

# **Library Management System**

**(MYSQL PROJECT)**

**SUSMY P B**  
**D18**

Create a database named library and following TABLES in the database:

1. Branch
2. Employee
3. Books
4. Customer
5. IssueStatus
6. ReturnStatus

The screenshot shows the MySQL Workbench interface. In the top-left corner, the title bar reads "MySQL Workbench Local instance MySQL80". The main window has a "mySqlProject" tab open under the "Tasks" section. On the left, the "Navigator" pane shows the "SCHEMAS" tree, which includes the newly created "library" schema along with other standard MySQL schemas like "information\_schema", "mysql", "performance\_schema", and "sys". The "Administration" tab is selected in the bottom-left. In the center, there is a "Result Grid" showing the output of the following SQL commands:

```
1 • create database Library;
2 • show databases;
3 • use Library;
4
5
6
```

Below the grid, the "Result 2" pane displays the execution details of these commands:

#	Time	Action	Message	Duration / Fetch
2	14:56:58	show databases	12 row(s) returned	0.000 sec / 0.000 sec
3	14:57:20	use Library	0 row(s) affected	0.000 sec
4	14:57:32	show databases	12 row(s) returned	0.000 sec / 0.000 sec

## Attributes for the tables:

### 1. Branch

- Branch\_no - Set as PRIMARY KEY
- Manager\_Id
- Branch\_address
- Contact\_no

The screenshot shows the MySQL Workbench interface with the 'myTask4' schema selected. In the central query editor, the following SQL code is run:

```

5 • create table Branch(
6     branch_no int PRIMARY KEY,
7     manager_Id int,
8     branch_address varchar(20),
9     contact_no varchar(10)
10 );
11
12 • desc Branch;
13
14
15

```

The 'Result Grid' pane displays the table structure:

Field	Type	Null	Key	Default	Extra
branch_no	int	NO	PRI		
manager_Id	int	YES			
branch_address	varchar(20)	YES			
contact_no	varchar(10)	YES			

The 'Result 3' pane shows the execution log:

Action	Time	Action	Message	Duration / Fetch
4	14:57:32	show databases	12 row(s) returned	0.000 sec / 0.000 sec
5	15:15:48	create table Branch( branch_no int PRIMARY KEY, manager_Id int, branch_address varchar(20), contact_n...	0 row(s) affected	0.047 sec
6	15:16:00	desc Branch	4 row(s) returned	0.016 sec / 0.000 sec

The screenshot shows the MySQL Workbench interface with the 'myTask4' schema selected. In the central query editor, the following SQL code is run:

```

16 • insert into Branch values(01,101,"Edapally branch",9874563215),
17 (02,102,"Palirivattom branch",7894562358),
18 (03,103,"Aluva branch",9784562358),
19 (04,104,"Choondy branch",7894223358),
20 (05,105,"Malayattoor branch",8888562358),
21 (06,106,"Maradu branch",7654562358),
22 (07,107,"FortKochi branch",9587456328),
23 (08,108,"Angamaly branch",8954678958),
24 (09,109,"Varapuzha branch",9549408335),
25 (10,110,"Kadamakudy branch",6875412354);
26
27 • select * from Branch;

```

The 'Result Grid' pane displays the data inserted into the Branch table:

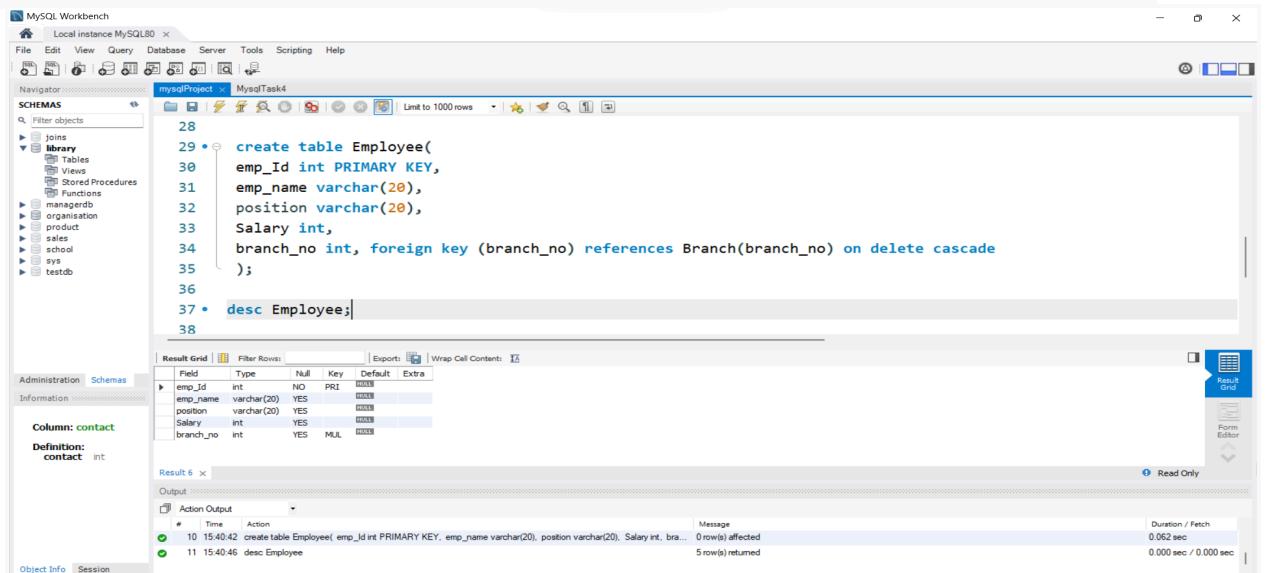
branch_no	manager_Id	branch_address	contact_no
1	101	Edapally branch	9874563215
2	102	Palirivattom branch	7894562358
3	103	Aluva branch	9784562358
4	104	Choondy branch	7894223358
5	105	Malayattoor branch	8888562358
6	106	Maradu branch	7654562358
7	107	FortKochi branch	9587456328
8	108	Angamaly branch	8954678958

The 'Result 2' pane shows the execution log:

Action	Time	Action	Message	Duration / Fetch
8	15:26:41	desc Branch	4 row(s) returned	0.000 sec / 0.000 sec

