values to IssueStatus Table:

INSERT INTO IssueStatus

VALUES

(1, 1, 'Pride and Prejudice', '2023-06-10', '9780141439600'),

(2, 3, 'To Kill a Mockingbird', '2023-05-20', '9780061122415'),

(3, 5, '1984', '2023-04-15', '9780140187398'),

(4, 2, 'The Catcher in the Rye', '2023-06-01', '9780060850524'),

(5, 4, 'The Great Gatsby', '2023-05-05', '9780743273565'),

(6, 6, 'The Hobbit', '2023-07-12', '9780547928227'),

(7, 8, 'Harry Potter and the Sorcerer's Stone', '2023-06-28', '9780544003415'),

(8, 7, 'The Hunger Games', '2023-06-05', '9780062315007'),

(9, 9, 'Jane Eyre', '2023-05-18', '9780141439471'),

(10, 10, 'Where the Crawdads Sing', '2023-07-01', '9780062695233');

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

- Schemas:** Local instance MySQL80
- SQL Editor:**

```

103 • CREATE TABLE IssueStatus (
104     Issue_Id INT PRIMARY KEY,
105     Issued_cust INT,
106     Issued_book_name VARCHAR(55),
107     Issue_date DATE,
108     ISBN_book VARCHAR(20),
109     FOREIGN KEY (Issued_cust) REFERENCES Customer(Customer_Id),
110     FOREIGN KEY (ISBN_book) REFERENCES Books(ISBN)
111 );
112
113 • INSERT INTO IssueStatus
114     VALUES
115     (1, 1, 'Pride and Prejudice', '2023-06-10', '9780141439600'),
116     (2, 3, 'To Kill a Mockingbird', '2023-05-20', '9780061122415'),
117     (3, 5, '1984', '2023-04-15', '9780140187398'),
118     (4, 2, 'The Catcher in the Rye', '2023-06-01', '9780060850524'),
119     (5, 4, 'The Great Gatsby', '2023-05-05', '9780743273565'),
120     (6, 6, 'The Hobbit', '2023-07-12', '9780547928227'),
121     (7, 8, 'Harry Potter and the Sorcerer's Stone', '2023-06-28', '9780544063415'),
122     (8, 7, 'The Hunger Games', '2023-06-05', '9780062315087'),
123     (9, 9, 'Jane Eyre', '2023-05-18', '978014139471'),
124     (10, 10, 'Where the Crawdads Sing', '2023-07-01', '9780062695233')
    
```
- Output:**
 - Action Output: 17 22:06:42 CREATE TABLE IssueStatus (Issue_Id INT PRIMARY KEY, Issued_cust INT, Issued_book_name VA... 0 row(s) affected Duration / Fetch 0.047 sec
 - 18 22:14:04 INSERT INTO IssueStatus VALUES (1, 1, 'Pride and Prejudice', '2023-06-10', '9780141439600), (2, 3, 'To Kill a Mockingbird', '2023-05-20', '9780061122415'), (3, 5, '1984', '2023-04-15', '9780140187398'), (4, 2, 'The Catcher in the Rye', '2023-06-01', '9780060850524'), (5, 4, 'The Great Gatsby', '2023-05-05', '9780743273565'), (6, 6, 'The Hobbit', '2023-07-12', '9780547928227'), (7, 8, 'Harry Potter and the Sorcerer's Stone', '2023-06-28', '9780544063415'), (8, 7, 'The Hunger Games', '2023-06-05', '9780062315087'), (9, 9, 'Jane Eyre', '2023-05-18', '978014139471'), (10, 10, 'Where the Crawdads Sing', '2023-07-01', '9780062695233') 10 rows(s) affected Records: 10 Duplicates: 0 Warnings: 0 Duration / Fetch 0.016 sec

Displaying IssueStatus:

select* from IssueStatus;

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

- Schemas:** Local instance MySQL80
- SQL Editor:**

```

111 );
112
113 • INSERT INTO IssueStatus
114     VALUES
115     (1, 1, 'Pride and Prejudice', '2023-06-10', '9780141439600'),
116     (2, 3, 'To Kill a Mockingbird', '2023-05-20', '9780061122415'),
117     (3, 5, '1984', '2023-04-15', '9780140187398'),
118     (4, 2, 'The Catcher in the Rye', '2023-06-01', '9780060850524'),
119     (5, 4, 'The Great Gatsby', '2023-05-05', '9780743273565'),
120     (6, 6, 'The Hobbit', '2023-07-12', '9780547928227'),
121     (7, 8, 'Harry Potter and the Sorcerer's Stone', '2023-06-28', '9780544063415'),
122     (8, 7, 'The Hunger Games', '2023-06-05', '9780062315087'),
123     (9, 9, 'Jane Eyre', '2023-05-18', '978014139471'),
124     (10, 10, 'Where the Crawdads Sing', '2023-07-01', '9780062695233);
125 • select* from IssueStatus;
    
```
- Result Grid:**

