

Topic : Library Management System

You are going to build a project based on Library Management System. It keeps track of all information about books in the library, their cost, status and total number of books available in the library.

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

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

Attributes for the tables:

1. Branch

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

2. Employee

- Emp_Id – Set as PRIMARY KEY
- Emp_name
- Position
- Salary
- Branch_no
 - Set as FOREIGN KEY and it refer Branch_no in Branch table

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

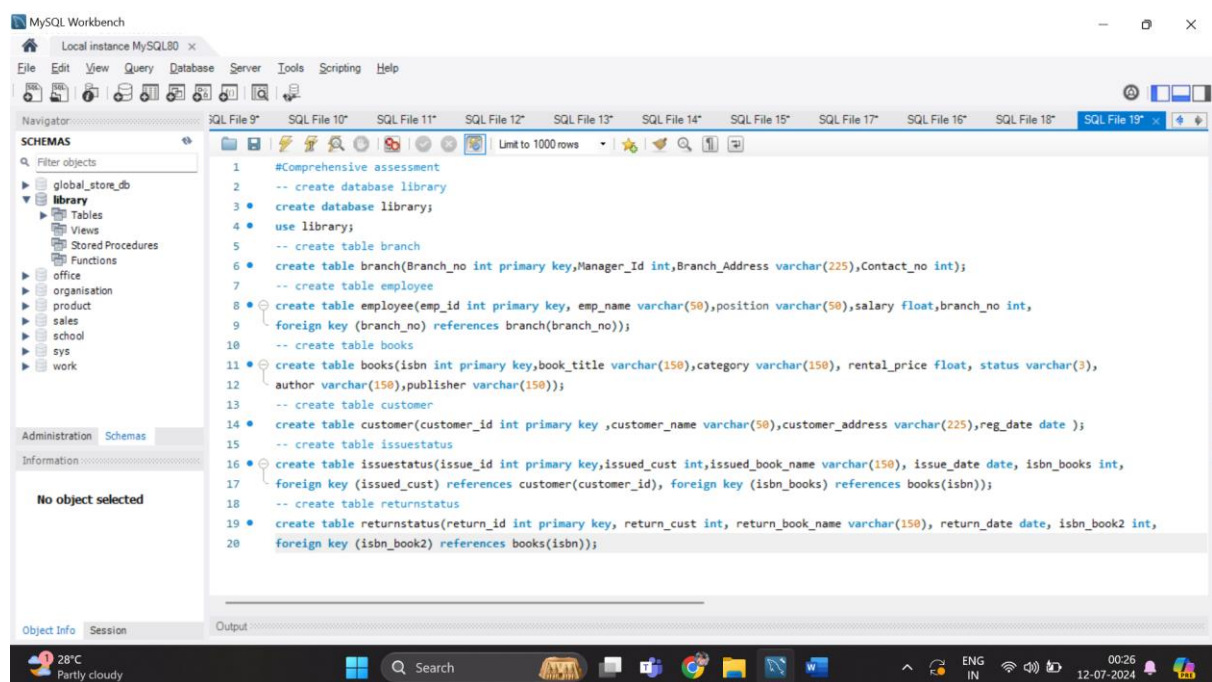
- Set as PRIMARY KEY
 - Customer_name
 - Customer_address
 - Reg_date