## 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



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

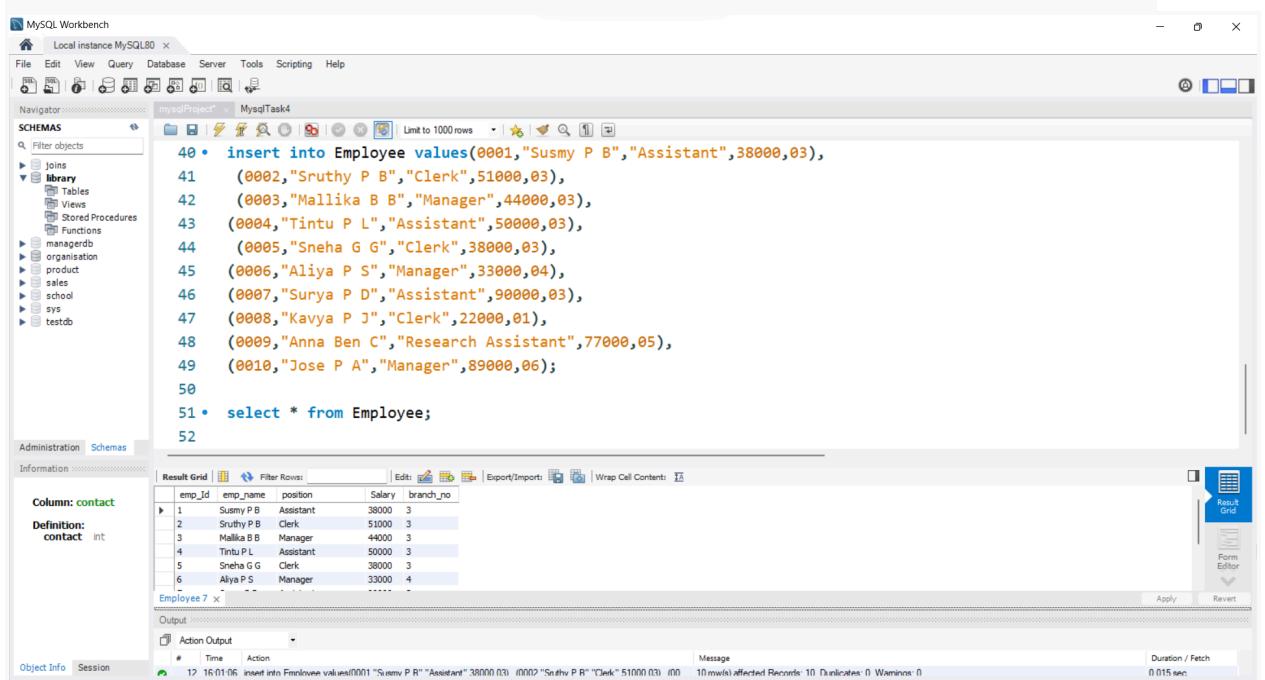
- File Bar:** File, Edit, View, Query, Database, Server, Tools, Scripting, Help.
- Schemas:** library, mysql, performance\_schema, sys, testdb.
- Query Editor:**

```

28
29 •  create table Employee(
30     emp_Id int PRIMARY KEY,
31     emp_name varchar(20),
32     position varchar(20),
33     Salary int,
34     branch_no int, foreign key (branch_no) references Branch(branch_no) on delete cascade
35 );
36
37 •  desc Employee;
38

```
- Result Grid:**

Field	Type	Null	Key	Default	Extra
emp_Id	int	NO	PRI		
emp_name	varchar(20)	YES			
position	varchar(20)	YES			
Salary	int	YES			
branch_no	int	YES	MUL		
- Action Output:**
  - 10 15:40:42 create table Employee( emp\_Id int PRIMARY KEY, emp\_name varchar(20), position varchar(20), Salary int, bra... Message 0 row(s) affected
  - 11 15:40:46 desc Employee Message 5 row(s) returned



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

- File Bar:** File, Edit, View, Query, Database, Server, Tools, Scripting, Help.
- Schemas:** library, mysql, performance\_schema, sys, testdb.
- Query Editor:**

```

40 •  insert into Employee values(0001,"Susmy P B","Assistant",38000,03),
41   (0002,"Sruthy P B","Clerk",51000,03),
42   (0003,"Mallika B B","Manager",44000,03),
43   (0004,"Tintu P L","Assistant",50000,03),
44   (0005,"Sneha G G","Clerk",38000,03),
45   (0006,"Aliya P S","Manager",33000,04),
46   (0007,"Surya P D","Assistant",90000,03),
47   (0008,"Kavya P J","Clerk",22000,01),
48   (0009,"Anna Ben C","Research Assistant",77000,05),
49   (0010,"Jose P A","Manager",89000,06);
50
51 •  select * from Employee;
52

```
- Result Grid:**

emp_Id	emp_name	position	Salary	branch_no
1	Susmy P B	Assistant	38000	3
2	Sruthy P B	Clerk	51000	3
3	Mallika B B	Manager	44000	3
4	Tintu P L	Assistant	50000	3
5	Sneha G G	Clerk	38000	3
6	Aliya P S	Manager	33000	4
...	...	...	...	...
- Action Output:**
  - 12 16:01:06 insert into Employee values(0001 "Susmy P B" "Assistant" 38000 03) (0002 "Sruthy P B" "Clerk" 51000 03) (0003 "Mallika B B" "Manager" 44000 03) (0004 "Tintu P L" "Assistant" 50000 03) (0005 "Sneha G G" "Clerk" 38000 03) (0006 "Aliya P S" "Manager" 33000 04) (0007 "Surya P D" "Assistant" 90000 03) (0008 "Kavya P J" "Clerk" 22000 01) (0009 "Anna Ben C" "Research Assistant" 77000 05) (0010 "Jose P A" "Manager" 89000 06); Message 10 rows affected Records: 10 Duplicates: 0 Warnings: 0 Duration / Fetch 0.015 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

MySQL Workbench Local instance MySQL80

```

CREATE TABLE Books(
    isbn VARCHAR(15) PRIMARY KEY,
    book_title VARCHAR(50),
    category VARCHAR(20),
    rental_Price INT,
    status VARCHAR(5),
    author VARCHAR(20),
    publisher VARCHAR(20)
);

DESC Books;

```

Result Grid | Filter Rows: 15 | Export: | Wrap Cell Content:

Field	Type	Null	Key	Default	Extra
isbn	varchar(15)	NO	PRI	NULL	
book_title	varchar(50)	YES		NULL	
category	varchar(20)	YES		NULL	
rental_Price	int	YES		NULL	
status	varchar(5)	YES		NULL	
author	varchar(20)	YES		NULL	
publisher	varchar(20)	YES		NULL	

