

LIBRARY MANAGEMENT SYSTEM

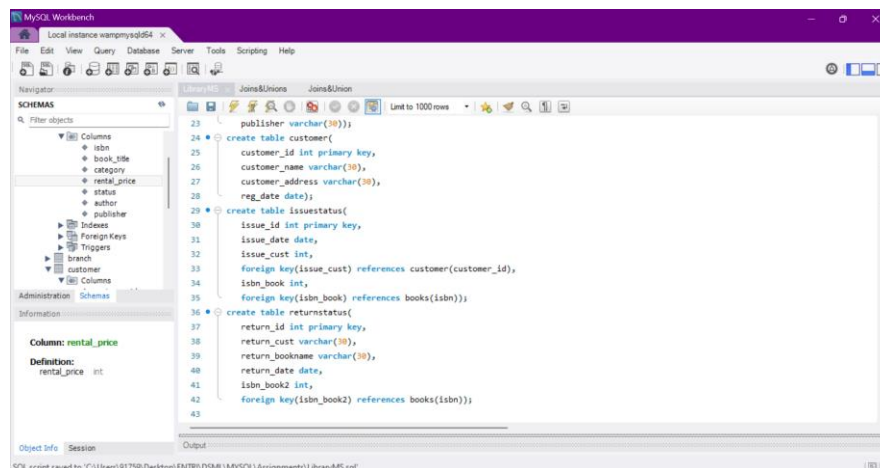
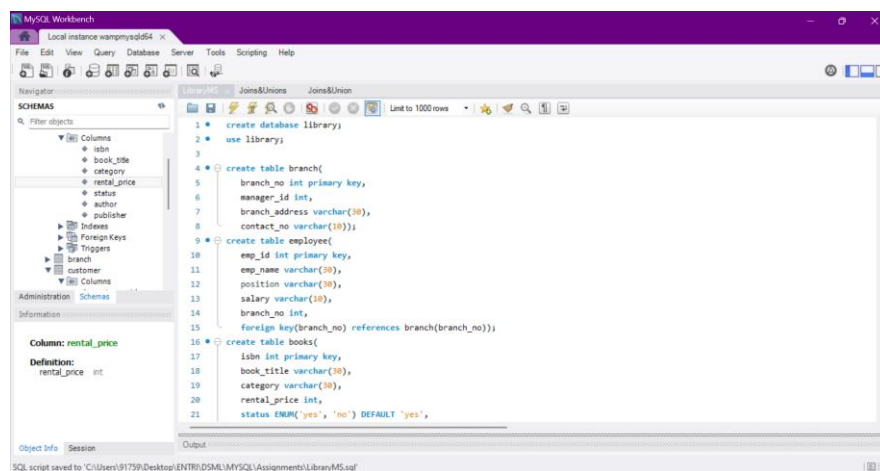
Create a database named library and following TABLES in the database:

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
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
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

Display all the tables



MySQL Workbench

Local instance wampmysql64

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

Filter objects

- Columns
 - isbn
 - book_title
 - category
 - rental_price
 - status
 - author
 - publisher
- Indexes
- Foreign Keys
- Triggers
- branch
- customer
- All Columns

Administration Schemas

Information

Column: rental_price

Definition: rental_price int

Object Info Session

Output

```
44 INSERT INTO branch (branch_no, manager_id, branch_address, contact_no) VALUES
45 (1, 181, 'Downtown', '1234567890'),
46 (2, 182, 'Uptown', '0987654321'),
47 (3, 183, 'Suburb', '1122334455'),
48 (4, 184, 'City Center', '5566778899'),
49 (5, 185, 'Riverside', '6677889900'),
50 (6, 186, 'Hilltop', '7788990011'),
51 (7, 187, 'Lakeside', '8899001122'),
52 (8, 188, 'Beachfront', '9900112233'),
53 (9, 189, 'Industrial Area', '1100223344'),
54 (10, 110, 'Old Town', '2211334455');
55
56 INSERT INTO employee (emp_id, emp_name, position, salary, branch_no) VALUES
57 (1, 'Alice Brown', 'Manager', '60000', 1),
58 (2, 'Bob Smith', 'Salesperson', '30000', 2),
59 (3, 'Charlie Green', 'Cashier', '25000', 3),
60 (4, 'David White', 'Assistant', '20000', 4),
61 (5, 'Ella Black', 'Manager', '60000', 5),
62 (6, 'Franklin Gray', 'Technician', '35000', 6),
63 (7, 'Grace Blue', 'Security', '22000', 7),
64 (8, 'Harry Yellow', 'Cleaner', '18000', 8);
```