Issue_Id	Issued_cust	Issued_book_name	Issue_date	ISBN_book
1	1	Pride and Prejudice	2023-06-10	9780141439600
2	3	To Kill a Mockingbird	2023-05-20	9780061122415
3	5	1984	2023-04-15	9780140187398
4	2	The Catcher in the Rye	2023-06-01	9780060850524
5	4	The Great Gatsby	2023-05-05	9780743273565
6	6	The Hobbit	2023-07-12	9780547928227
- Output:**
 - Action Output: 18 22:14:04 INSERT INTO IssueStatus VALUES (1, 1, 'Pride and Prejudice', '2023-06-10', '9780141439600), (2, 3, 'To Kill a Mockingbird', '2023-05-20', '9780061122415), (3, 5, '1984', '2023-04-15', '9780140187398'), (4, 2, 'The Catcher in the Rye', '2023-06-01', '9780060850524'), (5, 4, 'The Great Gatsby', '2023-05-05', '9780743273565'), (6, 6, 'The Hobbit', '2023-07-12', '9780547928227'), (7, 8, 'Harry Potter and the Sorcerer's Stone', '2023-06-28', '9780544063415'), (8, 7, 'The Hunger Games', '2023-06-05', '9780062315087'), (9, 9, 'Jane Eyre', '2023-05-18', '978014139471'), (10, 10, 'Where the Crawdads Sing', '2023-07-01', '9780062695233') 10 rows(s) affected Records: 10 Duplicates: 0 Warnings: 0 Duration / Fetch 0.016 sec
 - 19 22:14:31 select* from IssueStatus LIMIT 0, 1000 10 row(s) returned Duration / Fetch 0.000 sec / 0.000 sec

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

Ans:

CREATE TABLE ReturnStatus (

Return_Id INT PRIMARY KEY,

Return_cust INT,

Return_book_name VARCHAR(255),

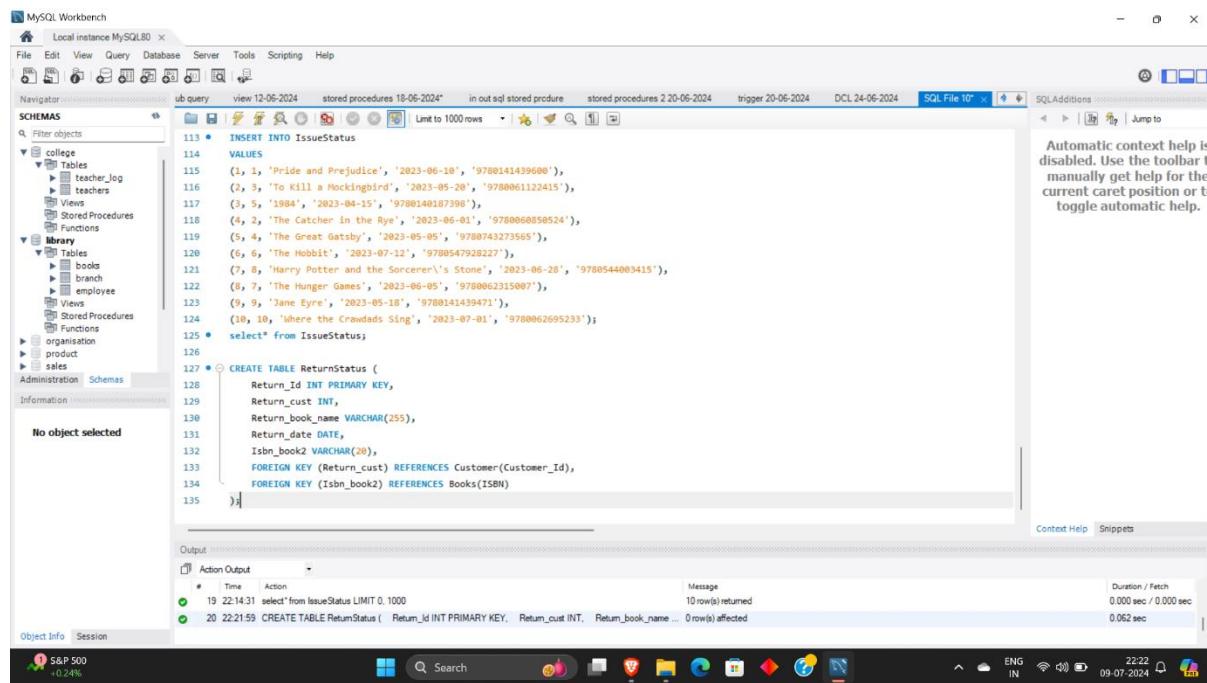
Return_date DATE,

Isbn_book2 VARCHAR(20),

FOREIGN KEY (Return_cust) REFERENCES Customer(Customer_Id),

FOREIGN KEY (Isbn_book2) REFERENCES Books(ISBN)

);



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

- File Bar:** File, Edit, View, Query, Database, Server, Tools, Scripting, Help.
- Toolbar:** Standard icons for file operations like Open, Save, Print, etc.
- Navigator:** Shows the database schema with tables like college, books, and customer.
- SQL Editor:** Contains the SQL code for creating the ReturnStatus table. The code includes an INSERT INTO statement with 10 rows of data and the CREATE TABLE statement itself.
- Output:** Shows the results of the query execution, indicating 10 rows returned and 0 rows affected.
- System Bar:** Shows system status including battery level (58%), signal strength, and date/time (09-07-2024).

```
113 • INSERT INTO IssueStatus
VALUES
114   (1, 1, 'Pride and Prejudice', '2023-06-10', '9780141439600'),
115   (2, 3, 'To Kill a Mockingbird', '2023-05-28', '9780061122415'),
116   (3, 5, '1984', '2023-04-15', '9780140187398'),
117   (4, 2, 'The Catcher in the Rye', '2023-06-01', '9780060685052'),
118   (5, 4, 'The Great Gatsby', '2023-05-05', '9780743273565'),
119   (6, 6, 'The Hobbit', '2023-07-12', '9780547928227'),
120   (7, 8, 'Harry Potter and the Sorcerer\'s Stone', '2023-06-28', '9780544083415'),
121   (8, 7, 'The Hunger Games', '2023-06-05', '9780062315007'),
122   (9, 9, 'Jane Eyre', '2023-05-18', '9780141439471'),
123   (10, 10, 'Where the Crawdads Sing', '2023-07-01', '9780062695233');
124
125 • select * from IssueStatus;
126
127 • CREATE TABLE ReturnStatus (
128   Return_Id INT PRIMARY KEY,
129   Return_cust INT,
130   Return_book_name VARCHAR(255),
131   Return_date DATE,
132   Isbn_book2 VARCHAR(20),
133   FOREIGN KEY (Return_cust) REFERENCES Customer(Customer_Id),
134   FOREIGN KEY (Isbn_book2) REFERENCES Books(ISBN)
135 );
```