Action Output

#	Time	Action	Message	Duration / Fetch
14	16:33:31	create table Books( isbn varchar(15) PRIMARY KEY, book_title varchar(50), category varchar(20), rental_Price int, status varchar(5), author varchar(20), publisher varchar(20) );	0 rows(a) affected	0.047 sec
15	16:33:35	desc Books	7 row(s) returned	0.000 sec / 0.000 sec

MySQL Workbench Local instance MySQL80

```

INSERT INTO Books VALUES("99921-58-10-7","Absalom, Absalom!","History",14,"yes","William Faulkner","Penguin Random House"),
("99921-34-18-7","A Time to Kill","Novel",11,"no","Jake Brigance","HarperCollins"),
("99921-58-11-1","The House of Mirth","Novel",15,"yes","Edith Wharton","Penguin Random House"),
("99944-58-10-7","East of Eden","Novel",14,"yes","John Steinbeck","Hachette Livre"),
("99331-58-10-8","The Sun Also Rises","Myth",17,"no","Ernest Hemingway","Simon & Schuster"),
("99921-11-10-7","Vile Bodies","Novel",13,"yes","Evelyn Waugh","Macmillan"),
("94421-58-10-4","A Scanner Darkly","History",14,"yes","Philip K. Dick","HarperCollins"),
("91121-58-10-2","Moab is my Washpot","Novel",14,"yes","Stephen Fry","Penguin Random House"),
("94421-58-10-4","A Scanner Darkly","History",14,"yes","Philip K. Dick","HarperCollins"),
("98821-58-10-7","Noli Me Tangere","Novel",14,"yes","José Rizal","Hachette Livre"),
("99331-58-10-8","The Sun Also Rises","Myth",17,"no","Ernest Hemingway","Simon & Schuster"),
("99921-58-10-7","A Time to Kill","Novel",11,"no","Jake Brigance","HarperCollins"),
("99921-58-10-7","The Sun Also Rises","Myth",17,"no","Ernest Hemingway","Simon & Schuster"),
("99921-58-10-7","Vile Bodies","Novel",13,"yes","Evelyn Waugh","Macmillan"),
("99921-58-10-7","Number the Stars","History",14,"yes","Lois Lowry","HarperCollins"),
("98821-58-10-7","Noli Me Tangere","Novel",14,"yes","José Rizal","Hachette Livre");

SELECT * FROM Books;

```

Result Grid | Filter Rows: 15 | Export: | Wrap Cell Content:

isbn	book_title	category	rental_Price	status	author	publisher
91121-58-10-2	Moab is my Washpot	Novel	14	yes	Stephen Fry	Penguin Random House
94421-58-10-4	A Scanner Darkly	History	14	yes	Philip K. Dick	HarperCollins
98821-58-10-7	Noli Me Tangere	Novel	14	yes	José Rizal	Hachette Livre
99331-58-10-8	The Sun Also Rises	Myth	17	no	Ernest Hemingway	Simon & Schuster
99921-58-10-7	Vile Bodies	Novel	13	yes	Evelyn Waugh	Macmillan
99921-58-10-7	A Time to Kill	Novel	11	no	Jake Brigance	HarperCollins
99921-58-10-7	The Sun Also Rises	Myth	17	no	Ernest Hemingway	Simon & Schuster
99921-58-10-7	Noli Me Tangere	Novel	14	yes	José Rizal	Hachette Livre
99921-58-10-7	Vile Bodies	Novel	13	yes	Evelyn Waugh	Macmillan
99921-58-10-7	Number the Stars	History	14	yes	Lois Lowry	HarperCollins
98821-58-10-7	Noli Me Tangere	Novel	14	yes	José Rizal	Hachette Livre

#### 4. Customer

- Customer\_Id - Set as PRIMARY KEY
- Customer\_name
- Customer\_address
- Reg\_date

MySQL Workbench

Local instance MySQL80 ×

File Edit View Query Database Server Tools Scripting Help

Navigator

mysqProject\* × MysqTask4

```

78
79 • create table Customer (
80     customer_Id int PRIMARY KEY,
81     customer_name varchar(15),
82     customer_address varchar(20),
83     Reg_date date
84 );
85
86 • desc Customer ;
87
88
89

```

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

Column: contact

Definition: contact int

Field	Type	Null	Key	Default	Extra
customer_Id	int	NO	PRI	NULL	
customer_name	varchar(15)	YES		NULL	
customer_address	varchar(20)	YES		NULL	
Reg_date	date	YES		NULL	

Action Output

#	Time	Action	Message	Duration / Fetch
1	17:10:59	create table Customer ( customer_Id int PRIMARY KEY, customer_name varchar(15), customer_address varchar(20), Reg_date date )	0 row(s) affected	0.032 sec
2	17:10:59	desc Customer	4 row(s) returned	0.000 sec / 0.000 sec

Object Info Session

MySQL Workbench

Local instance MySQL80 ×

File Edit View Query Database Server Tools Scripting Help

Navigator

mysqProject\* × MysqTask4

```

88 • insert into Customer values(1,"Renu G T","Cresence Tower, Road21", '2022-01-01'),
89 (2,"Veena T T","Taluk Office Kasaragod,Near Mallikarjuna Temple", '2020-01-11'),
90 (3,"Anu G H","Taluk Office Hosdurg,Kanhangad, Road21", '2023-04-01'),
91 (4,"Manu K T","TALUK OFFICE, TALIPARAMBA", '2020-11-01'),
92 (5,"Sruthy T A","Tahsildar,Minicivilstation Complex", '2022-01-14'),
93 (6,"Sneha M T","Tahsildar,Taluk Office,Civilstation(P.O)", '2020-12-01'),
94 (7,"Ganga M M","Taluk Office Tirurangadi,Tirurangadi P O,Chemmad", '2024-01-15'),
95 (8,"Preethi G K","Taluk Office Tirur,Tirur P O,Malappuram", '2020-09-09'),
96 (9,"Don S S","Taluk Office, appalam", '2024-01-01'),
97 (10,"Binu K T","Taluk OfficeMannarkkad,Mannarkkad Post", '2022-07-25');
98
99 • select * from Customer;

```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content: | Result Grid | Apply