SQL script saved to: C:\Users\91759\Desktop\ENTRI\DSML\MYSQL\Assignments\Library\MS.sql

MySQL Workbench

Local instance wampmysql64

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

Filter objects

- Columns
 - isbn
 - book_title
 - category
 - rental_price
 - status
 - author
 - publisher
- Indexes
- Foreign Keys
- Triggers
- branch
- customer
- All Columns

Administration Schemas

Information

Column: rental_price

Definition: rental_price int

Object Info Session

Output

```
68 INSERT INTO books (isbn, book_title, category, rental_price, status, author, publisher) VALUES
69 (1001, 'The Great Gatsby', 'Fiction', 100, 'yes', 'F. Scott Fitzgerald', 'Scribner'),
70 (1002, '1984', 'Dystopian', 120, 'yes', 'George Orwell', 'Secker & Warburg'),
71 (1003, 'To Kill a Mockingbird', 'Fiction', 110, 'yes', 'Harper Lee', 'J.B. Lippincott'),
72 (1004, 'Pride and Prejudice', 'Romance', 90, 'yes', 'Jane Austen', 'T. Egerton'),
73 (1005, 'Hoby Dick', 'Adventure', 100, 'yes', 'Herman Melville', 'Harper & Brothers'),
74 (1006, 'War and Peace', 'Historical', 150, 'yes', 'Leo Tolstoy', 'The Russian Messenger'),
75 (1007, 'The Odyssey', 'Epic', 130, 'yes', 'Homer', 'Penguin Classics'),
76 (1008, 'Hamlet', 'Drama', 80, 'yes', 'William Shakespeare', 'Oxford Press'),
77 (1009, 'The Catcher in the Rye', 'Fiction', 110, 'yes', 'J.D. Salinger', 'Little, Brown'),
78 (1010, 'The Hobbit', 'Fantasy', 140, 'yes', 'J.R.R. Tolkien', 'George Allen & Unwin');
79
80 INSERT INTO customer (customer_id, customer_name, customer_address, reg_date) VALUES
81 (1, 'John Doe', '123 Maple St', '2020-01-01'),
82 (2, 'Jane Smith', '456 Oak Ave', '2021-05-15'),
83 (3, 'Michael Brown', '789 Pine Rd', '2022-06-20'),
84 (4, 'Emily Davis', '101 Elm Dr', '2023-03-10'),
85 (5, 'Chris Wilson', '202 Birch Blvd', '2020-12-12'),
86 (6, 'Laura Johnson', '303 Cedar Ln', '2021-09-25'),
87 (7, 'Peter Adams', '404 Walnut Ct', '2022-04-30'),
88 (8, 'Sophia White', '505 Ash St', '2023-08-15');
```

SQL script saved to: C:\Users\91759\Desktop\ENTRI\DSML\MYSQL\Assignments\Library\MS.sql

MySQL Workbench

Local instance wampmysql64

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

Filter objects

- Columns
 - isbn
 - book_title
 - category
 - rental_price
 - status
 - author
 - publisher
- Indexes
- Foreign Keys
- Triggers
- branch
- customer
- All Columns

