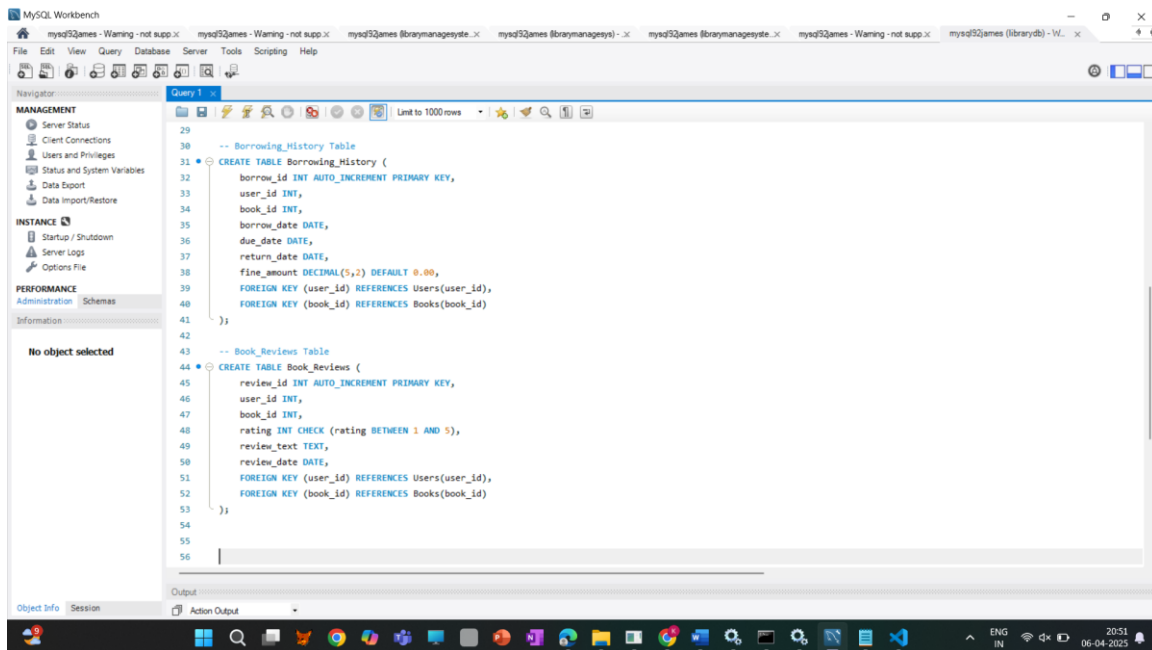
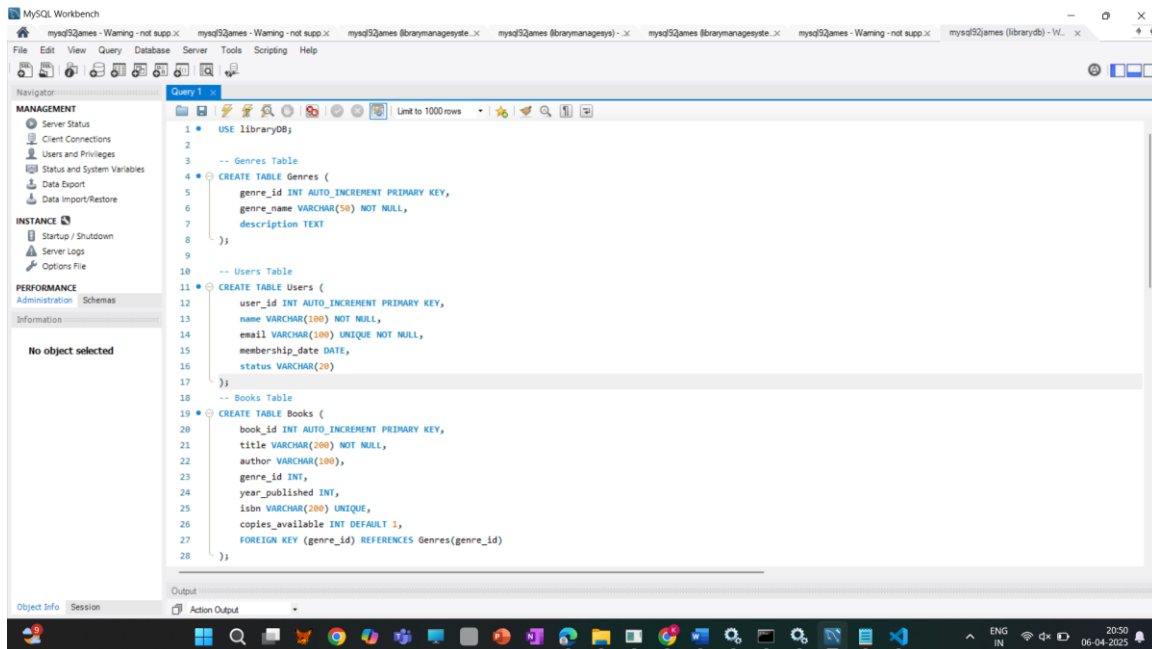