Inserting Values to ReturnStatus:

INSERT INTO ReturnStatus

VALUES

(1, 1, 'Pride and Prejudice', '2023-06-20', '9780141439600'),

(2, 3, 'To Kill a Mockingbird', '2023-05-28', '9780061122415'),

(3, 5, '1984', '2023-04-25', '9780140187398'),

(4, 2, 'The Catcher in the Rye', '2023-06-15', '9780060850524'),

(5, 4, 'The Great Gatsby', '2023-05-20', '9780743273565'),

(6, 6, 'The Hobbit', '2023-07-20', '9780547928227'),

(7, 8, 'Harry Potter and the Sorcerer's Stone', '2023-07-05', '9780544003415'),

(8, 7, 'The Hunger Games', '2023-06-15', '9780062315007'),

(9, 9, 'Jane Eyre', '2023-06-05', '9780141439471'),

(10, 10, 'Where the Crawdads Sing', '2023-07-10', '9780062695233');

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

- File Bar:** File, Edit, View, Query, Database, Server, Tools, Scripting, Help.
- Toolbar:** Standard MySQL icons for database management.
- Navigator:** Local instance MySQL 8.0, showing Schemas (college, library) and their tables (e.g., teacher_log, books, branch, employee).
- SQL Editor:** SQL File 10*, containing the following code:

```
126
127 • CREATE TABLE ReturnStatus (
128     Return_Id INT PRIMARY KEY,
129     Return_cust INT,
130     Return_book_name VARCHAR(255),
131     Return_date DATE,
132     Isbn_book2 VARCHAR(20),
133     FOREIGN KEY (Return_cust) REFERENCES Customer(Customer_Id),
134     FOREIGN KEY (Isbn_book2) REFERENCES Books(ISBN)
135 );
136
137 • INSERT INTO ReturnStatus
138     VALUES
139     (1, 1, 'Pride and Prejudice', '2023-06-08', '9780141439600'),
140     (2, 3, 'To Kill a Mockingbird', '2023-05-28', '9780061122415'),
141     (3, 5, '1984', '2023-04-25', '9780140187398'),
142     (4, 2, 'The Catcher in the Rye', '2023-06-15', '9780060850524'),
143     (5, 4, 'The Great Gatsby', '2023-05-20', '9780743273565'),
144     (6, 6, 'The Hobbit', '2023-07-20', '9780547928227'),
145     (7, 8, 'Harry Potter and the Sorcerer's Stone', '2023-07-05', '9780544003415'),
146     (8, 7, 'The Hunger Games', '2023-06-15', '9780062315007'),
147     (9, 9, 'Jane Eyre', '2023-06-05', '9780141439471'),
148     (10, 10, 'Where the Crawdads Sing', '2023-07-10', '9780062695233');
```
- Output Window:** Action Output, showing the execution results of the SQL statements. It includes a table with columns Action, Time, and Message, and a Duration / Fetch section.
- Bottom Bar:** News for you, Session, and various system icons.

Displaying ReturnStatus table:

select* from ReturnStatus;

```

137 • INSERT INTO ReturnStatus
138   VALUES
139   (1, 1, 'Pride and Prejudice', '2023-06-28', '9780141439600'),
140   (2, 3, 'To Kill a Mockingbird', '2023-05-28', '9780061122415'),
141   (3, 5, '1984', '2023-04-25', '9780140187390'),
142   (4, 2, 'The Catcher in the Rye', '2023-05-15', '9780066885024'),
143   (5, 4, 'The Great Gatsby', '2023-05-28', '9780743273565'),
144   (6, 6, 'The Hobbit', '2023-07-20', '9780547928227'),
145   (7, 8, 'Harry Potter and the Sorcerer's Stone', '2023-07-05', '9780544003415'),
146   (8, 7, 'The Hunger Games', '2023-06-15', '9780062159007'),
147   (9, 9, 'Jane Eyre', '2023-06-05', '9780141439471'),
148   (10, 10, 'Where the Crawdads Sing', '2023-07-10', '9780062695233');
149 • select* from ReturnStatus;

```

Return_Id	Return_cust	Return_book_name	Return_date	isbn_book2
1	2	Pride and Prejudice	2023-06-20	9780141439600
2	3	To Kill a Mockingbird	2023-05-28	9780061122415
3	5	1984	2023-04-25	978014187398
4	2	The Catcher in the Rye	2023-06-15	9780066885024
5	4	The Great Gatsby	2023-05-28	9780743273565
6	6	The Hobbit	2023-07-20	9780547928227