Administration Schemas

Information

Column: rental_price

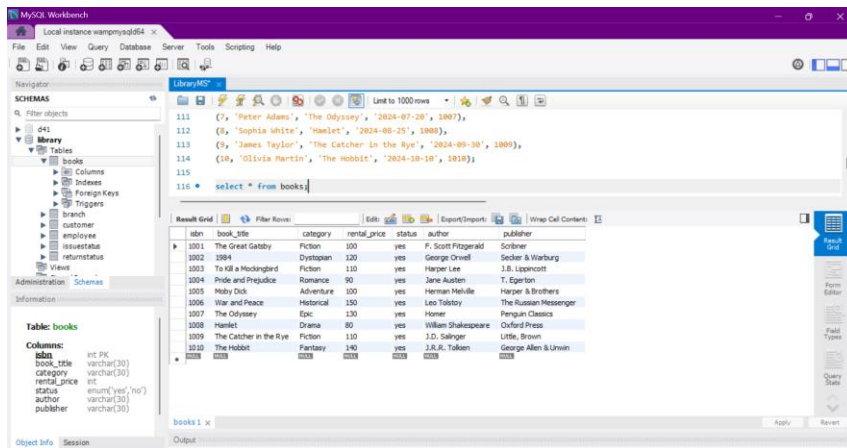
Definition: rental_price int

Object Info Session

Output

```
92 INSERT INTO issuesstatus (issue_id, issue_date, issue_cust, isbn_book) VALUES
93 (1, '2024-01-10', 1, 1001),
94 (2, '2024-02-15', 2, 1002),
95 (3, '2024-03-20', 3, 1003),
96 (4, '2024-04-25', 4, 1004),
97 (5, '2024-05-30', 5, 1005),
98 (6, '2024-06-10', 6, 1006),
99 (7, '2024-07-15', 7, 1007),
100 (8, '2024-08-20', 8, 1008),
101 (9, '2024-09-25', 9, 1009),
102 (10, '2024-10-30', 10, 1010);
103
104 INSERT INTO returnstatus (return_id, return_cust, return_bookname, return_date, isbn_book2) VALUES
105 (1, 'John Doe', 'The Great Gatsby', '2024-01-20', 1001),
106 (2, 'Jane Smith', '1984', '2024-02-25', 1002),
107 (3, 'Michael Brown', 'To Kill a Mockingbird', '2024-03-30', 1003),
108 (4, 'Emily Davis', 'Pride and Prejudice', '2024-04-05', 1004),
109 (5, 'Chris Wilson', 'Hoby Dick', '2024-05-10', 1005),
110 (6, 'Laura Johnson', 'War and Peace', '2024-06-15', 1006),
111 (7, 'Peter Adams', 'The Odyssey', '2024-07-20', 1007),
112 (8, 'Sophia White', 'Hamlet', '2024-08-25', 1008);
```

SQL script saved to: C:\Users\91759\Desktop\ENTRI\DSML\MYSQL\Assignments\Library\MS.sql



MySQL Workbench

Local instance wampmysqld64

File Edit View Query Database Server Tools Scripting Help

Navigator

Schemas

Filter objects

- customer
 - Triggers
 - Columns
 - Indexes
 - Foreign Keys
 - Triggers
- employee
 - Columns
 - Indexes
 - Foreign Keys
 - Triggers
 - returnstatus
 - Views

Administration Schemas

Information

Table: employee

Columns:

- emp_id int PK
- emp_name varchar(30)
- position varchar(30)
- salary varchar(10)
- branch_no int

Object Info Session

LibraryMS2

Limit to 1000 rows

111 (7, 'Peter Adams', 'The Odyssey', '2024-07-20', 1007),

112 (8, 'Sophia White', 'Hamlet', '2024-08-25', 1008),

113 (9, 'James Taylor', 'The Catcher in the Rye', '2024-09-30', 1009),

114 (10, 'Olivia Martin', 'The Hobbit', '2024-10-10', 1010);

115

116 select * from employee;