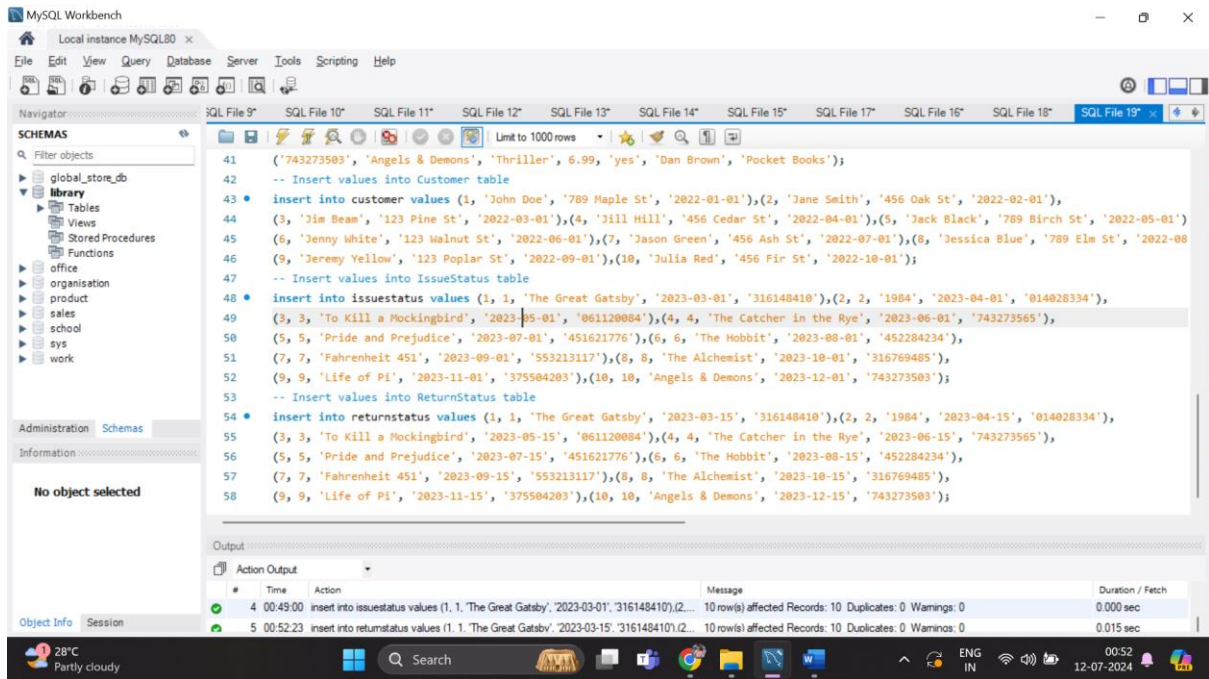
5. IssueStatus

- Issue_Id
 - Set as PRIMARY KEY
 - Issued_cust – Set as FOREIGN KEY and it refer customer_id in CUSTOMER table
 - Issued_book_name
 - Issue_date
 - Isbn_book – Set as FOREIGN KEY and it should refer isbn in BOOKS table

6. ReturnStatus

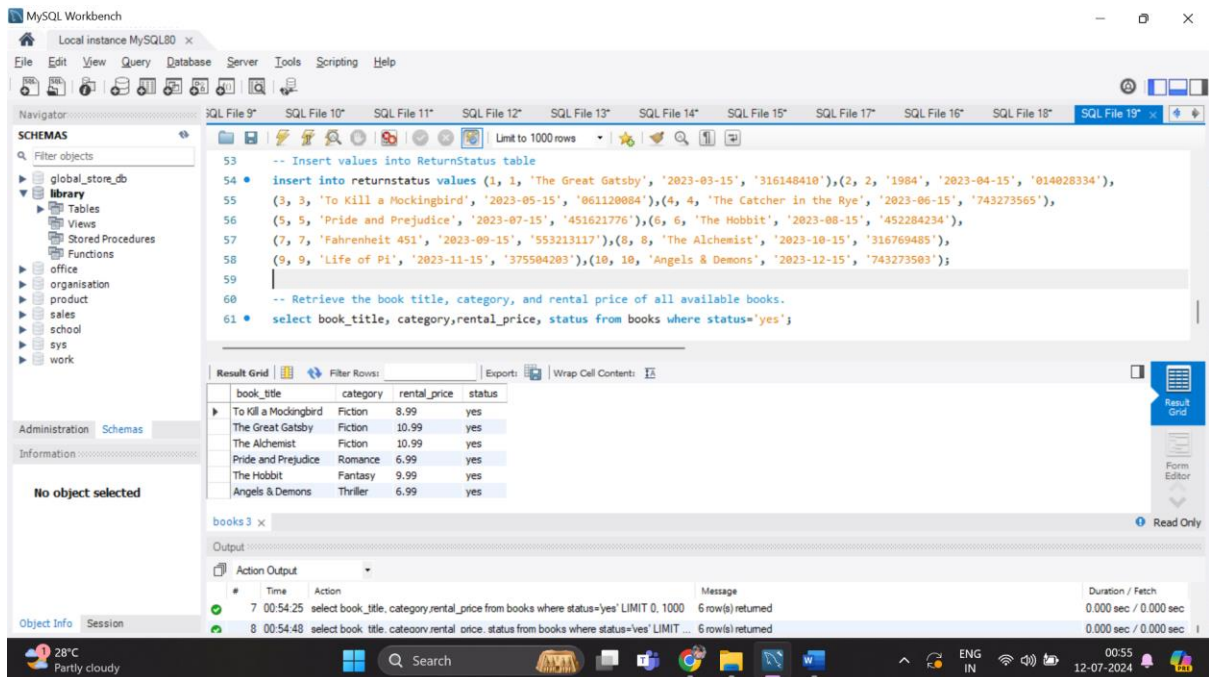
- Return_Id
 - Set as PRIMARY KEY
 - Return_cust
 - Return_book_name
 - Return_date
 - Isbn_book2
 - Set as FOREIGN KEY and it should refer isbn in BOOKS table