Action Output

```

# Time Action
21 22:37:23 INSERT INTO ReturnStatus VALUES (1, 1, 'Pride and Prejudice', '2023-06-20', '9780141439600), (2, 3, 'To Kill a Mockingbird', '2023-05-28', '9780061122415'), (3, 5, '1984', '2023-04-25', '9780140187390'), (4, 2, 'The Catcher in the Rye', '2023-05-15', '9780066885024'), (5, 4, 'The Great Gatsby', '2023-05-28', '9780743273565'), (6, 6, 'The Hobbit', '2023-07-20', '9780547928227'), (7, 8, 'Harry Potter and the Sorcerer's Stone', '2023-07-05', '9780544003415'), (8, 7, 'The Hunger Games', '2023-06-15', '9780062159007'), (9, 9, 'Jane Eyre', '2023-06-05', '9780141439471'), (10, 10, 'Where the Crawdads Sing', '2023-07-10', '9780062695233');
22 22:38:51 select* from ReturnStatus LIMIT 0, 1000

```

➤ Questions

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

```
select Book_title, Category, Rental_Price from Books where Status = 'yes';
```

```

139   (1, 1, 'Pride and Prejudice', '2023-06-28', '9780141439600'),
140   (2, 3, 'To Kill a Mockingbird', '2023-05-28', '9780061122415'),
141   (3, 5, '1984', '2023-04-25', '9780140187390'),
142   (4, 2, 'The Catcher in the Rye', '2023-06-15', '9780066885024'),
143   (5, 4, 'The Great Gatsby', '2023-05-28', '9780743273565'),
144   (6, 6, 'The Hobbit', '2023-07-20', '9780547928227'),
145   (7, 8, 'Harry Potter and the Sorcerer's Stone', '2023-07-05', '9780544003415'),
146   (8, 7, 'The Hunger Games', '2023-06-15', '9780062159007'),
147   (9, 9, 'Jane Eyre', '2023-06-05', '9780141439471'),
148   (10, 10, 'Where the Crawdads Sing', '2023-07-10', '9780062695233');
149 • select Book_title, Category, Rental_Price from Books where Status = 'yes';
150
151 -- retrieving the datas of available book's details and its rental price
152
153 • select Book_title, Category, Rental_Price from Books where Status = 'yes';


```

Book_title	Category	Rental_Price
The Catcher in the Rye	Fiction	11.95
To Kill a Mockingbird	Fiction	10.50
The Hunger Games	Young Adult	9.75
Where the Crawdads Sing	Fiction	18.95
1984	Fiction	9.99
Jane Eyre	Fiction	13.50

Action Output

```

# Time Action
22 22:38:51 select* from ReturnStatus LIMIT 0, 1000
23 09:33:30 select Book_title, Category, Rental_Price from Books where Status = 'yes' LIMIT 0, 1000

```

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

Select Emp_Name, Salary from Employee order by Salary desc;

```

MySQL Workbench
Local instance MySQL80 ×
File Edit View Query Database Server Tools Scripting Help
Navigator ub query view 12-06-2024 stored procedures 18-06-2024* in out sql stored procedure stored procedures 2 20-06-2024 trigger 20-06-2024 DCL 24-06-2024 SQL File 10* × SQLAdditions
SCHEMAS
Filter objects
college
Tables
teacher_log
teachers
Views
Stored Procedures
Functions
library
Tables
books
branch
employee
Views
Stored Procedures
Functions
organisation
product
sales
Administration Schemas
Information No object selected
Object Info Session
Employee_10 ×
Result Grid Filter Rows Export Wrap Cell Content
Empl_Name Salary
Nandu 60000
Arun 55000
Souraj 55000
Manu 50000
Nithin 45000
Sheeba 45000
Athira 40000
Greeshma 35000
Employee_10 ×
Action Output
# Time Action Message Duration / Fetch
23 09:33:30 select Book_title, Category, Rental_Price from Books where Status = 'yes' LIMIT 0, 1000 10 row(s) returned 0.000 sec / 0.000 sec
24 09:40:19 Select Emp_Name, Salary from Employee order by Salary desc LIMIT 0, 1000 20 row(s) returned 0.000 sec / 0.000 sec
Object Info Session
28°C Mostly cloudy

```

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

```

select Books.Book_title, Customer.Customer_name from Books
inner join
IssueStatus on Books.ISBN = IssueStatus.Issn_book
inner join
Customer on IssueStatus.Issued_cust = Customer.Customer_Id;