Result Grid

emp_id	emp_name	position	salary	branch_no
1	Alice Brown	Manager	60000	1
2	Bob Smith	Salesperson	30000	2
3	Charlie Green	Cashier	25000	3
4	David White	Assistant	20000	4
5	Ella Black	Manager	60000	5
6	Franklin Gray	Technician	35000	6
7	Grace Blue	Security	22000	7
8	Harry Yellow	Cleaner	18000	8
9	Ivy Pink	Receptionist	28000	9
10	Jack Purple	Salesperson	30000	10

employee 4 x

Output

MySQL Workbench

Local instance wampmysqld64

File Edit View Query Database Server Tools Scripting Help

Navigator

Schemas

Filter objects

- customer
 - Triggers
 - Columns
 - Indexes
 - Foreign Keys
 - Triggers
- employee
 - Columns
 - Indexes
 - Foreign Keys
 - Triggers
 - returnstatus
 - Views
- returnstatus
 - Columns
 - Indexes
 - Foreign Keys
 - Triggers

Administration Schemas

Information

Table: returnstatus

Columns:

- return_id int PK
- return_cust date
- return_book int
- isbn_book int

Object Info Session

LibraryMS2

Limit to 1000 rows

111 (7, 'Peter Adams', 'The Odyssey', '2024-07-20', 1007),

112 (8, 'Sophia White', 'Hamlet', '2024-08-25', 1008),

113 (9, 'James Taylor', 'The Catcher in the Rye', '2024-09-30', 1009),

114 (10, 'Olivia Martin', 'The Hobbit', '2024-10-10', 1010);

115

116 select * from returnstatus;

Result Grid

return_id	return_cust	return_book	isbn_book
1	2024-01-10	1	1001
2	2024-02-15	2	1002
3	2024-03-20	3	1003
4	2024-04-25	4	1004
5	2024-05-30	5	1005
6	2024-06-10	6	1006
7	2024-07-15	7	1007
8	2024-08-20	8	1008
9	2024-09-25	9	1009
10	2024-10-30	10	1010

returnstatus 5 x

Output

MySQL Workbench

Local instance wampmysqld64

File Edit View Query Database Server Tools Scripting Help

Navigator

Schemas

Filter objects

- customer
 - Columns
 - Indexes
 - Foreign Keys
 - Triggers
- employee
 - Columns
 - Indexes
 - Foreign Keys
 - Triggers
 - returnstatus
 - Views
- returnstatus
 - Columns
 - Indexes
 - Foreign Keys
 - Triggers
- product
 - Columns
 - Indexes
 - Foreign Keys
 - Triggers

Administration Schemas

Information

Table: returnstatus

Columns:

- return_id int PK
- return_cust varchar(30)
- return_bookname varchar(30)
- return_date date
- isbn_book2 int

Object Info Session

LibraryMS2

Limit to 1000 rows

111 (7, 'Peter Adams', 'The Odyssey', '2024-07-20', 1007),

112 (8, 'Sophia White', 'Hamlet', '2024-08-25', 1008),

113 (9, 'James Taylor', 'The Catcher in the Rye', '2024-09-30', 1009),

114 (10, 'Olivia Martin', 'The Hobbit', '2024-10-10', 1010);

115

116 select * from returnstatus;