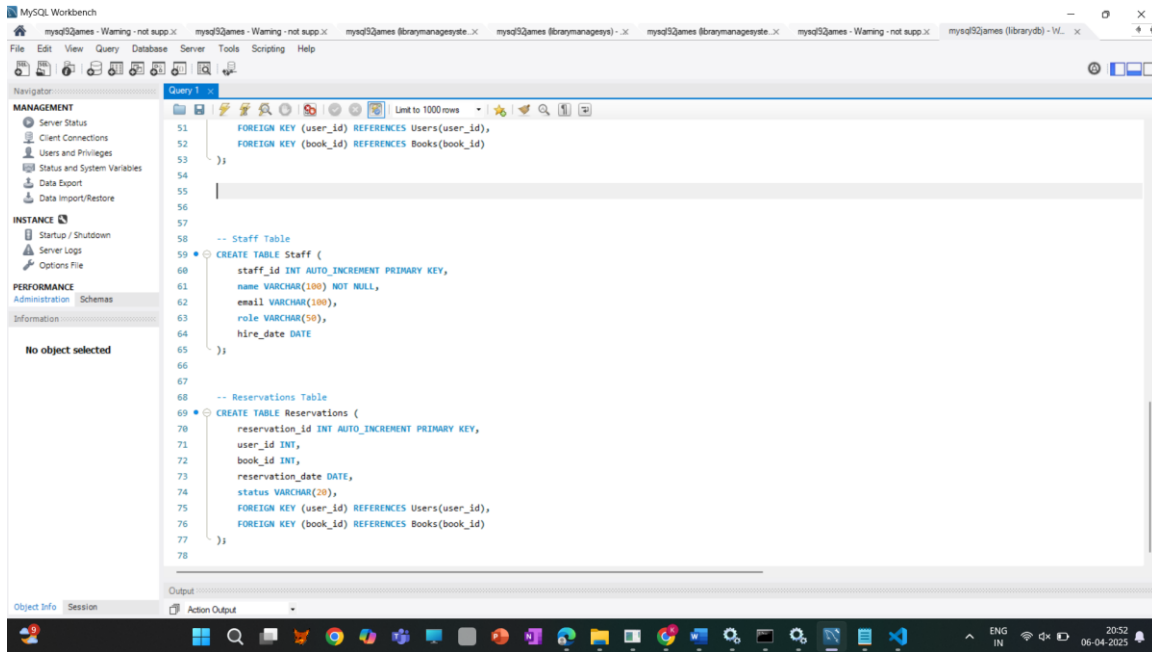


