

# Library management

The screenshot displays the MySQL Workbench interface for a local instance of MySQL80. The left sidebar contains navigation panels for MANAGEMENT, INSTANCE, and PERFORMANCE. The main editor shows an SQL file with the following schema and data:

```
1 • create database library;
2 • use library;
3 • create table student (std_id int , name varchar(50),dept varchar(50),
4 • year int, primary key(std_id));
5 • create table books(book_id int , title varchar(100),author varchar(50),category varchar(50),
6 • primary key(book_id));
7 • create table borrowed (br_id int , std_id int , book_id int , br_date date , return_date date,
8 • primary key(br_id),foreign key(std_id) references student(std_id),
9 • foreign key(book_id) references books(book_id));
10 • insert into student values(1, "Alice_johnson" , "computer_science" , 2),
11 • (2,"Bob_smith" , "mechanical" , 3),
12 • (3,"carol_white" , "computer_science" , 1),
13 • (4,"David_brown" , "electrical" , 4);
14 • insert into books values(101,"database systems","Navathe","CS"),
15 • (102,"operating systems","silberschatz","CS"),
16 • (103,"physics fundamentals","Halliday","Science"),
17 • (104,"Modern fiction","orwell","fiction");
18 • insert into borrowed values(1, 1, 101, "2024-01-10", "2024-03-20"),
19 • (2, 2, 103, "2024-02-01",null),
20 • (3, 3, 102, "2024-02-15", "2024-03-01"),
21 • (4, 1, 104, "2024-03-10",null);
22
```

Below the SQL editor, a query is executed:

```
23 • select * from student where dept = 'computer_science';
24
25 • select title from books b join borrowed br on br.book_id=b.book_id where return_date is null ;
26
27 • select distinct s.name from student s
28 • join borrowed b on s.std_id = b.std_id
29 • where b.br_date between '2024-02-01' and '2024-02-15';
30
31 • select s.std_id,s.name,count(b.book_id) as total_books_borrowed
```

The Result Grid at the bottom shows the output of the first query:

	std_id	name	dept	year
▶	1	Alice_johnson	computer_science	2
	3	carol_white	computer_science	1
*	NULL	NULL	NULL	NULL

MySQL Workbench

Local instance MySQL80

File Edit View Query Database Server Tools Scripting Help

Navigator

MANAGEMENT

- Server Status
- Client Connections
- Users and Privileges
- Status and System Variables
- Data Export
- Data Import/Restore

INSTANCE

- Startup / Shutdown
- Server Logs
- Options File

PERFORMANCE

- Dashboard
- Performance Reports
- Performance Schema Setup

SQL File 3\*

Limit to 50000 rows

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```

Result Grid

title
physics fundamentals
Modern fiction

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```

Result Grid

name
Bob_smith
carol_white

Administration Schemas



up

```
38
39 • select b.title, b.author, count(br.book_id) as times_borrowed
40 from books b join borrowed br on b.book_id = br.book_id
41 group by b.book_id, b.title, b.author
42 having count(br.book_id) = (select max(book_count) from (select count(book_id) as book_count
43 from borrowed group by book_id) as counts);
44
45 • select s.std_id, s.name from student s left join borrowed b on s.std_id = b.std_id
```

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

	title	author	times_borrowed
▶	database systems	Navathe	1
	operating systems	silberschatz	1
	physics fundamentals	Halliday	1
	Modern fiction	orwell	1

Result Grid

Form Editor

Field

```
45 • select s.std_id, s.name from student s left join borrowed b on s.std_id = b.std_id
46 where b.book_id is null;
47
48 • select category, count(book_id) as total_books from books group by category;
```

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

	std_id	name
▶	4	David_brown

```
48 • select category, count(book_id) as total_books from books group by category;
49
```

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

	category	total_books
▶	CS	2
	Science	1
	fiction	1