Column: contact

Definition: contact int

customer_Id	customer_name	customer_address	Reg_date
1	Renu G T	Cresence Tower, Road21	2022-01-01
2	Veena T T	Taluk Office Kasaragod,Near Mallikarjuna Temple	2020-01-11
3	Anu G H	Taluk Office Hosdurg,Kanhangad, Road21	2023-04-01
4	Manu K T	TALUK OFFICE, TALIPARAMBA	2020-11-01
5	Sruthy T A	Tahsildar,Minicivilstation Complex	2022-01-14

Action Output

#	Time	Action	Message	Duration / Fetch
1	17:27:27	insert into Customer values(1,"Renu G T","Cresence Tower, Road21", '2022-01-01'),(2,"Veena T T","Taluk Office Kasaragod,Near Mallikarjuna Temple", '2020-01-11'),(3,"Anu G H","Taluk Office Hosdurg,Kanhangad, Road21", '2023-04-01'),(4,"Manu K T","TALUK OFFICE, TALIPARAMBA", '2020-11-01'),(5,"Sruthy T A","Tahsildar,Minicivilstation Complex", '2022-01-14'),(6,"Sneha M T","Tahsildar,Taluk Office,Civilstation(P.O)", '2020-12-01'),(7,"Ganga M M","Taluk Office Tirurangadi,Tirurangadi P O,Chemmad", '2024-01-15'),(8,"Preethi G K","Taluk Office Tirur,Tirur P O,Malappuram", '2020-09-09'),(9,"Don S S","Taluk Office, appalam", '2024-01-01'),(10,"Binu K T","Taluk OfficeMannarkkad,Mannarkkad Post", '2022-07-25')	Records: 10 Duplicates: 0 Warnings: 0	0.016 sec
2	17:27:27	select * from Customer LIMIT 0, 1000	10 row(s) returned	0.000 sec / 0.000 sec

Object Info Session

## 5. IssueStatus

- Issue\_Id - Set as PRIMARY KEY
- Issued\_cust – Set as FOREIGN KEY and it refer customer\_id in CUSTOMER table
- Issued\_book\_name
- Issue\_date
- Isbn\_book – Set as FOREIGN KEY and it should refer isbn in BOOKS table

MySQL Workbench

File Edit View Query Database Server Tools Scripting Help

Navigator: mysqlProject > MySqlTask4

SCHEMAS

```

101 • create table IssueStatus(
102     issue_Id int PRIMARY KEY,
103     issued_cust int, foreign key (issued_cust) references Customer(customer_id) on delete cascade,
104     issued_book_name varchar(15),
105     Issue_date date,
106     isbn_book varchar(15), foreign key (isbn_book) references Books(isbn) on delete cascade
107 );
108
109
110 • desc IssueStatus ;
111

```

Administration Schemas

Information

Column: contact

Definition: contact int

Field	Type	Null	Key	Default	Extra
issue_Id	int	NO	PRI	NULL	
issued_cust	int	YES	MUL	NULL	
issued_book_name	varchar(15)	YES		NULL	
Issue_date	date	YES		NULL	
isbn_book	varchar(15)	YES	MUL	NULL	

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

Action Output

# Time Action Message Duration / Fetch

1 18:03:12 create table IssueStatus( issue\_Id int PRIMARY KEY, issued\_cust int, foreign key (issued\_cust) references Customer(customer\_id) on delete cascade, issued\_book\_name varchar(15), Issue\_date date, isbn\_book varchar(15), foreign key (isbn\_book) references Books(isbn) on delete cascade ) 0 row(s) affected 0.062 sec

2 18:03:12 desc IssueStatus 5 row(s) returned 0.000 sec / 0.000 sec

Object Info Session

MySQL Workbench

File Edit View Query Database Server Tools Scripting Help

Navigator: mysqlProject > MySqlTask4

SCHEMAS

```

113 • insert into IssueStatus values(11,1,"East of Eden",'2022-02-01','99944-58-10-7"),
114 (22,2,"A Scanner Darkly",'2022-10-01','94421-58-10-4"),
115 (33,5,"East of Eden",'2022-02-25','99944-58-10-7"),
116 (44,7,"The Sun Also Rises",'2024-02-16','99331-58-10-8"),
117 (55,7,"Noli Me Tangere",'2024-03-01','98821-58-10-7"),
118 (66,1,"Number the Stars",'2022-04-11','99921-58-55-7"),
119 (77,1,"Noli Me Tangere",'2022-07-09','98821-58-10-7"),
120 (88,3,"The House of Mirth",'2023-04-03','99921-58-11-1"),
121 (99,3,"East of Eden",'2023-07-15','99944-58-10-7"),
122 (12,9,"A Time to Kill",'2024-02-01','99921-34-10-7");
123
124 • select * from IssueStatus;

```

Administration Schemas

Information

Column: contact

Definition: contact int

issue_Id	issued_cust	issued_book_name	Issue_date	isbn_book
11	1	East of Eden	2022-02-01	99944-58-10-7
12	9	A Time to Kill	2024-02-01	99921-34-10-7
22	2	A Scanner Darkly	2022-10-01	94421-58-10-4
33	5	East of Eden	2022-02-25	99944-58-10-7
44	7	The Sun Also Rises	2024-02-16	99331-58-10-8
55	7	Noli Me Tangere	2024-03-01	98821-58-10-7

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

Action Output

# Time Action Message Duration / Fetch

1 18:29:11 insert into IssueStatus values(11,1,"East of Eden",'2022-02-01','99944-58-10-7'),(22,2,"A Scanner Darkly",'2022-10-01','94421-58-10-4'),(33,5,"East of Eden",'2022-02-25','99944-58-10-7'),(44,7,"The Sun Also Rises",'2024-02-16','99331-58-10-8'),(55,7,"Noli Me Tangere",'2024-03-01','98821-58-10-7') 10 row(s) affected Records: 10 Duplicates: 0 Warnings: 0 0.016 sec

Object Info Session

## 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

File Edit View Query Database Server Tools Scripting Help

Navigator: mysqlProject > MysqTask4

```

125
126 • create table ReturnStatus(
127     return_Id int PRIMARY KEY,
128     return_cust int, foreign key (return_cust) references Customer(customer_id) on delete cascade,
129     return_book_name varchar(25),
130     return_date date,
131     isbn_book2 varchar(15), foreign key (isbn_book2) references Books(isbn) on delete cascade
132 );
134
135 • desc ReturnStatus ;
136
137

```

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

Field	Type	Null	Key	Default	Extra
return_Id	int	NO	PRI		
return_cust	int	YES	MUL		
return_book_name	varchar(25)	YES			
return_date	date	YES			
isbn_book2	varchar(15)	YES	MUL		