```

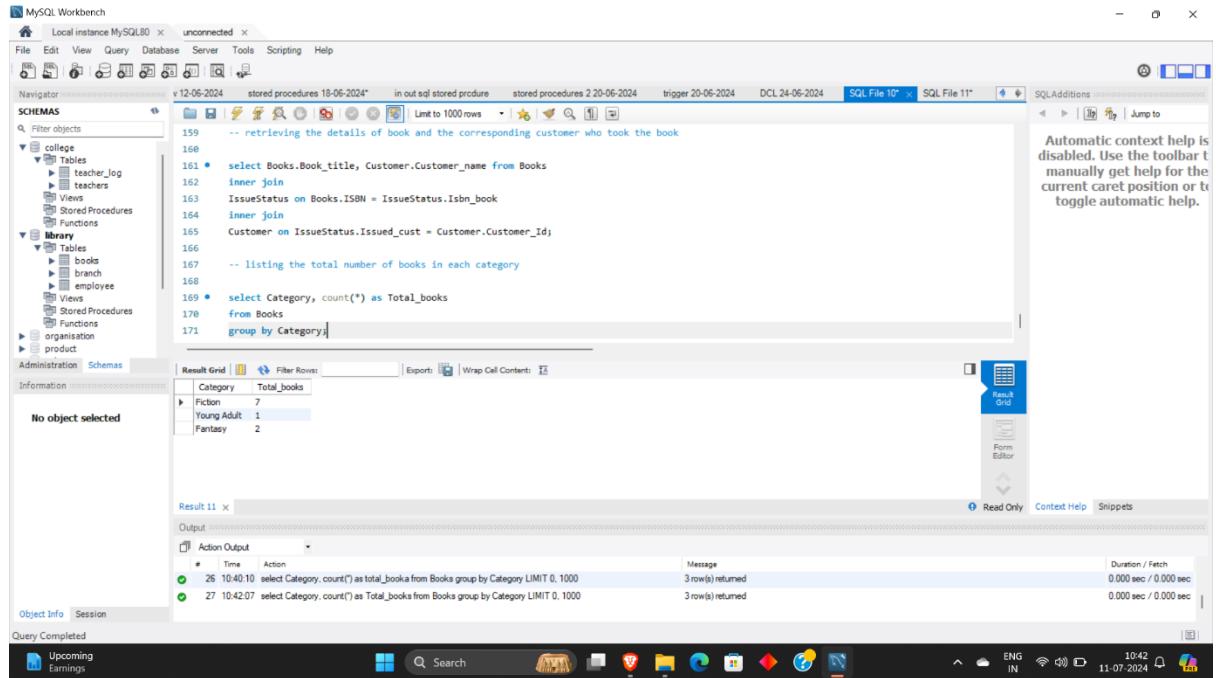
```

MySQL Workbench
Local instance MySQL80 × unconnected ×
File Edit View Query Database Server Tools Scripting Help
Navigator v 12-06-2024 stored procedures 18-06-2024* in out sql stored procedure stored procedures 2 20-06-2024 trigger 20-06-2024 DCL 24-06-2024 SQL File 10* × SQL File 11* × SQLAdditions
SCHEMAS
Filter objects
college
Tables
teacher_log
teachers
Views
Stored Procedures
Functions
library
Tables
books
branch
employee
Views
Stored Procedures
Functions
organisation
product
sales
Administration Schemas
Information No object selected
Object Info Session
Employee_10 ×
Result Grid Filter Rows Export Wrap Cell Content
Empl_Name Salary
Nandu 60000
Arun 55000
Souraj 55000
Manu 50000
Nithin 45000
Sheeba 45000
Athira 40000
Greeshma 35000
Employee_10 ×
Action Output
# Time Action Message Duration / Fetch
24 09:40:19 Select Emp_Name, Salary from Employee order by Salary desc LIMIT 0, 1000 20 row(s) returned 0.000 sec / 0.000 sec
25 10:12:03 select Books.Book_title, Customer.Customer_name from Books inner join IssueStatus on Books.ISBN = IssueStat... 10 row(s) returned 0.000 sec / 0.000 sec
Object Info Session
Query Completed
30°C Mostly sunny

```

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

```
select Category, count(*) as Total_books
from Books
group by Category;
```



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

- Navigator:** Shows the database schema with tables under 'college' and 'library'.
- SQL Editor:** Contains the SQL query:

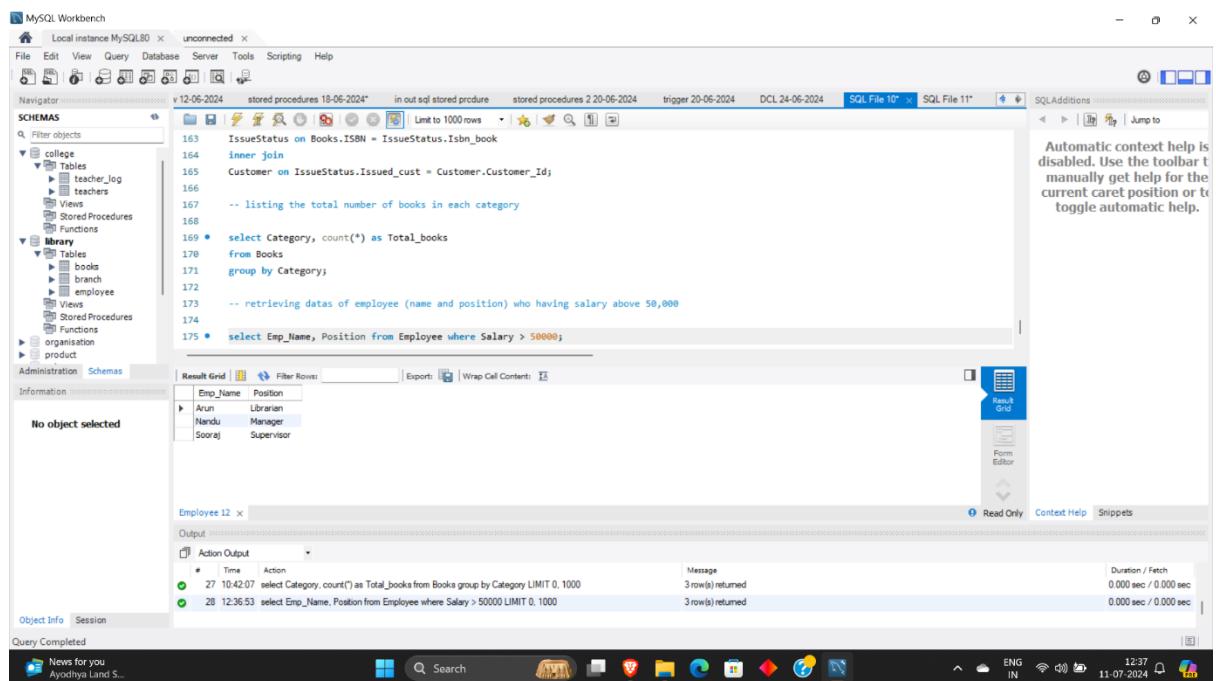

```
v 12-06-2024 stored procedures 18-06-2024* in out sql stored procedure stored procedures 2 20-06-2024 trigger 20-06-2024 DCL 24-06-2024 SQL File 10* SQL File 11* 
159 -- retrieving the details of book and the corresponding customer who took the book
160
161 * select Books.Book_title, Customer.Customer_name from Books
162 inner join
163 IssueStatus on Books.ISBN = IssueStatus.Issn_book
164 inner join
165 Customer on IssueStatus.Issued_Cust = Customer.Customer_Id;
166
167 -- listing the total number of books in each category
168
169 * select Category, count(*) as Total_books
170 from Books
171 group by Category;
```
- Result Grid:** Displays the results of the query:

Category	Total_books
Fiction	7
Young Adult	1
Fantasy	2
- Action Output:** Shows the execution log with two entries:

#	Time	Action	Message	Duration / Fetch
26	10:40:10	select Category, count(*) as Total_books from Books group by Category LIMIT 0, 1000	3 row(s) returned	0.000 sec / 0.000 sec
27	10:42:07	select Category, count(*) as Total_books from Books group by Category LIMIT 0, 1000	3 row(s) returned	0.000 sec / 0.000 sec

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

```
select Emp_Name, Position from Employee where Salary > 50000;
```



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

- Navigator:** Shows the database schema with tables under 'college' and 'library'.
- SQL Editor:** Contains the SQL query:


```
v 12-06-2024 stored procedures 18-06-2024* in out sql stored procedure stored procedures 2 20-06-2024 trigger 20-06-2024 DCL 24-06-2024 SQL File 10* SQL File 11* 
163 IssueStatus on Books.ISBN = IssueStatus.Issn_book
164 inner join
165 Customer on IssueStatus.Issued_Cust = Customer.Customer_Id;
166
167 -- listing the total number of books in each category
168
169 * select Category, count(*) as Total_books
170 from Books
171 group by Category;
172
173 -- retrieving data of employee (name and position) who having salary above 50,000
174
175 * select Emp_Name, Position from Employee where Salary > 50000;
```
- Result Grid:** Displays the results of the query:

Emp_Name	Position
Arun	Librarian
Nandu	Manager
Sooraj	Supervisor
- Action Output:** Shows the execution log with two entries:

#	Time	Action	Message	Duration / Fetch
27	10:42:07	select Category, count(*) as Total_books from Books group by Category LIMIT 0, 1000	3 row(s) returned	0.000 sec / 0.000 sec
28	12:36:53	select Emp_Name, Position from Employee where Salary > 50000 LIMIT 0, 1000	3 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.

```
select Customer_name from Customer
where Reg_date < '2022-01-01'
and Customer_Id not in (
select Issued_cust from IssueStatus
);
```

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

- Schemas:** library
- Query Editor:** Contains the SQL query from step 6.
- Result Grid:** Shows the output: "Customer_name" and "Naveen".
- Customer 21:** A secondary window showing the inserted row in the Customer table.
- Action Output:** Displays the log of actions taken, including the insertion of the new customer record.
- System Bar:** Shows the date (12-06-2024), time (10:05 AM), and system status (Local instance MySQL80, unconnected).

** inserted a new row to Customer table to try out 6th question .

Insert into Customer values (11, 'Naveen', 'Mavelikara, Alapuzha', '2020-02-14');

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

- Schemas:** issuestatus
- Query Editor:** Contains the SQL insert statement.
- Action Output:** Displays the log of actions taken, showing the successful insertion of the new customer record.
- System Bar:** Shows the date (12-06-2024), time (10:05 AM), and system status (Local instance MySQL80, unconnected).

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

```
select Branch_No, count(*) as Total_Employee
from Employee group by Branch_No;
```

```

MySQL Workbench - Local instance MySQL80 - unconnected
File Edit View Query Database Server Tools Scripting Help
Navigator Schemas SQL Additions
Schemas
  Filter objects
    college
      Tables
        teacher_log
        teachers
      Views
      Stored Procedures
    library
      Tables
        books
        branch
        employee
      Views
      Stored Procedures
    organisation
    product
Administration Schemas
Information
No object selected
Object Info Session
Query Completed
News for you
Prashant Kishor...
Result Grid | Filter Rows | Export | Wrap Cell Content
Branch_No Total_Employee
1 2
2 2
3 2
4 2
5 2
6 2
7 2
Result 23 x
Output
Action Output
# Time Action Message Duration / Fetch
41 13:01:50 select Customer_name from Customer where Reg_date < 2022-01-01 and Customer_Id not in ( select Issued_c... 0 row(s) returned 0.000 sec / 0.000 sec
42 13:03:55 select Customer_name from Customer where Reg_date < 2022-01-01 and Customer_Id not in ( select Issued_c... 1 row(s) returned 0.016 sec / 0.000 sec
43 13:05:49 select* from IssueStatus LIMIT 0, 1000 10 row(s) returned 0.000 sec / 0.000 sec
44 13:21:42 select Branch_No, count(*) as Total_Employee from Employee group by Branch_No LIMIT 0, 1000 10 row(s) returned 0.000 sec / 0.000 sec