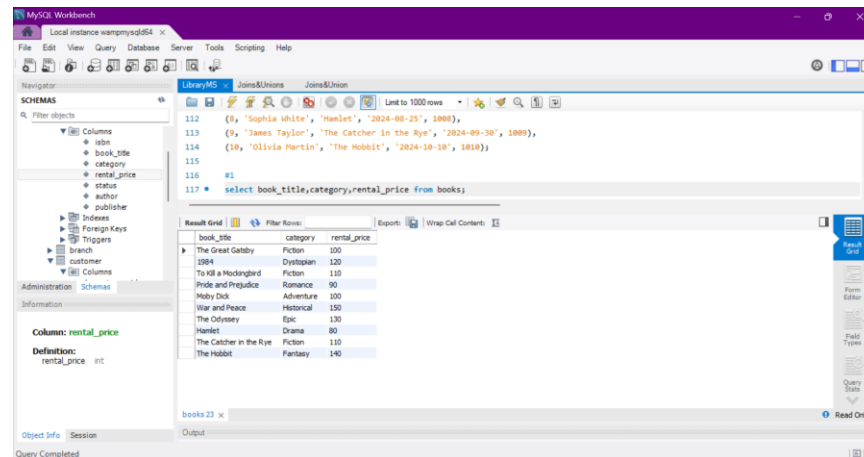
Result Grid

return_id	return_cust	return_bookname	return_date	isbn_book2
1	John Doe	The Great Gatsby	2024-01-20	1001
2	Jane Smith	1984	2024-02-25	1002
3	Michael Brown	To Kill a Mockingbird	2024-03-30	1003
4	Emily Davis	Pride and Prejudice	2024-04-05	1004
5	Chris Wilson	Moby Dick	2024-05-10	1005
6	Laura Johnson	War and Peace	2024-06-15	1006
7	Peter Adams	The Odyssey	2024-07-20	1007
8	Sophia White	Hamlet	2024-08-25	1008
9	James Taylor	The Catcher in the Rye	2024-09-30	1009
10	Olivia Martin	The Hobbit	2024-10-10	1010

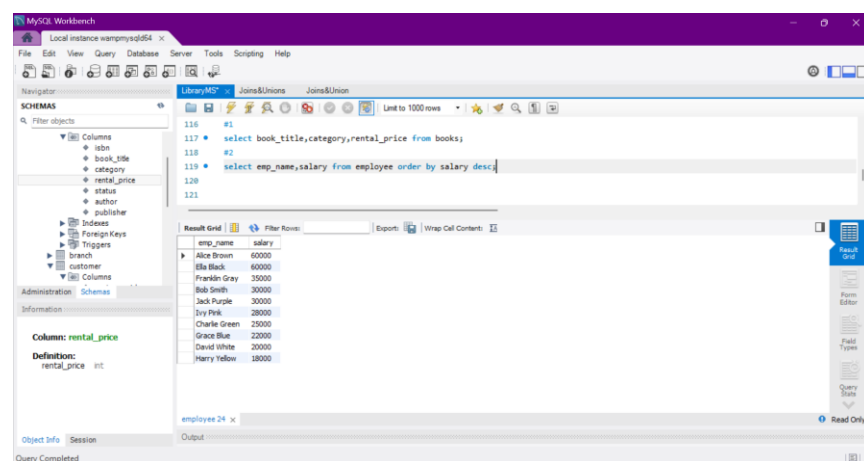
returnstatus 6 x

Output

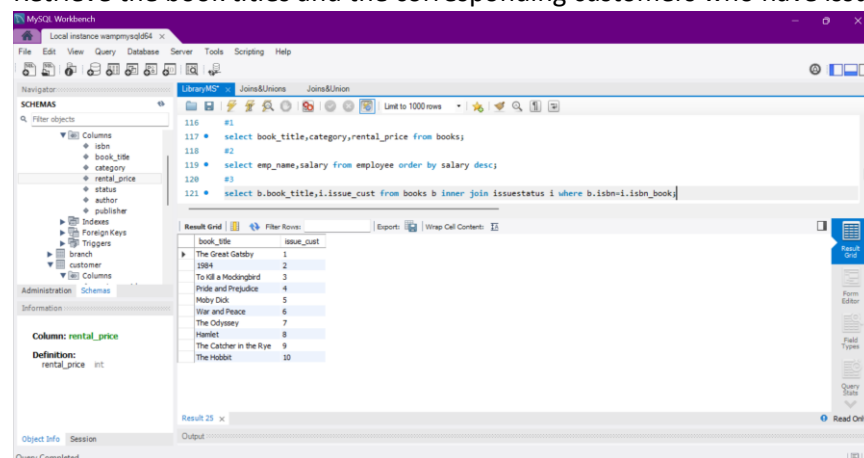
1. Retrieve the book title, category, and rental price of all available books.