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

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.

MySQL Workbench

Local instance MySQL80

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

Filter objects

global_store_db

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Information

No object selected

SQL File 9* SQL File 10* SQL File 11* SQL File 12* SQL File 13* SQL File 14* SQL File 15* SQL File 16* SQL File 18* SQL File 19*

Limit to 1000 rows

```

60 -- Retrieve the book title, category, and rental price of all available books.
61 • select book_title, category, rental_price, status from books where status='yes';
62
63 -- List the employee names and their respective salaries in descending order of salary.
64 • select emp_name, salary from employee order by salary desc;

```

Result Grid

emp_name	salary
Alice Johnson	60000
Carol White	60000
Eve Black	60000
Grace Blue	60000
Ivy Red	60000
Bob Smith	40000
Dave Brown	40000
Frank Green	40000
Hank Yellow	40000
Jack Purple	40000

employee 1 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
2	23:44:27	use library	0 row(s) affected	0.000 sec
3	23:44:30	select emp_name, salary from employee order by salary desc LIMIT 0.1000	10 row(s) returned	0.015 sec / 0.000 sec

Object Info Session

26°C Mostly cloudy

Search

ENG US

23:44 13-07-2024

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

MySQL Workbench

Local instance MySQL80

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Information

No object selected

SQL File 9* SQL File 10* SQL File 11* SQL File 12* SQL File 13* SQL File 14* SQL File 15* SQL File 16* SQL File 18* SQL File 19*

Limit to 1000 rows

```

64 • select emp_name, salary from employee order by salary desc;
65
66 -- Retrieve the book titles and the corresponding customers who have issued those books.
67 • select b.book_title, c.customer_name from books b join issuestatus i on b.isbn = i.isbn_books
68 join customer c on i.issued_cust = c.customer_id;

```

Result Grid

book_title	customer_name
1984	Jane Smith
To Kill a Mockingbird	Jim Beam
The Great Gatsby	John Doe
The Alchemist	Jessica Blue
Life of Pi	Jeremy Yellow
Pride and Prejudice	Jack Black
The Hobbit	Jenny White
Fahrenheit 451	Jason Green
Angels & Demons	Julia Red
The Catcher in the Rye	Jill Hill

Result 2 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
4	23:47:23	select b.book_title, c.customer_name from books b join issuestatus i on b.isbn = i.is...	Error Code: 1054, Unknown column 'isbn_book' in 'on clause'	0.015 sec
5	23:48:02	select b.book_title, c.customer_name from books b join issuestatus i on b.isbn = i.is...	10 row(s) returned	0.000 sec / 0.000 sec