Object Info Session

Result 19 x

Output

Action Output # Time Action Message Duration / Fetch

3 18:34:03 create table ReturnStatus( return\_Id int PRIMARY KEY, return\_cust int, foreign key (return\_cust) references Cust... 0 row(s) affected 0.078 sec

Result Grid Form Editor

MySQL Workbench

File Edit View Query Database Server Tools Scripting Help

Navigator: mysqlProject > MysqTask4

```

136
137
138 • insert into ReturnStatus values(111,1,"East of Eden",'2022-04-11','99944-58-10-7'),
139   (222,1,"Number the Stars",'2022-07-09','99921-58-55-7'),
140   (333,7,"The Sun Also Rises",'2024-03-01','99331-58-10-8'),
141   (444,3,"The House of Mirth",'2023-07-15','99921-58-11-1');
142
143 |
144 • select * from ReturnStatus;
145
146

```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content: |

return_Id	return_cust	return_book_name	return_date	isbn_book2
111	1	East of Eden	2022-04-11	99944-58-10-7
222	1	Number the Stars	2022-07-09	99921-58-55-7
333	7	The Sun Also Rises	2024-03-01	99331-58-10-8
444	3	The House of Mirth	2023-07-15	99921-58-11-1

Object Info Session

Result Status 20 x

Output

Action Output # Time Action Message Duration / Fetch

1 19:15:00 insert into ReturnStatus values(111,1,"East of Eden",'2022-04-11','99944-58-10-7'),(222,1,"Number the Stars",20... 4 row(s) affected Records: 4 Duplicates: 0 Warnings: 0 0.000 sec

2 19:15:00 select \* from ReturnStatus LIMIT 0,1000 4 row(s) returned 0.000 sec / 0.000 sec

Result Grid Form Editor

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 the following details:

- File Bar:** File, Edit, View, Query, Database, Server, Tools, Scripting, Help.
- Toolbar:** Includes icons for New, Open, Save, Print, Copy, Paste, Find, and others.
- Schemas Panel:** Shows the database structure for the 'library' schema, including tables like 'books', 'branch', 'customer', 'employee', 'issuestatus', and 'returnstatus'. The 'books' table is expanded to show columns: book\_title, category, rental\_Price, isbn, book\_id, category, rental\_Status, status, author, and publis.
- Query Editor:** A text area containing the following SQL query:

```
147 • select book_title,category,rental_Price from books;
```

Followed by several blank lines (148, 149, 150, 151, 152).
- Result Grid:** A table displaying the results of the query:

book_title	category	rental_Price
Moab is my Washpot	Novel	14
A Scanner Darkly	History	14
Noli Me Tangere	Novel	14
The Sun Also Rises	Myth	17
Vile Bodies	Novel	13
A Time to Kill	Novel	11
Absalom, Absalom!	History	14
The House of Mirth	Novel	15
Number the Stars	History	14
East of Eden	Novel	14
- Object Info:** Shows information for the 'isbn' column, including Collation (utf8mb4\_0900\_ai\_ci) and Definition (isbn varchar(15) PK).
- Action Output:** Displays the history of actions taken on the session, including the execution of the query and its results.

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

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

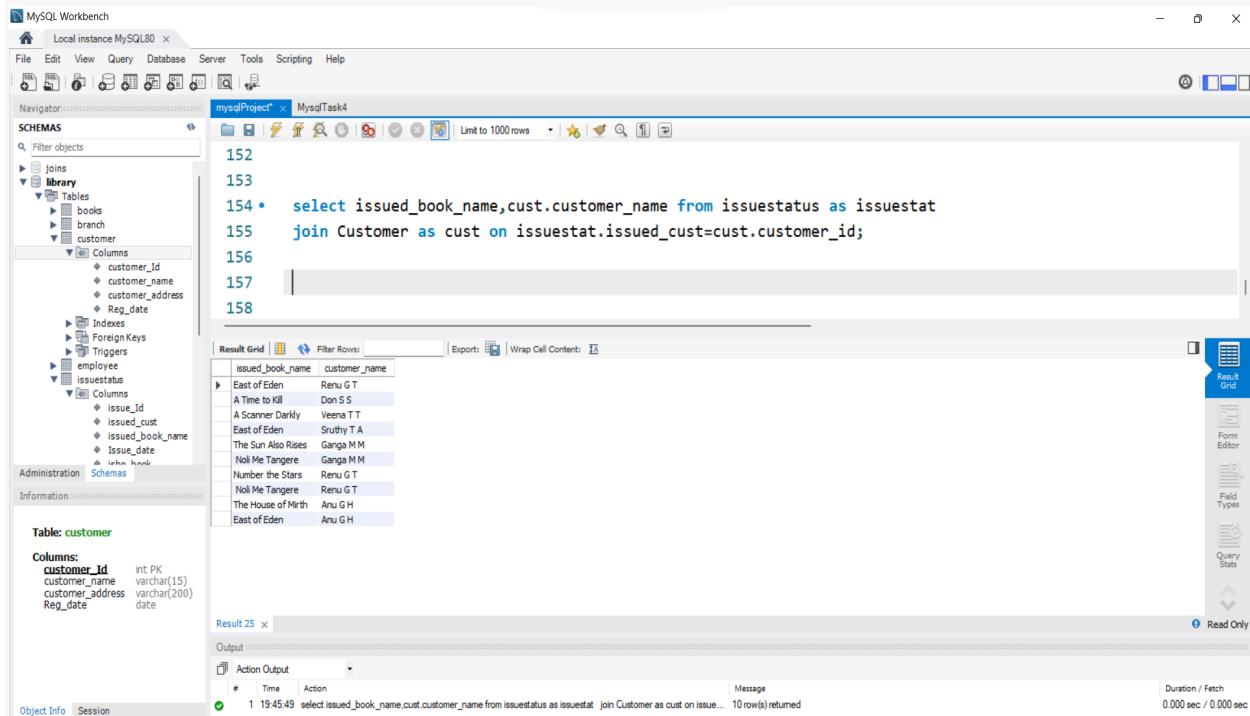
- File Bar:** File, Edit, View, Query, Database, Server, Tools, Scripting, Help.
- Navigator:** Schemas (library), Tables (books, branch, customer, employee), Columns, Indexes, Foreign Keys, Triggers, Views, Stored Procedures, Functions.
- Current Schema:** mysqlProject > MysqlTask4
- Query Editor:** Contains the following SQL code:

```
148
149
150
151 • select emp_name,salary from employee order by salary desc;
152
153
154
```
- Result Grid:** Displays the results of the query:

emp_name	salary
Surya P D	90000
Jose P A	89000
Anna Ben C	77000
Sruthy P B	51000
Tintu P L	50000
Mallika B B	44000
Sumy P B	38000
Sneha G G	38000
Alyya P S	33000
Kavya P J	22000
- Output Window:** Shows the execution history:

#	Time	Action	Message	Duration / Fetch
3	19:17:19	select book_title,category,rental_Price from books LIMIT 0,1000	10 row(s) returned	0.000 sec / 0.000 sec
4	19:23:57	select emp_name,salary from employee order by salary desc LIMIT 0,1000	10 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 the following details:

- File Bar:** Local instance MySQL80, File, Edit, View, Query, Database, Server, Tools, Scripting, Help.
- Navigator:** Schemas (library), Tables (books, branch, customer), Columns (customer\_id, customer\_name, customer\_address, Reg\_date, issue\_id, issued\_cust, issued\_book\_name, issue\_date, issue\_hn), Indexes, Foreign Keys, Triggers, employee, issuestatus, Columns (issue\_id, issued\_cust, issued\_book\_name, issue\_date, issue\_hn).
- Query Editor:** MysqlTask4, SQL code:

```

152
153
154 •   select issued_book_name,cust.customer_name from issuestatus as issuestat
155     join Customer as cust on issuestat.issued_cust=cust.customer_id;
156
157
158

```
- Result Grid:** Result Grid, Filter Rows: Limit to 1000 rows, Export, Wrap Cell Content:

issued_book_name	customer_name
East of Eden	Renu G T
A Time to Kill	Don S S
A Scanner Darkly	Veeva T T
East of Eden	Sruthy T A
The Sun Also Rises	Ganga M M
Noli Me Tangere	Ganga M M
Number the Stars	Renu G T
Noli Me Tangere	Renu G T
The House of Mirth	Anu G H
East of Eden	Anu G H
- Output:** Result 25, Action Output, #, Time, Action, Message, Duration / Fetch: 0.000 sec / 0.000 sec, 1 row(s) returned.
- Object Info:** customer, Columns: customer\_id int PK, customer\_name varchar(15), customer\_address varchar(200), Reg\_date date.
- Session:** Read Only.

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

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

- File Menu:** File, Edit, View, Query, Database, Server, Tools, Scripting, Help.
- Schemas:** Local instance MySQL80, library.
- Tables:** books, customer.
- Columns:** books (isbn, book\_title, category, rental\_Price, status, author, publisher), customer (customer\_Id, customer\_name, customer\_address).
- Query Editor:** MysqlTask4 tab, SQL code:

```
156  
157  
158  
159 • select category, count(category) as NoOfBooks from books group by category;  
160  
161  
162  
163  
164  
165  
166  
167
```
- Result Grid:** Shows the output of the query:

category	NoOfBooks
Novel	6
History	3
Myth	1
- Output Tab:** Action Output, showing the execution details:

#	Time	Action
1	19.47.58	select category, count(category) as NoOfBooks from books group by category LIMIT 0, 1000

Message: 3 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 the following details:

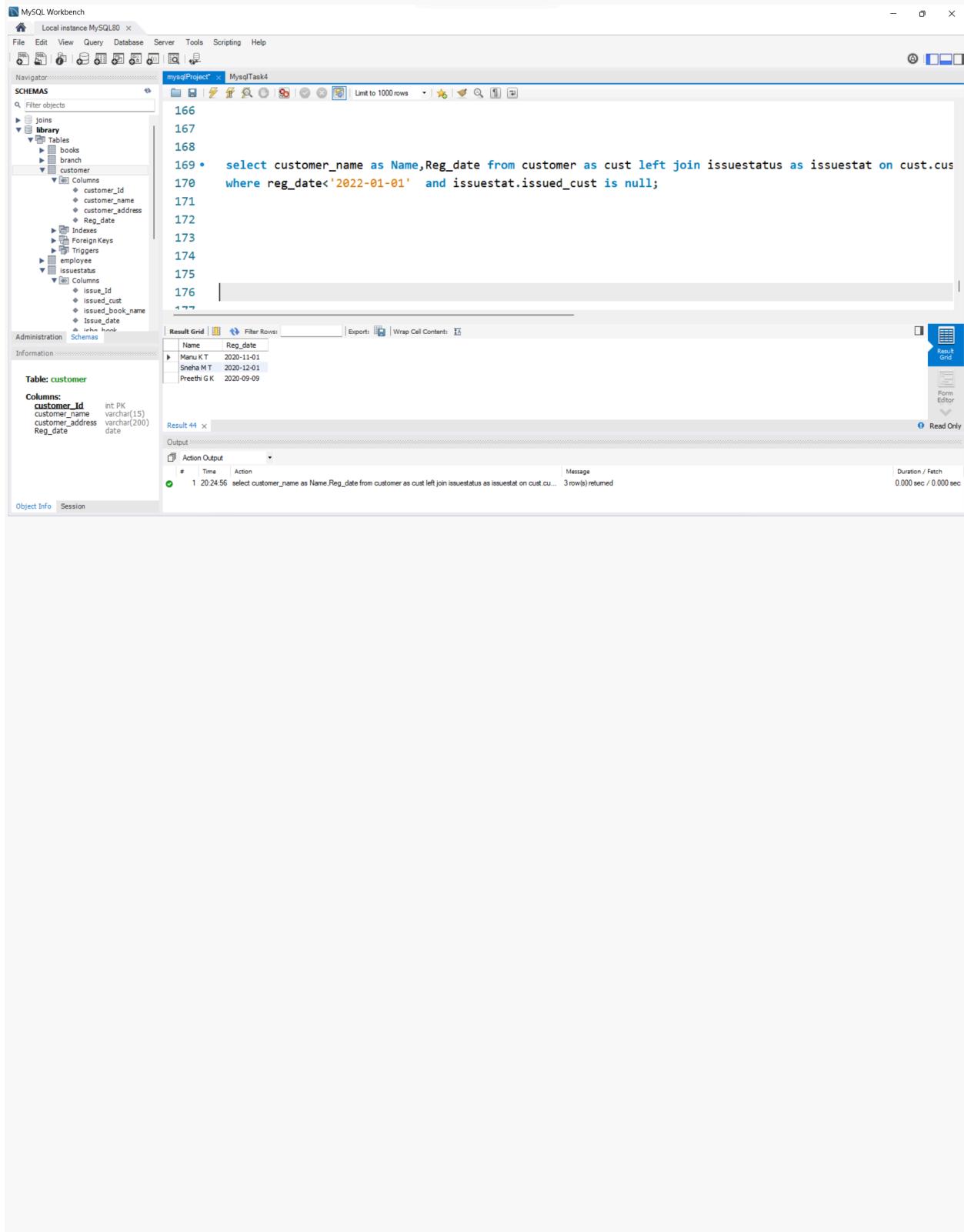
- File Menu:** Local instance MySQL80
- Toolbars:** Standard MySQL Workbench toolbar.
- Schemas:** Library schema selected, showing tables like books, branch, customer, and employee.
- Query Editor:** A script named MysqlTask4 containing the following SQL query:

```
160
161
162
163 •  select emp_name as Name,position from employee where salary>50000;
164
165
166
167
168
169
170
```
- Result Grid:** Displays the results of the query:

Name	position
Scrathy P B	Clerk
Surya P D	Assistant
Anna Ben C	Research Assistant
Jose P A	Manager
- Output:** Shows the execution details:

#	Time	Action	Message	Duration / Fetch
1	19:51:41	select emp_name as Name,position from employee where salary>50000 LIMIT 0, 1000	4 row(s) returned	0.000 sec / 0.000 sec
- Status Bar:** Shows "Object Info" and "Session".

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 the following details:

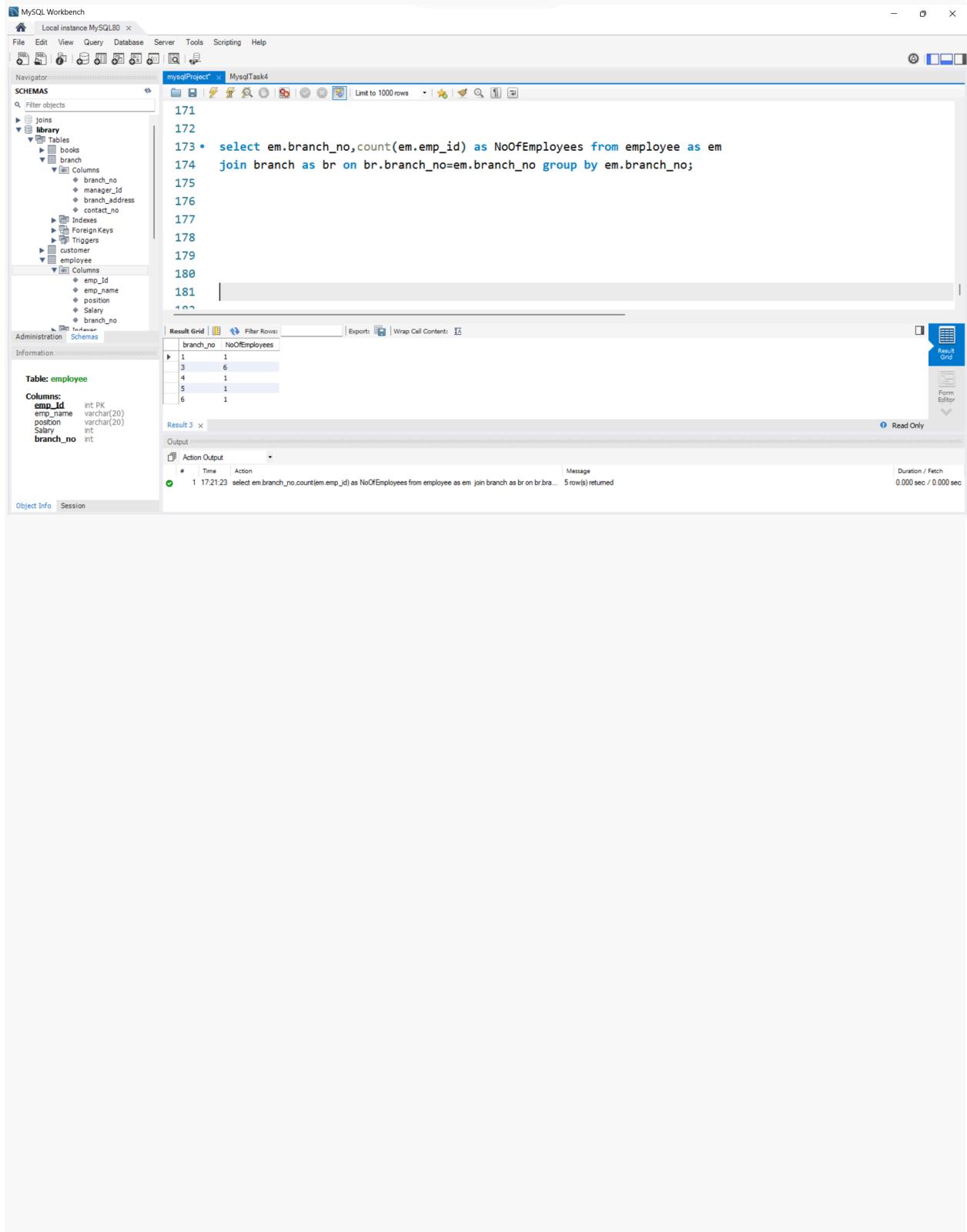
- Schemas:** Local instance MySQL80
- Table:** customer
- Columns:**
  - customer\_id (int PK)
  - customer\_name (varchar(15))
  - customer\_address (varchar(200))
  - Reg\_date (date)
- Query:**

```
166
167
168
169 •  select customer_name as Name,Reg_date from customer as cust left join issuestatus as issuestat on cust.cus
170  where reg_date<'2022-01-01' and issuestat.issued_cust is null;
171
172
173
174
175
176
```
- Result Grid:**

Name	Reg_date
Manu K T	2020-11-01
Sneha M T	2020-12-01
Preeti G K	2020-09-09
- Action Output:**

#	Time	Action	Message
1	2024-05-11 10:24:56	select customer_name as Name,Reg_date from customer as cust left join issuestatus as issuestat on cust.cus...	3 row(s) returned

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



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

- File Bar:** File, Edit, View, Query, Database, Server, Tools, Scripting, Help.
- Navigator:** Local instance MySQL80, mysqlProject\*, MysqlTask4.
- Schemas:** Shows the library schema with tables books, branch, and employee.
- Query Editor:** Contains the following SQL query:

```
171
172
173 • select em.branch_no,count(em.emp_id) as NoOfEmployees from employee as em
174   join branch as br on br.branch_no=em.branch_no group by em.branch_no;
175
176
177
178
179
180
181
```
- Result Grid:** Displays the results of the query in a table:

branch_no	NoOfEmployees
1	1
3	6
4	1
5	1
6	1
- Output:** Shows the execution message: "1 17:21:23 select em.branch\_no,count(em.emp\_id) as NoOfEmployees from employee as em join branch as br on br.br... 5 row(s) returned".
- Status Bar:** Duration / Fetch 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 the following details:

- File Bar:** File, Edit, View, Query, Database, Server, Tools, Scripting, Help.
- Schemas Tree:** Local instance MySQL80, mysqlProject\*, MysqlTask4. It lists tables like joins, library, books, branch, customer, issuestatus, and columns like issue\_id, issued\_cust, issued\_book\_name, issue\_date, isbn\_book.
- Query Editor:** Contains the following SQL query:

```
178
179
180
181 • select cust.customer_name from customer as cust join issuestatus as issueStat
182 on cust.customer_id=issueStat.issued_cust where monthname(issueStat.issue_date)='june'
183 and year(issueStat.issue_date) ='2023';
184
185
186
187
188
189
```
- Result Grid:** Shows the result of the query with one row:

customer_name
Anu G H
- Action Output:** Displays the execution log:

#	Time	Action	Message	Duration / Fetch
3	17:50:44	select em.branch_no,count(em.emp_id) as NoOfEmployees from employee as em join branch as br on br.br... 1 row(s) returned		0.000 sec / 0.000 sec
4	18:05:50	select cust.customer_name from customer as cust join issuestatus as issueStat on cust.customer_id=issue... 1 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:

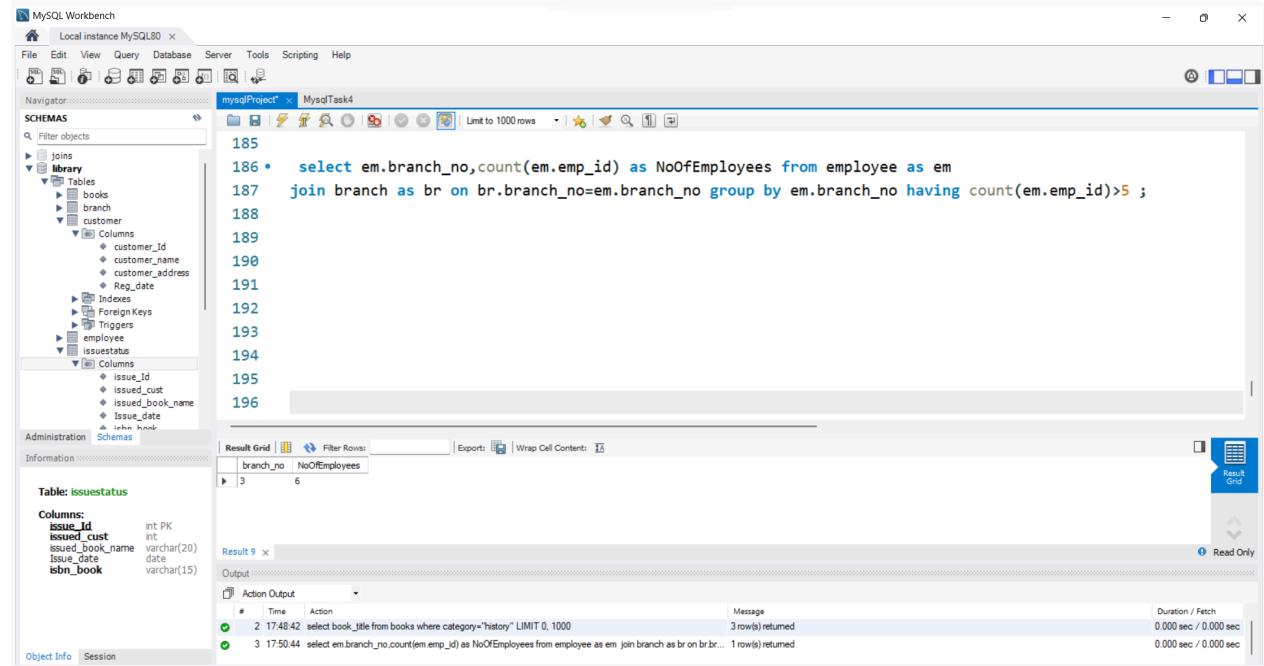
- File Menu:** File, Edit, View, Query, Database, Server, Tools, Scripting, Help.
- Toolbar:** Includes icons for New, Open, Save, Print, Copy, Paste, Find, Replace, and various search functions.
- Schemas Tree:** Shows the database structure under the "library" schema, including tables like books, branch, customer, and issuestatus, along with their columns and relationships.
- SQL Editor:** Contains the following SQL query:

```
182
183
184 •  select book_title from books where category="history";
185
186
187
188
189
190
191
192
193
```
- Result Grid:** Displays the results of the query, showing the book title for books categorized as "history".

book_title
A Scanner Darkly
Absalom, Absalom!
Number the Stars
- Output Window:** Shows the execution log with two entries:

Action	Time	Message	Duration / Fetch
select cust.customer_name from customer as cust join issueStat as issueSt... on cust.customer_id=issueSt...	1 17:47:36	1 row(s) returned	0.000 sec / 0.000 sec
select book_title from books where category="history" LIMIT 0, 1000	2 17:48:42	3 row(s) returned	0.000 sec / 0.000 sec
- Status Bar:** Shows "Limit to 1000 rows" and other standard status indicators.

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:

- File Bar:** File, Edit, View, Query, Database, Server, Tools, Scripting, Help.
- Navigator:** Schemas (Librarry), Joins, Tables (books, branch, customer, issuestatus), Columns, Indexes, Foreign Keys, Triggers, employee, issuestatus.
- Query Editor:** MysqlTask4 tab, SQL code:

```
185
186 •      select em.branch_no,count(em.emp_id) as NoOfEmployees from employee as em
187     join branch as br on br.branch_no=em.branch_no group by em.branch_no having count(em.emp_id)>5 ;
188
189
190
191
192
193
194
195
196
```
- Result Grid:** Shows the result of the query:

branch_no	NoOfEmployees
3	6
- Output:** Result 9 tab, Action Output section, showing three rows of log information.

**THANK YOU**