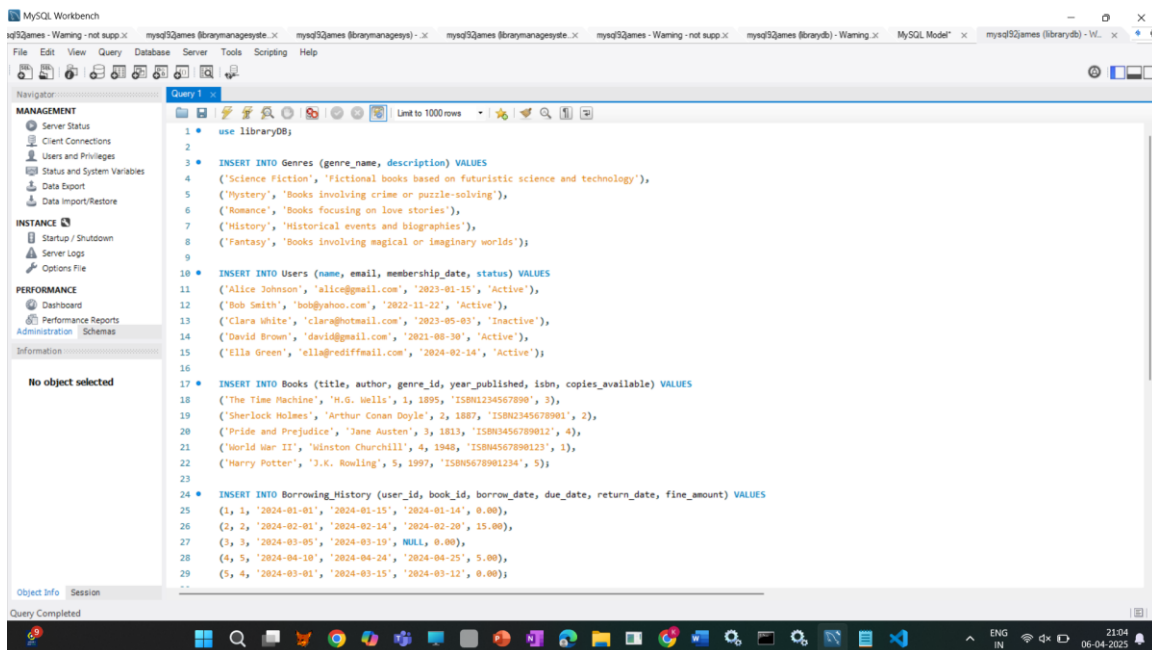
SCREENSHOTS

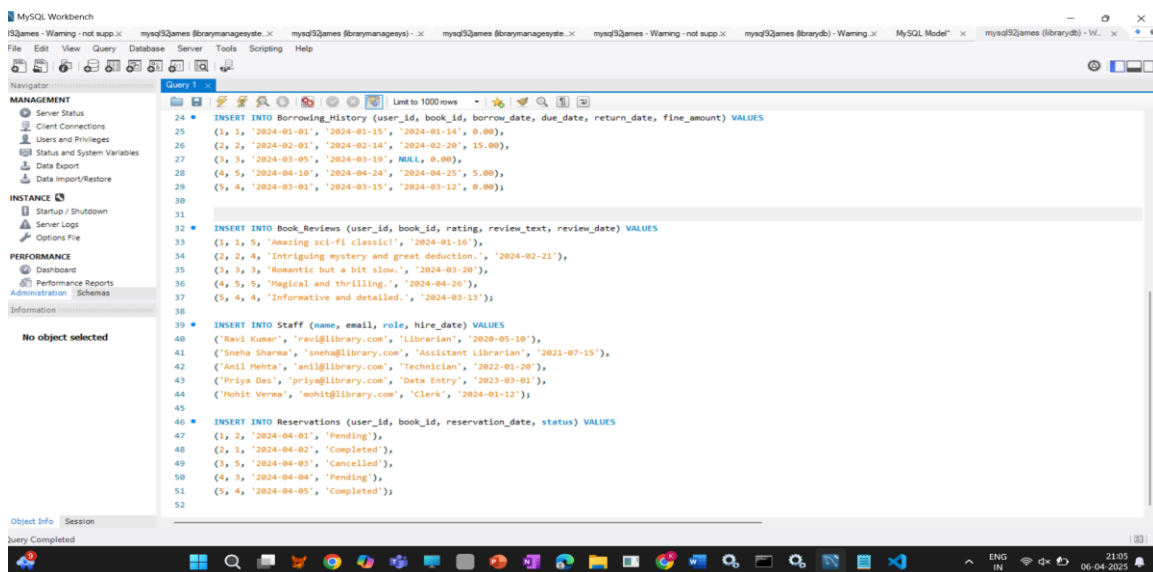
1. Table Creation:





2.Sample Data Insertion:

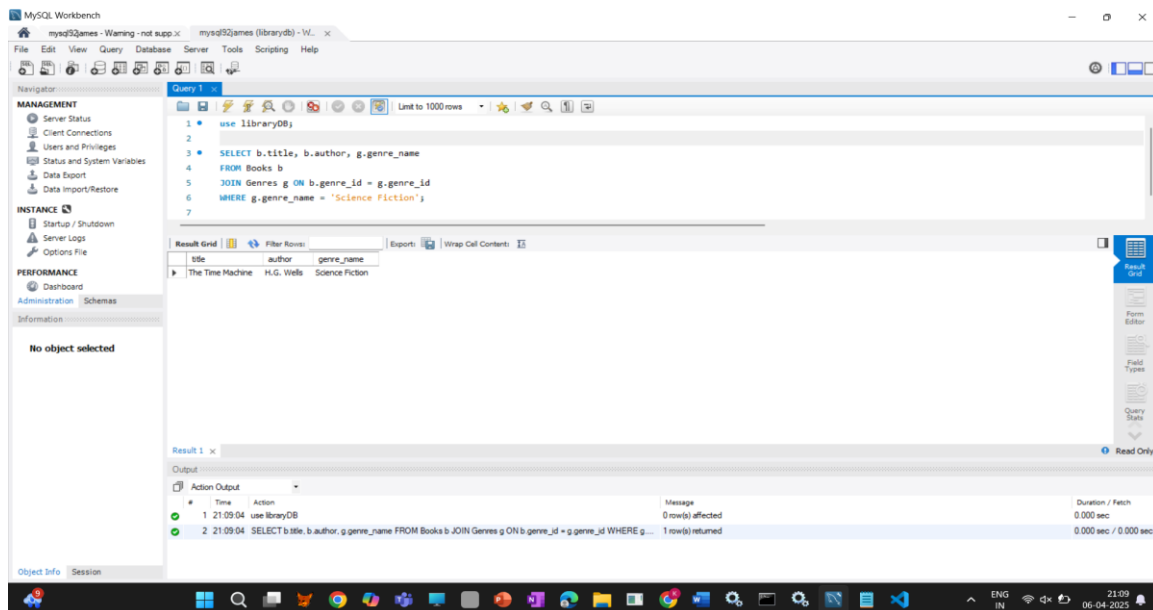




#	Time	Action	Message	Duration / Fetch
1	21:04:05	use libraryDB	0 row(s) affected	0.000 sec
2	21:04:05	INSERT INTO Genres (genre_name, description) VALUES (Science Fiction, 'Fictional books based on futuristic scie...	5 row(s) affected Records: 5 Duplicates: 0 Warnings: 0	0.000 sec
3	21:04:05	INSERT INTO Users (name, email, membership_date, status) VALUES (Alice Johnson, 'alice@gmail.com', '2023-01-...	5 row(s) affected Records: 5 Duplicates: 0 Warnings: 0	0.000 sec
4	21:04:05	INSERT INTO Books (title, author, genre_id, year_published, isbn, copies_available) VALUES (The Time Machine, '...	5 row(s) affected Records: 5 Duplicates: 0 Warnings: 0	0.016 sec
5	21:04:05	INSERT INTO Borrowing_History (user_id, book_id, borrow_date, due_date, return_date, fine_amount) VALUES (1, ...	5 row(s) affected Records: 5 Duplicates: 0 Warnings: 0	0.015 sec
6	21:04:05	INSERT INTO Book_Reviews (user_id, book_id, rating, review_text, review_date) VALUES (1, 1, 5, 'Amazing sci-fi d...	5 row(s) affected Records: 5 Duplicates: 0 Warnings: 0	0.016 sec
7	21:04:05	INSERT INTO Staff (name, email, role, hire_date) VALUES (Ravi Kumar, 'ravi@library.com', 'Librarian', '2020-05-10')...	5 row(s) affected Records: 5 Duplicates: 0 Warnings: 0	0.016 sec
8	21:04:05	INSERT INTO Reservations (user_id, book_id, reservation_date, status) VALUES (1, 2, '2024-04-01', 'Pending'), (2, 1...	5 row(s) affected Records: 5 Duplicates: 0 Warnings: 0	0.000 sec

3.Data Retrieval Queries:

1.Books by genre:



2. Books Borrowed by a Specific User:

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

```
1 use libraryDB;
2
3 SELECT u.name, b.title, bh.borrow_date, bh.due_date
4 FROM Borrowing_History bh
5 JOIN Users u ON bh.user_id = u.user_id
6 JOIN Books b ON bh.book_id = b.book_id
7 WHERE u.name = "Alice Johnson";
8
```

The Results Grid shows the following data:

name	title	borrow_date	due_date
Alice Johnson	The Time Machine	2024-01-01	2024-01-15

The Output pane shows the execution log:

#	Time	Action	Message	Duration / Fetch
1	21:09:04	use libraryDB	0 row(s) affected	0.000 sec
2	21:09:04	SELECT b.title, b.author, g.genre_name FROM Books b JOIN Genres g ON b.genre_id = g.genre_id WHERE g...	1 row(s) returned	0.000 sec / 0.000 sec
3	21:12:40	use libraryDB	0 row(s) affected	0.016 sec
4	21:12:40	SELECT u.name, b.title, bh.borrow_date, bh.due_date FROM Borrowing_History bh JOIN Users u ON bh.user_id...	1 row(s) returned	0.000 sec / 0.000 sec

3. List all Available books:

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

```
1 use libraryDB;
2
3 SELECT title, author, copies_available
4 FROM Books
5 WHERE copies_available > 0;
6
7
8
```

The Results Grid shows the following data:

title	author	copies_available
The Time Machine	H.G. Wells	3
Sherlock Holmes	Arthur Conan Doyle	2
Pride and Prejudice	Jane Austen	4
World War II	Winston Churchill	1
Harry Potter	J.K. Rowling	5

The Output pane shows the execution log:

#	Time	Action	Message	Duration / Fetch
1	21:09:04	use libraryDB	0 row(s) affected	0.000 sec
2	21:09:04	SELECT b.title, b.author, g.genre_name FROM Books b JOIN Genres g ON b.genre_id = g.genre_id WHERE g...	1 row(s) returned	0.000 sec / 0.000 sec
3	21:12:40	use libraryDB	0 row(s) affected	0.016 sec
4	21:12:40	SELECT u.name, b.title, bh.borrow_date, bh.due_date FROM Borrowing_History bh JOIN Users u ON bh.user_id...	1 row(s) returned	0.000 sec / 0.000 sec
5	21:20:09	use libraryDB	0 row(s) affected	0.000 sec
6	21:20:09	SELECT title, author, copies_available FROM Books WHERE copies_available > 0 LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec

4. Books with Average Rating

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

```
2  
3 SELECT b.title, AVG(br.rating) AS average_rating  
4 FROM Books b  
5 JOIN Book_Reviews br ON b.book_id = br.book_id  
6 GROUP BY b.title  
7 ORDER BY average_rating DESC;  
8
```

The Result Grid displays the following data:

title	average_rating
The Time Machine	5.0000
Harry Potter	5.0000
Sherlock Holmes	4.0000
World War II	4.0000
Pride and Prejudice	3.0000

The Output pane shows the execution log with the following entries:

#	Time	Action	Message	Duration / Fetch
3	21:12:40	use libraryDB	0 row(s) affected	0.016 sec
4	21:12:40	SELECT u.name, b.title, bh.borrow_date, bh.due_date FROM Borrowing_History bh JOIN Users u ON bh.user_id = u.user_id	1 row(s) returned	0.000 sec / 0.000 sec
5	21:20:09	use libraryDB	0 row(s) affected	0.000 sec
6	21:20:09	SELECT title, author, copies_available FROM Books WHERE copies_available > 0 LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec
7	06:14:04	use libraryDB	0 row(s) affected	0.031 sec
8	06:14:04	SELECT b.title, AVG(br.rating) AS average_rating FROM Books b JOIN Book_Reviews br ON b.book_id = br.book_id	5 row(s) returned	0.047 sec / 0.000 sec

5. Reservations for a Book:

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

```
1 use libraryDB;  
2  
3 SELECT r.reservation_id, u.name AS user_name, b.title, r.reservation_date, r.status  
4 FROM Reservations r  
5 JOIN Users u ON r.user_id = u.user_id  
6 JOIN Books b ON r.book_id = b.book_id  
7 WHERE b.title = 'The Time Machine';  
8
```

The Result Grid displays the following data:

reservation_id	user_name	title	reservation_date	status
2	Bob Smith	The Time Machine	2024-04-02	Completed

The Output pane shows the execution log with the following entries:

#	Time	Action	Message	Duration / Fetch
5	21:20:09	use libraryDB	0 row(s) affected	0.000 sec
6	21:20:09	SELECT title, author, copies_available FROM Books WHERE copies_available > 0 LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec
7	06:14:04	use libraryDB	0 row(s) affected	0.031 sec
8	06:14:04	SELECT b.title, AVG(br.rating) AS average_rating FROM Books b JOIN Book_Reviews br ON b.book_id = br.book_id	5 row(s) returned	0.047 sec / 0.000 sec
9	06:21:14	use libraryDB	0 row(s) affected	0.015 sec
10	06:21:14	SELECT r.reservation_id, u.name AS user_name, b.title, r.reservation_date, r.status FROM Reservations r JOIN Books b ON r.book_id = b.book_id	1 row(s) returned	0.032 sec / 0.000 sec

6. Overdue Books:

The screenshot shows MySQL Workbench with a query window open. The query is as follows:

```
1 use libraryDB;
2
3 SELECT u.name, b.title, bh.due_date, bh.return_date
4 FROM Borrowing_History bh
5 JOIN Users u ON bh.user_id = u.user_id
6 JOIN Books b ON bh.book_id = b.book_id
7 WHERE bh.return_date IS NULL AND bh.due_date < CURDATE();
8
```

The Result Grid shows the following data:

name	title	due_date	return_date
Clara White	Pride and Prej	Pride and Prejudice	

The Output window shows the following action output:

#	Time	Action	Message	Duration / Fetch
7	06:14:04	use libraryDB	0 row(s) affected	0.031 sec
8	06:14:04	SELECT b.title, AVG(b.rating) AS average_rating FROM Books b JOIN Book_Reviews br ON b.book_id = br.b...	5 row(s) returned	0.047 sec / 0.000 sec
9	06:21:14	use libraryDB	0 row(s) affected	0.015 sec
10	06:21:14	SELECT r.reservation_id, u.name AS user_name, b.title, r.reservation_date, r.status FROM Reservations r JOI...	1 row(s) returned	0.032 sec / 0.000 sec
11	06:22:39	use libraryDB	0 row(s) affected	0.000 sec
12	06:22:39	SELECT u.name, b.title, bh.due_date, bh.return_date FROM Borrowing_History bh JOIN Users u ON bh.user_...	1 row(s) returned	0.015 sec / 0.000 sec

7. User with outstanding fines:

The screenshot shows MySQL Workbench with a query window open. The query is as follows:

```
1 use libraryDB;
2
3 SELECT u.name, SUM(bh.fine_amount) AS total_fines
4 FROM Borrowing_History bh
5 JOIN Users u ON bh.user_id = u.user_id
6 WHERE bh.fine_amount > 0
7 GROUP BY u.user_id;
8
```