Object Info Session

26°C Mostly cloudy

Search

ENG US

23:48 13-07-2024

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

MySQL Workbench

Local instance MySQL80

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Information

No object selected

Object Info Session

SQL File 9* SQL File 10* SQL File 11* SQL File 12* SQL File 13* SQL File 14* SQL File 15* SQL File 16* SQL File 18* SQL File 19*

Limit to 1000 rows

```

67 • select b.book_title, c.customer_name from books b join issuestatus i on b.isbn = i.isbn_books
68 join customer c on i.issued_cust = c.customer_id;
69
70 -- Display the total count of books in each category.
71 • select category, count(*) as total_books from books group by category;

```

Result Grid

category	total_books
Dystopian	2
Fiction	4
Adventure	1
Romance	1
Fantasy	1
Thriller	1

Output

Action Output

#	Time	Action	Message	Duration / Fetch
6	23:49:14	create database library	Error Code: 1007. Can't create database 'library'; database exists	0.000 sec
7	23:49:21	select category, count(*) as total_books from books group by category LIMIT 0, 1000	6 row(s) returned	0.000 sec / 0.000 sec

23:49 13-07-2024

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

MySQL Workbench

Local instance MySQL80

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Information

No object selected

Object Info Session

SQL File 9* SQL File 10* SQL File 11* SQL File 12* SQL File 13* SQL File 14* SQL File 15* SQL File 16* SQL File 18* SQL File 19*

Limit to 1000 rows

```

70 -- Display the total count of books in each category.
71 • select category, count(*) as total_books from books group by category;
72
73 -- Retrieve the employee names and their positions for the employees whose salaries are above Rs.50,000.
74 • select emp_name, position from employee where salary > 50000;

```

Result Grid

emp_name	position
Alice Johnson	Manager
Carol White	Manager
Eve Black	Manager
Grace Blue	Manager
Ivy Red	Manager

Output

Action Output

#	Time	Action	Message	Duration / Fetch
7	23:49:21	select category, count(*) as total_books from books group by category LIMIT 0, 1000	6 row(s) returned	0.000 sec / 0.000 sec
8	23:51:10	select emp_name, position from employee where salary > 50000 LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec

23:51 13-07-2024

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

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Limit to 1000 rows

```

74 • select emp_name, position from employee where salary > 50000;
75
76 -- List the customer names who registered before 2022-01-01 and have not issued any books yet.
77 • select c.customer_name from customer c left join issuestatus i on c.customer_id = i.issued_cust
78   where c.reg_date < '2022-01-01' and i.issued_cust is null;

```

Result Grid

Filter Rows:

Exports

Wrap Cell Content:

customer_name

Result 5 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
8	23:51:10	select emp_name, position from employee where salary > 50000 LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec
9	23:52:44	select c.customer_name from customer c left join issuestatus i on c.customer_id = i.issued_cust where c.reg_date < '2022-01-01' and i.issued_cust is null;	0 row(s) returned	0.000 sec / 0.000 sec

23:52 13-07-2024

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

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SQL File 9* SQL File 10* SQL File 11* SQL File 12* SQL File 13* SQL File 14* SQL File 15* SQL File 16* SQL File 18* SQL File 19*

Limit to 1000 rows

```

77 • select c.customer_name from customer c left join issuestatus i on c.customer_id = i.issued_cust
78   where c.reg_date < '2022-01-01' and i.issued_cust is null;
79
80 -- Display the branch numbers and the total count of employees in each branch.
81 • select branch_no, count(*) as total_employees from employee group by branch_no;

```

Result Grid

Filter Rows:

Exports

Wrap Cell Content:

branch_no	total_employees
1	2
2	2
3	2
4	2
5	2

Result 6 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
9	23:52:44	select c.customer_name from customer c left join issuestatus i on c.customer_id = i.issued_cust where c.reg_date < '2022-01-01' and i.issued_cust is null;	0 row(s) returned	0.000 sec / 0.000 sec
10	23:55:06	select branch_no, count(*) as total_employees from employee group by branch_no;	5 row(s) returned	0.015 sec / 0.000 sec