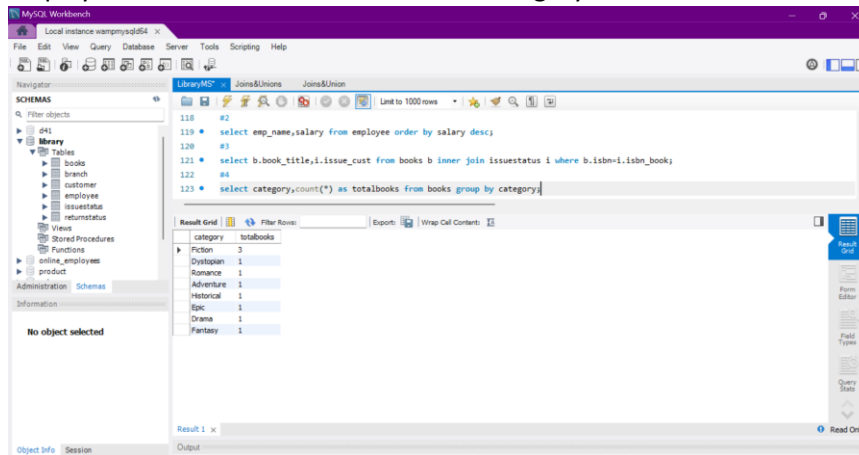
2. List the employee names and their respective salaries in descending order of salary.



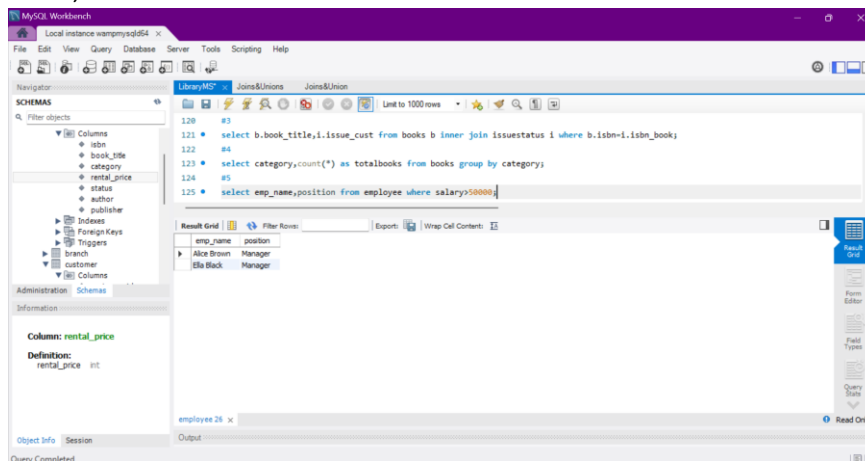
3. Retrieve the book titles and the corresponding customers who have issued those books.



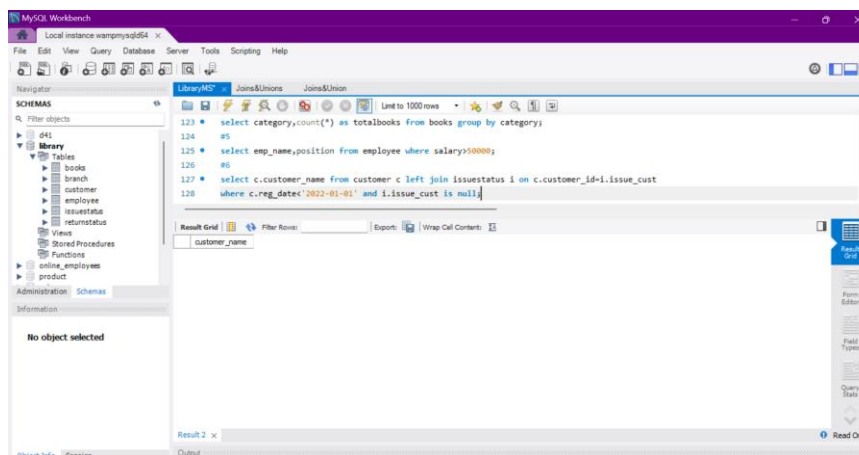
4. Display the total count of books in each category.