The Result Grid shows the following data:

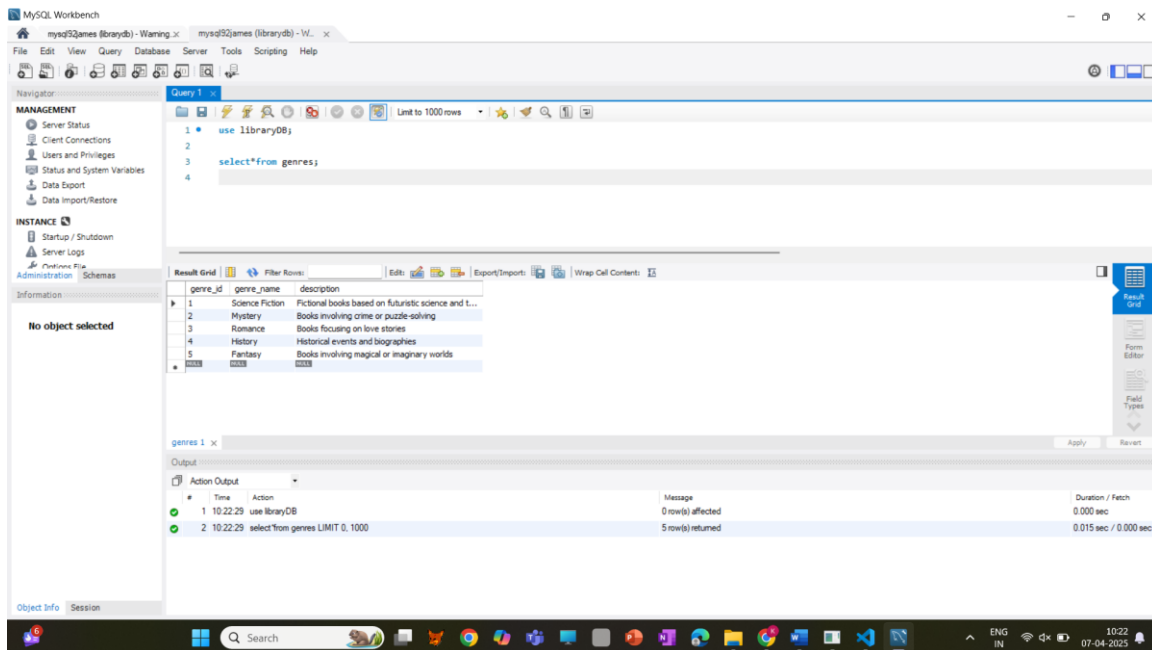
name	total_fines
Bob Smith	15.00
David Brown	5.00

The Output window shows the following action output:

#	Time	Action	Message	Duration / Fetch
9	06:21:14	use libraryDB	0 row(s) affected	0.015 sec
10	06:21:14	SELECT r.reservation_id, u.name AS user_name, b.title, r.reservation_date, r.status FROM Reservations r JOI...	1 row(s) returned	0.032 sec / 0.000 sec
11	06:22:39	use libraryDB	0 row(s) affected	0.000 sec
12	06:22:39	SELECT u.name, b.title, bh.due_date, bh.return_date FROM Borrowing_History bh JOIN Users u ON bh.user_...	1 row(s) returned	0.015 sec / 0.000 sec
13	06:23:25	use libraryDB	0 row(s) affected	0.000 sec
14	06:23:25	SELECT u.name, SUM(bh.fine_amount) AS total_fines FROM Borrowing_History bh JOIN Users u ON bh.user_...	2 row(s) returned	0.015 sec / 0.000 sec

4. Select Queries:

GENRES TABLE:



MySQL Workbench interface showing a query executed on the librarydb database. The query is:

```
1 use librarydb;
2
3 select * from genres;
4
```