23:55 13-07-2024

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

MySQL Workbench interface showing a query execution. The query is:

```

81 • select branch_no, count(*) as total_employees from employee group by branch_no;
82
83 -- Display the names of customers who have issued books in the month of June 2023.
84 • select c.customer_name from customer c join issuestatus i on c.customer_id = i.issued_cust
85 where i.issue_date between '2023-06-01' and '2023-06-30';

```

The result grid shows one row:

customer_name
Jill Hill

The output pane shows the following action output:

#	Time	Action	Message	Duration / Fetch
11	23:56:40	select c.customer_name from customer c left join issuestatus i on c.customer_id = i...	0 row(s) returned	0.016 sec / 0.000 sec
12	23:56:49	select c.customer_name from customer c join issuestatus i on c.customer_id = i.issu...	1 row(s) returned	0.000 sec / 0.000 sec

9. Retrieve book_title from book table containing history.

MySQL Workbench interface showing a query execution. The query is:

```

84 • select c.customer_name from customer c join issuestatus i on c.customer_id = i.issued_cust
85 where i.issue_date between '2023-06-01' and '2023-06-30';
86
87 -- Retrieve book_title from book table containing history.
88 • select book_title from books where book_title like '%history%';

```

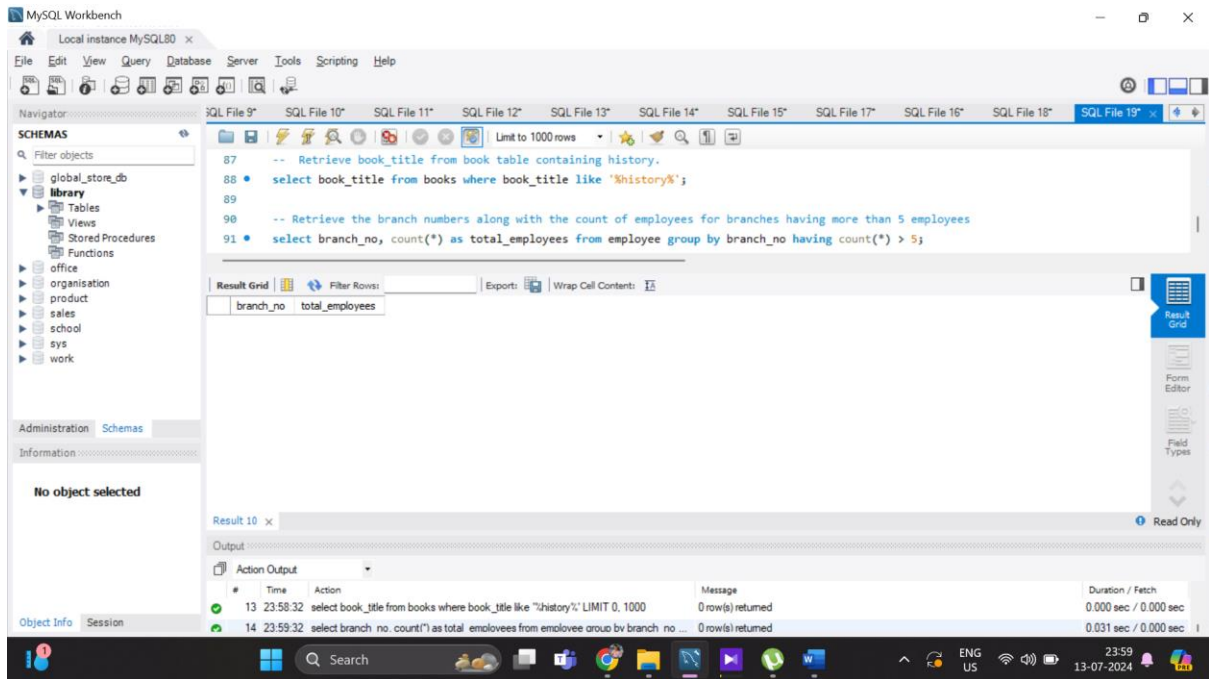
The result grid shows one row:

book_title
The History of the World

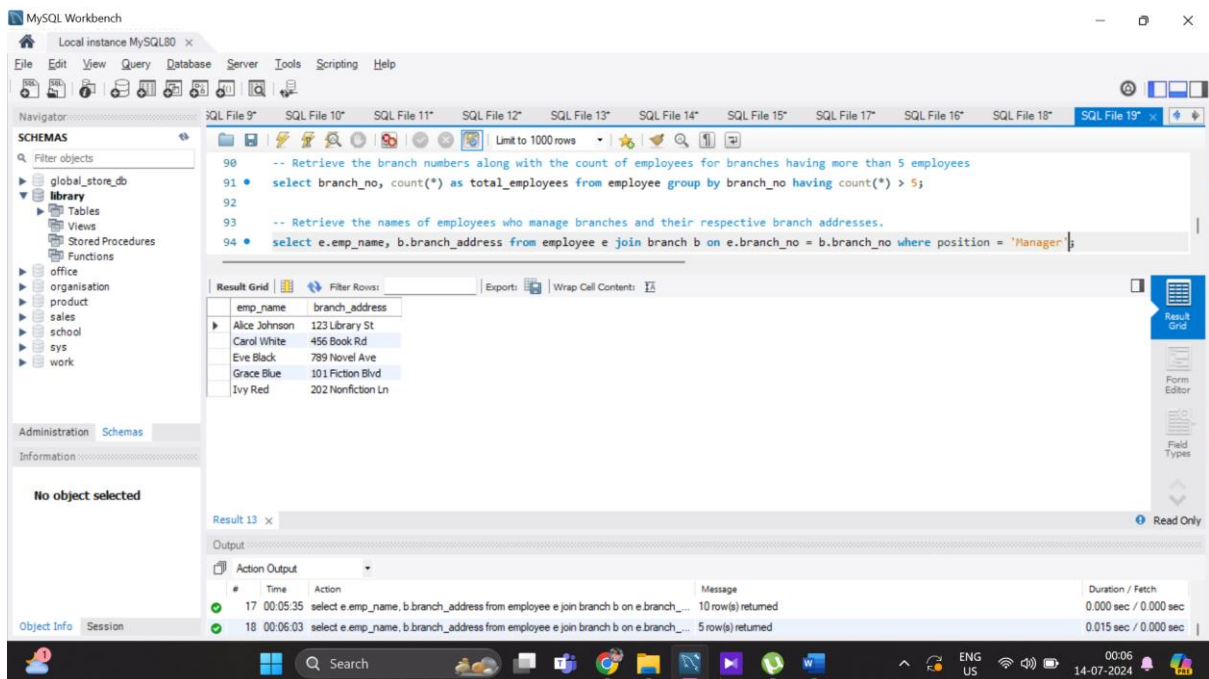
The output pane shows the following action output:

#	Time	Action	Message	Duration / Fetch
12	23:56:49	select c.customer_name from customer c join issuestatus i on c.customer_id = i.issu...	1 row(s) returned	0.000 sec / 0.000 sec
13	23:58:32	select book_title from books where book_title like "%history%"; LIMIT 0. 1000	0 row(s) returned	0.000 sec / 0.000 sec

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

MySQL Workbench

Local instance MySQL80 x

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Limit to 1000 rows

```
95
96 -- Display the names of customers who have issued books with a rental price higher than Rs. 25.
97 • select c.customer_name from customer c join issuestatus i on c.customer_id = i.issued_cust
98   join books b on i.isbn_books = b.isbn where b.rental_price > 25;
99
```

Result Grid

Filter Rows: Export Wrap Cell Contents

customer_name

Result 14 x

Read Only

Output

Action Output

#	Time	Action	Message	Duration / Fetch
19	00:08:01	select c.customer_name from customer c join issuestatus i on c.customer_id = i.issu...	Error Code: 1054. Unknown column 'isbn_book' in 'on clause'	0.000 sec
20	00:08:15	select c.customer_name from customer c join issuestatus i on c.customer_id = i.issu...	0 row(s) returned	0.000 sec / 0.000 sec

ENG US 00:08 14-07-2024