```

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

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

```

select distinct Customer.Customer_name
from Customer
inner join IssueStatus ON Customer.Customer_Id = issuestatus.Issued_cust
WHERE YEAR(IssueStatus.Issue_date) = 2023 AND
MONTH(IssueStatus.Issue_date) = 6;

```

```

MySQL Workbench - Local instance MySQL80 - unconnected
File Edit View Query Database Server Tools Scripting Help
Navigator Schemas SQL Additions
Schemas
  Filter objects
    college
      Tables
        teacher_log
        teachers
      Views
      Stored Procedures
    library
      Tables
        books
        branch
        customer
          Columns
            Customer_Id
            Customer_nm
            Customer_ac
      Views
    organisation
    product
Administration Schemas
Information
No object selected
Object Info Session
Query Completed
25C Light rain
Result Grid | Filter Rows | Export | Wrap Cell Content
Customer_name
Anisha
Baby
Ananya
Anu
Result 24 x
Output
Action Output
# Time Action Message Duration / Fetch
43 13:05:49 select* from IssueStatus LIMIT 0, 1000 10 row(s) returned 0.000 sec / 0.000 sec
44 13:21:42 select Branch_No, count(*) as Total_Employee from Employee group by Branch_No LIMIT 0, 1000 10 row(s) returned 0.000 sec / 0.000 sec
45 20:41:14 SELECT DISTINCT Customer.Customer_name FROM Customer JOIN IssueStatus ON Customer.Customer_Id = issuestatus.Issued_cust WHERE YEAR(IssueStatus.Issue_date) = 2023 AND MONTH(IssueStatus.Issue_date) = 6; 4 row(s) returned 0.000 sec / 0.000 sec
46 20:44:10 select distinct Customer.Customer_name from Customer inner join IssueStatus ON Customer.Customer_Id = issuestatus.Issued_cust WHERE YEAR(IssueStatus.Issue_date) = 2023 AND MONTH(IssueStatus.Issue_date) = 6; 4 row(s) returned 0.000 sec / 0.000 sec

```

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

9. Retrieve book_title from book table containing history.

```

select Book_title from Books where Category like '%history%';

```

The screenshot shows the MySQL Workbench interface. In the top-left, the Navigator pane displays the database schema with tables like `Employee`, `Customer`, and `Books`. The central area contains a SQL editor window with the following code:

```

192 from Employee group by Branch_No;
193
194 -- listing customers who took book on the month of june 2023
195
196 • select distinct Customer.Customer_name
197 from Customer
198 inner join IssueStatus ON Customer.Customer_Id = issuestatus.Issued_cust
199 WHERE YEAR(issuestatus.Issue_date) = 2023 AND MONTH(issuestatus.Issue_date) = 6;
200
201 -- listing books having category as history
202
203 • select Book_title from Books where Category like '%history%';

```

The results grid below shows one row: "A History of the World". On the right, a note says: "Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help."

** Since my data in book table didn't have history category ,its been Added

`insert into Books VALUES ('1234567890', 'A History of the World', 'History', 10.99, 'yes', 'John Smith', 'Random House');`

The screenshot shows the MySQL Workbench interface with the following message in the status bar: "Query Completed". The SQL editor shows the execution of an insert statement:

```

86
87 • insert into Books VALUES ('1234567890', 'A History of the World', 'History', 10.99, 'yes', 'John Smith', 'Random House');
88 • select* from Books;

```

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

`select Branch_No, count(*) as Total_Employee from Employee group by Branch_No having count(*) > 5;`

The screenshot shows the MySQL Workbench interface. In the top navigation bar, 'File', 'Edit', 'View', 'Query', 'Database', 'Server', 'Tools', 'Scripting', and 'Help' are visible. The main area has tabs for 'Local instance MySQL80' and 'unconnected'. A toolbar with various icons is at the top. The left sidebar shows 'SCHEMAS' with 'collage' and 'library' expanded, containing 'Tables', 'Views', 'Stored Procedures', 'Functions', and 'Columns'. The 'library' schema contains 'books', 'branch', and 'customer' tables, along with their respective columns like 'Customer_Id', 'Customer_nt', and 'Customer_Ac'. The central pane displays a multi-line SQL editor with the following code:

```

282 • select distinct Customer.Customer_name
  from Customer
  inner join IssueStatus ON Customer.Customer_id = issuestatus.Issued_cust
  WHERE YEAR(IssueStatus.Issue_date) = 2023 AND MONTH(IssueStatus.Issue_date) = 6;
283
284
285
286
287 -- listing books having category as history
288
289 • select Book_title from Books where Category like '%history%';
290
291 -- retrieving branch number with employee of branch having 5+ employees
292
293 • select Branch_No, count(*) as Total_Employee from Employee group by Branch_No having count(*) > 5;

```

The 'Result Grid' shows a single row of data:

Branch_No	Total_Employee
1	6

The 'Result 27' tab shows the execution log:

#	Time	Action	Message	Duration / Fetch
50	20:55:24	select Book_title from Books where Category like '%history%' LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec
51	22:02:32	insert into Employee values (1021,'Varun','Librarian',25000,1), (1022,'shamnad','Manager',40000,1), (1023,'Meenu','Clerk',20000,1), (1024,'Rohan','Security',25000,1);	Error Code: 1136. Column count doesn't match value count at row 3	0.000 sec
52	22:03:17	insert into Employee values (1021,'Varun','Librarian',25000,1), (1022,'shamnad','Manager',40000,1), (1023,'Meenu','Clerk',20000,1), (1024,'Rohan','Security',25000,1);	4 row(s) affected Records: 4 Duplicates: 0 Warnings: 0	0.015 sec
53	09:52:11	select Branch_No, count(*) as Total_Employee from Employee group by Branch_No having count(*) > 5 LIMIT ...	1 row(s) returned	0.000 sec / 0.000 sec

The bottom status bar shows 'Query Completed' and system information like 'ENG IN', '09:52 13-07-2024'.