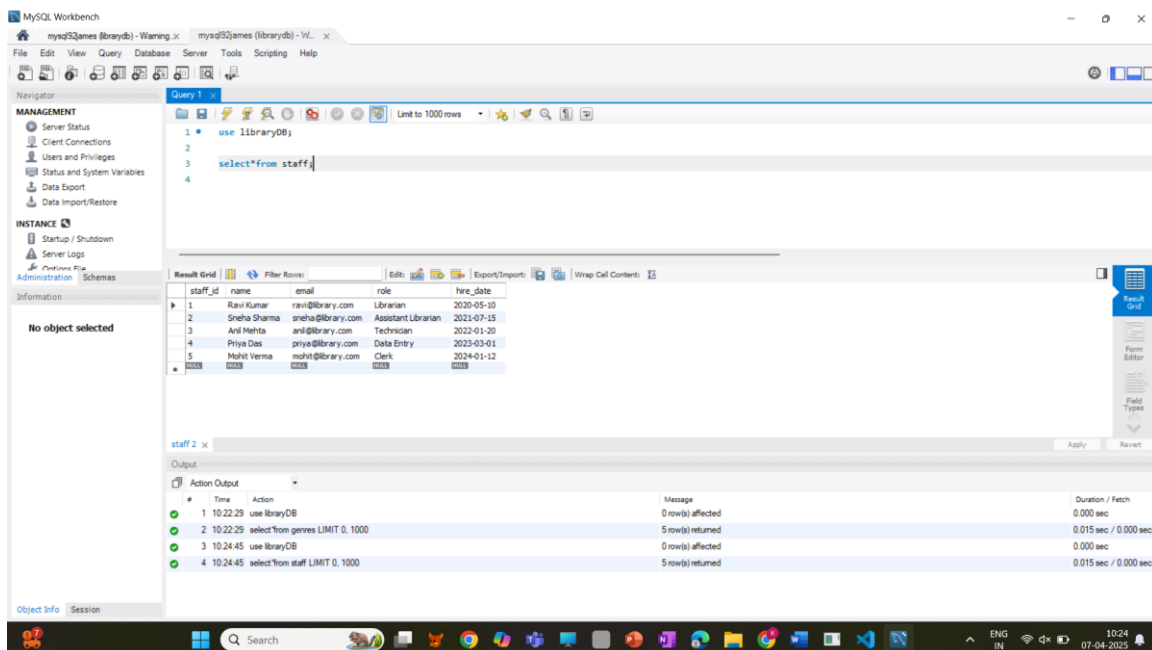
The result grid displays the following data:

genre_id	genre_name	description
1	Science Fiction	Fictional books based on futuristic science and t...
2	Mystery	Books involving crime or puzzle-solving
3	Romance	Books focusing on love stories
4	History	Historical events and biographies
5	Fantasy	Books involving magical or imaginary worlds

The output pane shows the following action output:

#	Time	Action	Message	Duration / Fetch
1	10:22:29	use librarydb	0 row(s) affected	0.000 sec
2	10:22:29	select from genres LIMIT 0, 1000	5 row(s) returned	0.015 sec / 0.000 sec

STAFF TABLE:



MySQL Workbench interface showing a query executed on the librarydb database. The query is:

```
1 use librarydb;
2
3 select * from staff;
4
```

The result grid displays the following data:

staff_id	name	email	role	hire_date
1	Ravi Kumar	ravi@library.com	Librarian	2020-05-10
2	Shreha Sharma	shreha@library.com	Assistant Librarian	2021-07-15
3	Anil Mehta	anil@library.com	Technician	2022-01-20
4	Priya Das	priya@library.com	Data Entry	2023-03-01
5	Mohit Verma	mohit@library.com	Clerk	2024-01-12

The output pane shows the following action output:

#	Time	Action	Message	Duration / Fetch
1	10:22:29	use librarydb	0 row(s) affected	0.000 sec
2	10:22:29	select from genres LIMIT 0, 1000	5 row(s) returned	0.015 sec / 0.000 sec
3	10:24:45	use librarydb	0 row(s) affected	0.000 sec
4	10:24:45	select from staff LIMIT 0, 1000	5 row(s) returned	0.015 sec / 0.000 sec

USERS TABLE:

The screenshot shows the MySQL Workbench interface. The 'Query 1' editor contains the following SQL code:

```
1 use libraryDB;
2
3 select*from users;
4
```

The 'Result Grid' displays the data from the 'users' table:

user_id	name	email	membership_date	status
1	Alice Johnson	alice@gmail.com	2023-01-15	Active
2	Bob Smith	bob@yahoo.com	2022-11-22	Active
3	Clara White	clara@hotmail.com	2023-05-03	Inactive
4	David Brown	david@gmail.com	2021-08-30	Active
5	Ella Green	ella@gmail.com	2024-02-14	Active

The 'Output' pane shows the execution log for 'users 3':

#	Time	Action	Message	Duration / Fetch
1	10:22:29	use libraryDB	0 row(s) affected	0.000 sec
2	10:22:29	select from genes LIMIT 0, 1000	5 row(s) returned	0.015 sec / 0.000 sec
3	10:24:45	use libraryDB	0 row(s) affected	0.000 sec
4	10:24:45	select from staff LIMIT 0, 1000	5 row(s) returned	0.015 sec / 0.000 sec
5	10:25:31	use libraryDB	0 row(s) affected	0.000 sec
6	10:25:31	select from users LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec

BORROWING_HISTORY TABLE:

The screenshot shows the MySQL Workbench interface. The 'Query 1' editor contains the following SQL code:

```
1 use libraryDB;
2
3 select*from borrowing_history;
4
```