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



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



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

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

```
125 select emp_name, position from employee where salary > 50000;
126
127 select c.customer_name from customer c left join issuestatus i on c.customer_id = i.issue_cust
128 where c.reg_date < '2022-01-01' and i.issue_cust is null;
129
130 select branch_no, count(emp_id) as totalemployees from employee group by branch_no;
```

The result grid displays the output of the third query:

branch_no	totalemployees
1	1
2	1
3	1
4	1
5	1
6	1
7	1
8	1
9	1
10	1

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

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

```
128 where c.reg_date < '2022-01-01' and i.issue_cust is null;
129
130 select branch_no, count(emp_id) as totalemployees from employee group by branch_no;
131
132 select c.customer_name, i.issue_date from customer c right join issuestatus i on c.customer_id = i.issue_cust
133 where i.issue_date between '2023-06-01' and '2023-06-30';
```

The result grid displays the output of the fourth query:

customer_name	issue_date
---------------	------------

9. Retrieve book_title from book table containing history.

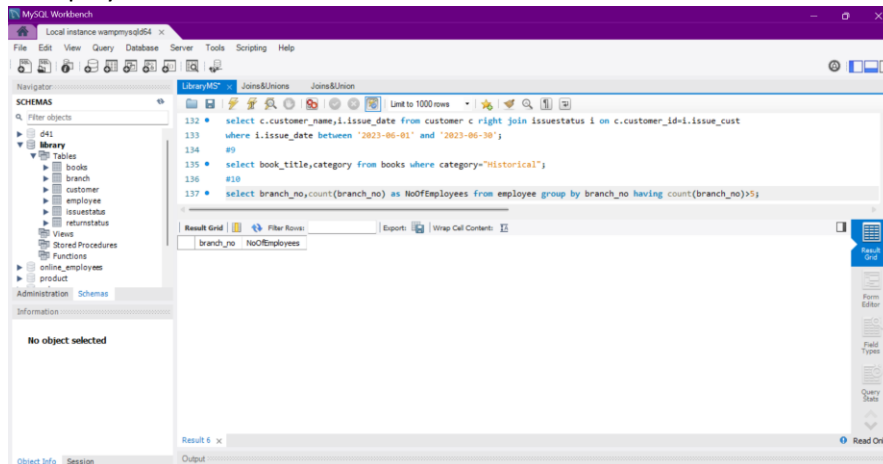
The screenshot shows the MySQL Workbench interface. The query editor contains the following SQL code:

```
130 select branch_no, count(emp_id) as totalemployees from employee group by branch_no;
131
132 select c.customer_name, i.issue_date from customer c right join issuestatus i on c.customer_id = i.issue_cust
133 where i.issue_date between '2023-06-01' and '2023-06-30';
134
135 select book_title, category from books where category = 'Historical';
```

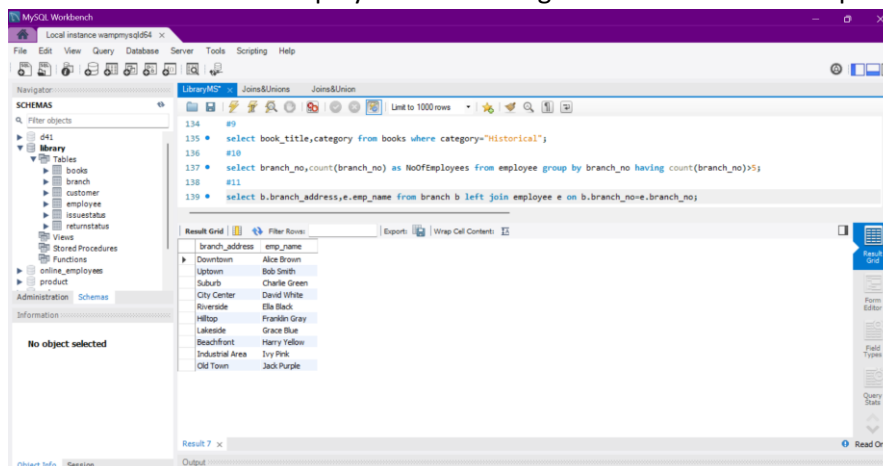
The result grid displays the output of the fifth query:

book_title	category
War and Peace	Historical

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



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



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