** Since my data had 2 employees, added few more rows to Employee table for 10th qn.

insert into Employee values
(1021,'Varun','Librarian',25000,1),
(1022,'shamnad','Manager',40000,1),
(1023,'Meenu','Clerk',20000,1),
(1024,'Rohan','Security',25000,1);

The screenshot shows the MySQL Workbench interface. The left sidebar shows 'SCHEMAS' with 'collage' expanded, containing 'Tables', 'Views', 'Stored Procedures', 'Functions', 'Indexes', 'Foreign Keys', 'Triggers', and 'returnstatus'. The central pane displays a multi-line SQL editor with the following code:

```

56
57 • insert into Employee values
58   (1021,'Varun','Librarian',25000,1),
59   (1022,'shamnad','Manager',40000,1),
60   (1023,'Meenu','Clerk',20000,1),
61   (1024,'Rohan','Security',25000,1);
62 • select* from Employee;
63
64 • CREATE TABLE Books (

```

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

**select Employee.Emp_Name, Branch.Branch_address from Employee
inner join
Branch on Employee.Branch_No = Branch.Branch_No
where Employee.Position = 'Manager';**

MySQL Workbench Screenshot:

```

209 • select Book_title from Books where Category like '%history%';
210
211 -- retrieving branch number with employee of branch having 5+ employees
212
213 • select Branch_No, count(*) as Total_Employee from Employee group by Branch_No having count(*) > 5;
214
215 -- listing the details of employees who manage branches and its branch address
216
217 • select Employee.Emp_Name, Branch.Branch_address from Employee
218 inner join
219 Branch on Employee.Branch_No = Branch.Branch_No
220 where Employee.Position = 'Manager';
221

```

Result Grid (Emp_Name, Branch_address):

Emp_Name	Branch_address
Nandu	Ambalaputhra Alapuzha
Manu	Kochi Ernakulam
shammed	Harpad Alapuzha

Action Output Log:

- 52 22:03:17 insert into Employee values ('1021.Varuni','Librarian',25000.0), ('1022.shammed','Manager',40000.0); 4 row(s) affected Records: 4 Duplicates: 0 Warnings: 0 Duration / Fetch: 0.015 sec
- 53 09:52:11 select Branch_No, count(*) as Total_Employee from Employee group by Branch_No having count(*) > 5 LIMIT ... 1 row(s) returned Duration / Fetch: 0.000 sec / 0.000 sec
- 54 10:04:26 select Employee.Emp_Name, Branch.Branch_address from Employee inner join Branch on Employee.Branch_No = Branch.Branch_No where Employee.Position = 'Manager'; 3 row(s) returned Duration / Fetch: 0.000 sec / 0.000 sec

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

```

select distinct Customer.Customer_name from Customer
inner join
IssueStatus on Customer.Customer_Id = IssueStatus.Issued_cust
inner join
Books on IssueStatus.Issn_book = Books.ISBN
where Books.Rental_Price > 25;

```

MySQL Workbench Screenshot:

```

226 where Employee.Position = 'Manager';
227
228 -- retrieving the names of customers who have been issued with book having rental price >25
229
230 • Update Books set Rental_Price = 30 where ISBN = 9780141439600; -- updating rental price to 30
231
232 • select distinct Customer.Customer_name from Customer
233 inner join
234 IssueStatus on Customer.Customer_Id = IssueStatus.Issued_cust
235 inner join
236 Books on IssueStatus.Issn_book = Books.ISBN
237 where Books.Rental_Price > 25;
238

```

Result Grid (Customer_name):

Customer_name
Ananya

Action Output Log:

- 54 10:04:26 select Employee.Emp_Name, Branch.Branch_address from Employee inner join Branch on Employee.Branch_No = Branch.Branch_No where Employee.Position = 'Manager'; 3 row(s) returned Duration / Fetch: 0.000 sec / 0.000 sec
- 55 10:14:14 Update Books set Rental_Price = 30 where ISBN = 9780141439600 1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0 Duration / Fetch: 0.016 sec
- 56 10:24:49 select distinct Customer.Customer_name from Customer inner join IssueStatus on Customer.Customer_Id = IssueStatus.Issued_cust where IssueStatus.Issued_cust = 1 1 row(s) returned Duration / Fetch: 0.000 sec / 0.000 sec

** since my data didn't had a book with rental price high as 25 , updated a row in the Books table

Update Books set Rental_Price = 30 where ISBN = 9780141439600;



The screenshot shows a database management interface with a sidebar on the left containing navigation links: Foreign Keys, Administration, Schemas, and Information. The main area displays a list of recent queries. The most recent query is highlighted in blue and shows the SQL command:

```
Update Books set Rental_Price = 30 where ISBN = 9780141439600; -- updating rental price to 30
```

Below the query, there are several other numbered entries (223, 224, 225, 226, 227, 228, 229, 230) which appear to be part of the same session or a very similar one.