The 'Result Grid' displays the data from the 'borrowing_history' table:

borrow_id	user_id	book_id	borrow_date	due_date	return_date	fine_amount
1	1	1	2024-01-01	2024-01-15	2024-01-14	0.00
2	2	2	2024-02-01	2024-02-14	2024-02-20	15.00
3	3	3	2024-03-05	2024-03-19		0.00
4	4	5	2024-04-10	2024-04-24	2024-04-25	5.00
5	5	4	2024-03-01	2024-03-15	2024-03-12	0.00

The 'Output' pane shows the execution log for 'borrowing_history 4':

#	Time	Action	Message	Duration / Fetch
3	10:24:45	use libraryDB	0 row(s) affected	0.000 sec
4	10:24:45	select from staff LIMIT 0, 1000	5 row(s) returned	0.015 sec / 0.000 sec
5	10:25:31	use libraryDB	0 row(s) affected	0.000 sec
6	10:25:31	select from users LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec
7	10:27:29	use libraryDB	0 row(s) affected	0.000 sec
8	10:27:29	select from borrowing_history LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec

BORROWING_REVIEWS TABLE:

MySQL Workbench

mysql53ames (librarydb) - Warning x mysql53ames (librarydb) - W...

File Edit View Query Database Server Tools Scripting Help

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Information

No object selected

Query 1

```
1 use libraryDB;
2
3 select*from book_reviews;
4
```

Result Grid

review_id	user_id	book_id	rating	review_text	review_date
1	1	1	5	Amazing sci-fi classic!	2024-01-18
2	2	2	4	Intriguing mystery and great deduction.	2024-02-21
3	3	3	3	Romantic but a bit slow.	2024-03-20
4	4	5	5	Magical and thrilling.	2024-04-26
5	5	4	4	Informative and detailed.	2024-03-13

book_reviews 5 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
5	10:25:31	use libraryDB	0 row(s) affected	0.000 sec / 0.000 sec
6	10:25:31	select from users LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec
7	10:27:29	use libraryDB	0 row(s) affected	0.000 sec
8	10:27:29	select from borrowing_history LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec
9	10:28:22	use libraryDB	0 row(s) affected	0.000 sec
10	10:28:22	select from book_reviews LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec

Object Info Session

10:28 07-04-2025

RESERVATIONS TABLE:

MySQL Workbench

mysql53ames (librarydb) - Warning x mysql53ames (librarydb) - W...

File Edit View Query Database Server Tools Scripting Help

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Information

No object selected

Query 1

```
1 use libraryDB;
2
3 select*from reservations;
4
```

Result Grid

reservation_id	user_id	book_id	reservation_date	status
1	1	2	2024-04-01	Pending
2	2	1	2024-04-02	Completed
3	3	5	2024-04-03	Cancelled
4	4	3	2024-04-04	Pending
5	5	4	2024-04-05	Completed

reservations 6 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
7	10:27:29	use libraryDB	0 row(s) affected	0.000 sec
8	10:27:29	select from borrowing_history LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec
9	10:28:22	use libraryDB	0 row(s) affected	0.000 sec
10	10:28:22	select from book_reviews LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec
11	10:29:05	use libraryDB	0 row(s) affected	0.000 sec
12	10:29:05	select from reservations LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec

Object Info Session

10:29 07-04-2025

BOOKS TABLE:

The screenshot displays the MySQL Workbench interface. The 'Query' tab is active, showing a SQL query: `use libraryDB;` followed by `select*from books;`. The 'Result Grid' shows the output of this query, displaying a table with 7 columns: `book_id`, `title`, `author`, `genre_id`, `year_published`, `isbn`, and `copies_available`. The table contains 5 rows of data. Below the result grid, the 'Output' tab is visible, showing a log of actions performed, including 'use libraryDB' and 'select from books LIMIT 0, 1000', with their respective messages and durations.

book_id	title	author	genre_id	year_published	isbn	copies_available
1	The Time Machine	H.G. Wells	1	1895	ISBN1234567890	3
2	Sherlock Holmes	Arthur Conan Doyle	2	1887	ISBN12345678901	2
3	Pride and Prejudice	Jane Austen	3	1813	ISBN1456789012	4
4	World War II	Winston Churchill	4	1948	ISBN4567890123	1
5	Harry Potter	J.K. Rowling	5	1997	ISBN5678901234	5

books 7 x

Output

#	Time	Action	Message	Duration / Fetch
9	10:28:22	use libraryDB	0 row(s) affected	0.000 sec
10	10:28:22	select from book_reviews LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec
11	10:29:05	use libraryDB	0 row(s) affected	0.000 sec
12	10:29:05	select from reservations LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec
13	10:30:03	use libraryDB	0 row(s) affected	0.000 sec
14	10:30:03	select from books LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec