

```
create database Library_Management_System;
```

```
use Library_Management_System;
```

```
create table Books(
```

```
    BookID int primary key,
```

```
    Title varchar(255),
```

```
    Email varchar(255),
```

```
    Address varchar(255),
```

```
    phone varchar(255)
```

```
);
```

```
create table Members(  
    MemberID int primary key,  
    Name varchar(255),  
    Email varchar(255),  
    Address varchar(255),  
    Phone varchar(15)  
);
```

```
create table loans(  
    LoanID int primary key,  
    BookID int,  
    MemberID int,  
    LoanDate date,  
    due date,  
    returnDate date,  
    foreign key (BookID) references Books(BookID),  
    foreign key (MemberID) references Members(MemberID)  
);
```

```
create table Authors(  
    AuthorID int primary key,  
    Name varchar(255),  
    Bio text
```

);

```
create table BookAuthors(  
    BookAuthorID int primary key,  
    BookID int,  
    AuthorID int,  
    foreign key (BookID) references Books(BookID),  
    foreign key (AuthorID) references Authors(AuthorID)  
);
```

INSERT INTO Books (BookID, Title, Email, Address, Phone)

VALUES

(1, 'The Great Gatsby', 'info@gatsby.com', '123 West Egg Lane', '555-1234'),
(2, 'To Kill a Mockingbird', 'contact@mockingbird.com', '456 Robinson Ave', '555-5678'),
(3, 'Pride and Prejudice', 'library@bennet.com', '789 Longbourn Street', '555-9876'),
(4, '1984', 'info@orwell.com', '101 Ministry Lane', '555-4321'),
(5, 'The Catcher in the Rye', 'contact@salinger.com', '234 Holden St', '555-8765'),
(6, 'Harry Potter and the Sorcerer's Stone', 'info@potter.com', '7 Privet Drive', '555-1111'),
(7, 'The Hobbit', 'contact@tolkien.com', '22 Bag End', '555-2222'),
(8, 'The Da Vinci Code', 'info@brown.com', '143 Louvre St', '555-3333'),
(9, 'The Hunger Games', 'contact@collins.com', '12 District Lane', '555-4444'),
(10, 'The Lord of the Rings', 'info@tolkien.com', '1 Middle Earth Blvd', '555-5555');

INSERT INTO Members (MemberID, Name, Email, Address, Phone)

VALUES

(1, 'John Doe', 'john.doe@email.com', '10 Main St', '555-1111'),
(2, 'Jane Smith', 'jane.smith@email.com', '20 Oak Ave', '555-2222'),
(3, 'Michael Brown', 'michael.brown@email.com', '30 Elm Rd', '555-3333'),
(4, 'Emily Johnson', 'emily.johnson@email.com', '40 Pine Blvd', '555-4444'),
(5, 'David Wilson', 'david.wilson@email.com', '50 Maple Dr', '555-5555'),
(6, 'Sarah Miller', 'sarah.miller@email.com', '60 Cedar Lane', '555-6666'),
(7, 'James Taylor', 'james.taylor@email.com', '70 Birch Ave', '555-7777'),
(8, 'Emma Garcia', 'emma.garcia@email.com', '80 Willow St', '555-8888'),
(9, 'Andrew Martinez', 'andrew.martinez@email.com', '90 Elmwood Dr', '555-9999'),
(10, 'Olivia Hernandez', 'olivia.hernandez@email.com', '100 Oakwood Rd', '555-0000');

INSERT INTO Loans (LoanID, BookID, MemberID, LoanDate, due, returnDate)

VALUES

(1, 1, 1, '2024-06-21', '2024-07-21', NULL),
(2, 2, 2, '2024-06-15', '2024-07-15', '2024-07-10'),
(3, 3, 3, '2024-06-10', '2024-07-10', NULL),
(4, 4, 4, '2024-06-25', '2024-07-25', NULL),
(5, 5, 5, '2024-06-18', '2024-07-18', '2024-07-12'),
(6, 6, 6, '2024-06-05', '2024-07-05', NULL),
(7, 7, 7, '2024-06-12', '2024-07-12', '2024-07-08'),
(8, 8, 8, '2024-06-28', '2024-07-28', NULL),
(9, 9, 9, '2024-06-20', '2024-07-20', '2024-07-15'),
(10, 10, 10, '2024-06-30', '2024-07-30', NULL);

INSERT INTO Authors (AuthorID, Name, Bio)

VALUES

(1, 'F. Scott Fitzgerald', 'F. Scott Fitzgerald was an American writer known for his novels and short stories'),

(2, 'Harper Lee', 'Harper Lee was an American novelist best known for her novel "To Kill a Mockingbird"'),

(3, 'Jane Austen', 'Jane Austen was an English novelist known primarily for her six major novels'),

(4, 'George Orwell', 'George Orwell was an English novelist, essayist, journalist, and critic'),

(5, 'J.D. Salinger', 'J.D. Salinger was an American writer best known for his novel "The Catcher in the Rye"'),

(6, 'J.K. Rowling', 'J.K. Rowling is a British author known for the Harry Potter series'),

(7, 'J.R.R. Tolkien', 'J.R.R. Tolkien was an English writer, poet, philologist, and university professor'),

(8, 'Dan Brown', 'Dan Brown is an American author known for his thriller novels, including "The Da Vinci Code"'),

(9, 'Suzanne Collins', 'Suzanne Collins is an American television writer and novelist, best known for "The Hunger Games" trilogy'),

(10, 'Stephen King', 'Stephen King is an American author of horror, supernatural fiction, suspense, crime, science-fiction, and fantasy novels');

INSERT INTO BookAuthors (BookAuthorID, BookID, AuthorID)

VALUES

(1, 1, 1),

(2, 2, 2),

(3, 3, 3),

(4, 4, 4),

(5, 5, 5),
(6, 6, 6),
(7, 7, 7),
(8, 8, 8),
(9, 9, 9),
(10, 10, 7);

INSERT INTO Books (BookID, Title, Email, Address, Phone)

VALUES

(11, 'The Shining', 'info@king.com', '123 Overlook Hotel', '555-6666'),
(12, 'A Game of Thrones', 'info@martin.com', '456 Westeros Lane', '555-7777'),
(13, 'Dune', 'info@herbert.com', '789 Arrakis Ave', '555-8888'),
(14, 'Foundation', 'info@asimov.com', '101 Terminus Blvd', '555-9999'),
(15, 'The Name of the Wind', 'info@rothfuss.com', '234 Edema Ruh Rd', '555-0001');

INSERT INTO Members (MemberID, Name, Email, Address, Phone)

VALUES

(11, 'William Evans', 'william.evans@email.com', '110 Cedar St', '555-1112'),
(12, 'Sophia Clark', 'sophia.clark@email.com', '120 Maple Ave', '555-2223'),
(13, 'Benjamin Lewis', 'benjamin.lewis@email.com', '130 Pine Rd', '555-3334'),
(14, 'Ava Scott', 'ava.scott@email.com', '140 Oak Blvd', '555-4445'),
(15, 'Isabella White', 'isabella.white@email.com', '150 Elm Dr', '555-5556');

```
INSERT INTO Loans (LoanID, BookID, MemberID, LoanDate, due, returnDate)
```

```
VALUES
```

```
(11, 11, 1, '2024-06-01', '2024-06-30', NULL),
```

```
(12, 12, 2, '2024-06-05', '2024-07-05', NULL),
```

```
(13, 13, 3, '2024-06-10', '2024-07-10', NULL),
```

```
(14, 14, 4, '2024-06-15', '2024-07-15', NULL),
```

```
(15, 15, 5, '2024-06-20', '2024-07-20', NULL);
```

```
INSERT INTO Authors (AuthorID, Name, Bio)
```

```
VALUES
```

```
(11, 'Stephen King', 'Stephen King is an American author of horror, supernatural fiction, suspense, and fantasy novels.');
```

```
(12, 'George R. R. Martin', 'George R. R. Martin is an American novelist and short story writer, known for "A Song of Ice and Fire" series.');
```

```
(13, 'Frank Herbert', 'Frank Herbert was an American science-fiction author best known for the novel "Dune" and its sequels.');
```

```
(14, 'Isaac Asimov', 'Isaac Asimov was a Russian-born American author and professor of biochemistry, known for his works of science fiction and popular science.');
```

```
(15, 'Patrick Rothfuss', 'Patrick Rothfuss is an American writer of epic fantasy. He is best known for his series "The Kingkiller Chronicle".');
```

```
INSERT INTO BookAuthors (BookAuthorID, BookID, AuthorID)
```

```
VALUES
```

```
(11, 11, 11),
```

```
(12, 12, 12),
```

(13, 13, 13),

(14, 14, 14),

(15, 15, 15);

Books Table:

	BookID	Title	Email	Address	phone
▶	1	The Great Gatsby	info@gatsby.com	123 West Egg Lane	555-1234
	2	To Kill a Mockingbird	contact@mockingbird.com	456 Robinson Ave	555-5678
	3	Pride and Prejudice	library@bennet.com	789 Longbourn Street	555-9876
	4	1984	info@orwell.com	101 Ministry Lane	555-4321
	5	The Catcher in the Rye	contact@salinger.com	234 Holden St	555-8765
	6	Harry Potter and the Sorcerer's Stone	info@potter.com	7 Privet Drive	555-1111
	7	The Hobbit	contact@tolkien.com	22 Bag End	555-2222
	8	The Da Vinci Code	info@brown.com	143 Louvre St	555-3333
	9	The Hunger Games	contact@collins.com	12 District Lane	555-4444
	10	The Lord of the Rings	info@tolkien.com	1 Middle Earth Blvd	555-5555
	11	The Shining	info@king.com	123 Overlook Hotel	555-6666
	12	A Game of Thrones	info@martin.com	info@martin.com	555-7777
	13	Dune	info@herbert.com	769 Atreus Ave	555-8888
	14	Foundation	info@asimov.com	101 Terminus Blvd	555-9999
	15	The Name of the Wind	info@rothfuss.com	234 Edema Ruh Rd	555-0001
*	NULL	NULL	NULL	NULL	NULL

Members Table:

	MemberID	Name	Email	Address	Phone
▶	1	John Doe	john.doe@email.com	10 Main St	555-1111
	2	Jane Smith	jane.smith@email.com	20 Oak Ave	555-2222
	3	Michael Brown	michael.brown@email.com	30 Elm Rd	555-3333
	4	Emily Johnson	emily.johnson@email.com	40 Pine Blvd	555-4444
	5	David Wilson	david.wilson@email.com	50 Maple Dr	555-5555
	6	Sarah Miller	sarah.miller@email.com	60 Cedar Lane	555-6666
	7	James Taylor	james.taylor@email.com	70 Birch Ave	555-7777
	8	Emma Garcia	emma.garcia@email.com	80 Willow St	555-8888
	9	Andrew Martinez	andrew.martinez@email.com	90 Elmwood Dr	555-9999
	10	Olivia Hernandez	olivia.hernandez@email.com	90 Elmwood Dr	555-0000
	11	William Evans	william.evans@email.com	110 Cedar St	555-1112
	12	Sophia Clark	sophia.clark@email.com	120 Maple Ave	555-2223
	13	Benjamin Lewis	benjamin.lewis@email.com	130 Pine Rd	555-3334
	14	Ava Scott	ava.scott@email.com	140 Oak Blvd	555-4445
	15	Isabella White	isabella.white@email.com	150 Elm Dr	555-5556
*	NULL	NULL	NULL	NULL	NULL

Loans Table:

	LoanID	BookID	MemberID	LoanDate	due	returnDate
▶	1	1	1	2024-06-21	2024-07-21	NULL
	2	2	2	2024-06-15	2024-07-15	2024-07-10
	3	3	3	2024-06-10	2024-07-10	NULL
	4	4	4	2024-06-25	2024-07-25	NULL
	5	5	5	2024-06-18	2024-07-18	2024-07-12
	6	6	6	2024-06-05	2024-07-05	NULL
	7	7	7	2024-06-12	2024-07-12	2024-07-08
	8	8	8	2024-06-28	2024-07-28	NULL
	9	9	9	2024-06-20	2024-07-20	2024-07-15
	10	10	10	2024-06-30	2024-07-30	NULL
	11	11	1	2024-06-01	2024-06-30	NULL
	12	12	2	2024-06-05	2024-07-05	NULL
	13	13	3	2024-06-10	2024-07-10	NULL
	14	14	4	2024-06-15	2024-07-15	NULL
	15	15	5	2024-06-20	2024-07-20	NULL
✱	NULL	NULL	NULL	NULL	NULL	NULL

Authors Table:

	AuthorID	Name	Bio
▶	1	F. Scott Fitzgerald	F. Scott Fitzgerald was an American writer kno...
	2	Harper Lee	Harper Lee was an American novelist best know...
	3	Jane Austen	Jane Austen was an English novelist known prim...
	4	George Orwell	George Orwell was an English novelist, essayist...
	5	J.D. Salinger	J.D. Salinger was an American writer best know...
	6	J.K. Rowling	J.K. Rowling is a British author known for the H...
	7	J.R.R. Tolkien	J.R.R. Tolkien was an English writer, poet, philo...
	8	Dan Brown	Dan Brown is an American author known for his ...
	9	Suzanne Collins	Suzanne Collins is an American television writer ...
	10	Stephen King	Stephen King is an American author of horror, s...
	11	Stephen King	Stephen King is an American author of horror, s...
	12	George R. R. Martin	George R. R. Martin is an American novelist and...
	13	Frank Herbert	Frank Herbert was an American science-fiction ...
	14	Isaac Asimov	Isaac Asimov was a Russian-born American aut...
	15	Patrick Rothfuss	Patrick Rothfuss is an American writer of epic fa...
✱	NULL	NULL	NULL

BookAuthors Table:

	BookAuthorID	BookID	AuthorID
▶	1	1	1
	2	2	2
	3	3	3
	4	4	4
	5	5	5
	6	6	6
	7	7	7
	8	8	8
	9	9	9
	10	10	7
	11	11	11
	12	12	12
	13	13	13
	14	14	14
	15	15	15
•	NULL	NULL	NULL

practice question

1. retrieve all the students

select * from Members;

Result Grid

Filter Rows:

Edit:

Export/Import:

	MemberID	Name	Email	Address	Phone
▶	1	John Doe	john.doe@email.com	10 Main St	555-1111
	2	Jane Smith	jane.smith@email.com	20 Oak Ave	555-2222
	3	Michael Brown	michael.brown@email.com	30 Elm Rd	555-3333
	4	Emily Johnson	emily.johnson@email.com	40 Pine Blvd	555-4444
	5	David Wilson	david.wilson@email.com	50 Maple Dr	555-5555
	6	Sarah Miller	sarah.miller@email.com	60 Cedar Lane	555-6666
	7	James Taylor	james.taylor@email.com	70 Birch Ave	555-7777
	8	Emma Garcia	emma.garcia@email.com	80 Willow St	555-8888
	9	Andrew Martinez	andrew.martinez@email.com	90 Elmwood Dr	555-9999
	10	Olivia Hernandez	olivia.hernandez@email.com	100 Oakwood Rd	555-0000
•	NULL	NULL	NULL	NULL	NULL

2. find all the books by a specific author

select Books.Title from Books join BookAuthors on Books.BookID=BookAuthors.BookID join Authors on BookAuthors.AuthorID=Authors.AuthorID where Authors.Name='Jane Austen';

Title
Pride and Prejudice

3. find all the books whose author name starts with A

```
select Books.Title from Books join BookAuthors on Books.BookID=BookAuthors.BookID join
Authors on BookAuthors.AuthorID=Authors.AuthorID where Authors.Name like 'J%';
```

Title
Pride and Prejudice
The Catcher in the Rye
Harry Potter and the Sorcerer's Stone
The Hobbit
The Lord of the Rings

4. list all the distinct books in the database

```
select distinct Title from Books;
```

Title
The Great Gatsby
To Kill a Mockingbird
Pride and Prejudice
1984
The Catcher in the Rye
Harry Potter and the Sorcerer's Stone
The Hobbit
The Da Vinci Code
The Hunger Games
The Lord of the Rings
The Shining
A Game of Thrones
Dune
Foundation
The Name of the Wind

5. list all the books by specific genere.

-- Add the Genre column to the Books table

```
ALTER TABLE Books
```

```
ADD Genre VARCHAR(255);
```

-- Update the Genre column for existing books

UPDATE Books

SET Genre = 'Fiction' WHERE BookID IN (1, 2, 3, 5, 6, 9, 10);

UPDATE Books

SET Genre = 'Dystopian' WHERE BookID = 4;

UPDATE Books

SET Genre = 'Fantasy' WHERE BookID IN (7, 11, 12, 15);

UPDATE Books

SET Genre = 'Thriller' WHERE BookID = 8;

UPDATE Books

SET Genre = 'Science Fiction' WHERE BookID IN (13, 14);

select * from Books;

	BookID	Title	Email	Address	phone	Genre
	1	The Great Gatsby	info@gatsby.com	123 West Egg Lane	555-1234	Fiction
	2	To Kill a Mockingbird	contact@mockingbird.com	456 Robinson Ave	555-5678	Fiction
	3	Pride and Prejudice	library@bennet.com	789 Longbourn Street	555-9876	Fiction
	4	1984	info@orwell.com	101 Ministry Lane	555-4321	Dystopian
	5	The Catcher in the Rye	contact@salinger.com	234 Holden St	555-8765	Fiction
	6	Harry Potter and the Sorcerer's Stone	info@potter.com	7 Privet Drive	555-1111	Fiction
▶	7	The Hobbit	contact@tolkien.com	22 Bag End	555-2222	Fantasy
	8	The Da Vinci Code	info@brown.com	143 Louvre St	555-3333	Thriller
	9	The Hunger Games	contact@collins.com	12 District Lane	555-4444	Fiction
	10	The Lord of the Rings	info@tolkien.com	1 Middle Earth Blvd	555-5555	Fiction
	11	The Shining	info@king.com	123 Overlook Hotel	555-6666	Fantasy
	12	A Game of Thrones	info@martin.com	456 Westeros Lane	555-7777	Fantasy
	13	Dune	info@herbert.com	789 Arrakis Ave	555-8888	Science F...
	14	Foundation	info@asimov.com	101 Terminus Blvd	555-9999	Science F...
	15	The Name of the Wind	info@rothfuss.com	234 Edema Ruh Rd	555-0001	Fantasy
*	NULL	NULL	NULL	NULL	NULL	NULL

select Title from Books where Genre = 'Fiction';

	Title
	The Great Gatsby
	To Kill a Mockingbird
	Pride and Prejudice
	The Catcher in the Rye
	Harry Potter and the Sorcerer's Stone
▶	The Hunger Games
	The Lord of the Rings

6. calculate the total no of books borrowed by each member.

select Members.Name, count(Loans.LoanID) as Books_Borrowed from Members join Loans on Members.MemberID=Loans.MemberID group by Members.Name;

	Name	Books_Borrowed
▶	John Doe	2
	Jane Smith	2
	Michael Brown	2
	Emily Johnson	2
	David Wilson	2
	Sarah Miller	1
	James Taylor	1
	Emma Garcia	1
	Andrew Martinez	1
	Olivia Hernandez	1

7. get details of specific loan

select * from Loans where LoanID=3;

	LoanID	BookID	MemberID	LoanDate	due	returnDate
▶	3	3	3	2024-06-10	2024-07-10	NULL
*	NULL	NULL	NULL	NULL	NULL	NULL

8. List all the loans along with member ID

select LoanID , MemberID from Loans;

	LoanID	MemberID
▶	1	1
	11	1
	2	2
	12	2
	3	3
	13	3
	4	4
	14	4
	5	5
	15	5
	6	6
	7	7
	8	8
	9	9
	10	10
✱	NULL	NULL

9. Find the top 5 most borrowed books.

select Books.Title, count(Loans.LoanID) as BorrowedBooks from Books join Loans on Books.BookID=Loans.BookID group by Books.Title order by BorrowedBooks desc limit 5;

	Title	BorrowedBooks
▶	The Great Gatsby	1
	To Kill a Mockingbird	1
	Pride and Prejudice	1
	1984	1
	The Catcher in the Rye	1

10. List all authors.

select distinct Name from Authors order by Name asc;

	Name
▶	Dan Brown
	F. Scott Fitzgerald
	Frank Herbert
	George Orwell
	George R. R. Martin
	Harper Lee
	Isaac Asimov
	J.D. Salinger
	J.K. Rowling
	J.R.R. Tolkien
	Jane Austen
	Patrick Rothfuss
	Stephen King
	Suzanne Collins

11. Update the stock of the books.

-- insert stock column in Books table

alter table Books

add stock int;

-- insert values

update Books

set stock=10 where BookID in(1,2,5,4,8);

update Books

set stock=5 where BookID in(11,7,3,9,10);

update Books

set stock=23 where BookID in(6,15,13);

update Books

set stock=20 where BookID in(13,15);

select * from Books;

Result Grid							
Filter Rows:		Edit:		Export/Import:		Wrap Cell Content:	
BookID	Title	Email	Address	phone	Genre	stock	
1	The Great Gatsby	info@gatsby.com	123 West Egg Lane	555-1234	Fiction	10	
2	To Kill a Mockingbird	contact@mockingbird.com	456 Robinson Ave	555-5678	Fiction	10	
3	Pride and Prejudice	library@bennet.com	789 Longbourn Street	555-9876	Fiction	5	
4	1984	info@orwell.com	101 Ministry Lane	555-4321	Dystopian	10	
5	The Catcher in the Rye	contact@salinger.com	234 Holden St	555-8765	Fiction	10	
6	Harry Potter and the Sorcerer's Stone	info@potter.com	7 Privet Drive	555-1111	Fiction	23	
7	The Hobbit	contact@tolkien.com	22 Bag End	555-2222	Fantasy	5	
8	The Da Vinci Code	info@brown.com	143 Louvre St	555-3333	Thriller	10	
9	The Hunger Games	contact@collins.com	12 District Lane	555-4444	Fiction	5	
10	The Lord of the Rings	info@tolkien.com	1 Middle Earth Blvd	555-5555	Fantasy	5	
11	The Shining	info@king.com	123 Overlook Hotel	555-6666	Fantasy	5	
12	A Game of Thrones	info@martin.com	456 Westeros Lane	555-7777	Fantasy	NULL	
13	Dune	info@herbert.com	789 Arrakis Ave	555-8888	Science F...	20	
14	Foundation	info@asimov.com	101 Terminus Blvd	555-9999	Science F...	NULL	
15	The Name of the Wind	info@rothfuss.com	234 Edema Ruh Rd	555-0001	Fantasy	20	
*	NULL	NULL	NULL	NULL	NULL	NULL	

update Books

set stock=15 where BookId in (12,14);

update Books

set stock=stock+7 where BookID=6;

select * from Books;

Result Grid							
Filter Rows:		Edit:		Export/Import:		Wrap Cell Content:	
BookID	Title	Email	Address	phone	Genre	stock	
1	The Great Gatsby	info@gatsby.com	123 West Egg Lane	555-1234	Fiction	10	
2	To Kill a Mockingbird	contact@mockingbird.com	456 Robinson Ave	555-5678	Fiction	10	
3	Pride and Prejudice	library@bennet.com	789 Longbourn Street	555-9876	Fiction	5	
4	1984	info@orwell.com	101 Ministry Lane	555-4321	Dystopian	10	
5	The Catcher in the Rye	contact@salinger.com	234 Holden St	555-8765	Fiction	10	
6	Harry Potter and the Sorcerer's Stone	info@potter.com	7 Privet Drive	555-1111	Fiction	30	
7	The Hobbit	contact@tolkien.com	22 Bag End	555-2222	Fantasy	5	
8	The Da Vinci Code	info@brown.com	143 Louvre St	555-3333	Thriller	10	
9	The Hunger Games	contact@collins.com	12 District Lane	555-4444	Fiction	5	
10	The Lord of the Rings	info@tolkien.com	1 Middle Earth Blvd	555-5555	Fiction	5	
11	The Shining	info@king.com	123 Overlook Hotel	555-6666	Fantasy	5	
12	A Game of Thrones	info@martin.com	456 Westeros Lane	555-7777	Fantasy	15	
13	Dune	info@herbert.com	789 Arrakis Ave	555-8888	Science F...	20	
14	Foundation	info@asimov.com	101 Terminus Blvd	555-9999	Science F...	15	
15	The Name of the Wind	info@rothfuss.com	234 Edema Ruh Rd	555-0001	Fantasy	20	
NULL	NULL	NULL	NULL	NULL	NULL	NULL	

12. Delete a specific loan record.

delete from Loans

where LoanID=15;

select * from Loans;

LoanID	BookID	MemberID	LoanDate	due	returnDate
1	1	1	2024-06-21	2024-07-21	NULL
2	2	2	2024-06-15	2024-07-15	2024-07-10
3	3	3	2024-06-10	2024-07-10	NULL
4	4	4	2024-06-25	2024-07-25	NULL
5	5	5	2024-06-18	2024-07-18	2024-07-12
6	6	6	2024-06-05	2024-07-05	NULL
7	7	7	2024-06-12	2024-07-12	2024-07-08
8	8	8	2024-06-28	2024-07-28	NULL
9	9	9	2024-06-20	2024-07-20	2024-07-15
10	10	10	2024-06-30	2024-07-30	NULL
11	11	1	2024-06-01	2024-06-30	NULL
12	12	2	2024-06-05	2024-07-05	NULL
13	13	3	2024-06-10	2024-07-10	NULL
14	14	4	2024-06-15	2024-07-15	NULL
NULL	NULL	NULL	NULL	NULL	NULL

13. list all the books with price greater than a "particular price"

alter table Books

add Price int;

update Books

set Price=120 where BookID in (1,5,8,12);

update Books

set Price=150 where BookID in (2,15);

update Books

set Price=720 where BookID in (4,14);

update Books

set Price=455 where BookID in (3,6,10);

update Books

set Price=378 where BookID in (7,9,11);

update Books

set Price=935 where BookID=13;

select * from Books;

Result Grid								
Filter Rows:		Edit:		Export/Import:		Wrap Cell Content:		
BookID	Title	Email	Address	phone	Genre	stock	Price	
1	The Great Gatsby	info@gatsby.com	123 West Egg Lane	555-1234	Fiction	10	120	
2	To Kill a Mockingbird	contact@mockingbird.com	456 Robinson Ave	555-5678	Fiction	10	150	
3	Pride and Prejudice	library@bennet.com	789 Longbourn Street	555-9876	Fiction	5	455	
4	1984	info@orwell.com	101 Ministry Lane	555-4321	Dystopian	10	720	
5	The Catcher in the Rye	contact@salinger.com	234 Holden St	555-8765	Fiction	10	120	
6	Harry Potter and the Sorcerer's Stone	info@potter.com	7 Privet Drive	555-1111	Fiction	30	455	
7	The Hobbit	contact@tolkien.com	22 Bag End	555-2222	Fantasy	5	378	
8	The Da Vinci Code	info@brown.com	143 Louvre St	555-3333	Thriller	10	120	
9	The Hunger Games	contact@collins.com	12 District Lane	555-4444	Fiction	5	378	
10	The Lord of the Rings	info@tolkien.com	1 Middle Earth Blvd	555-5555	Fiction	5	455	
11	The Shining	info@king.com	123 Overlook Hotel	555-6666	Fantasy	5	378	
12	A Game of Thrones	info@martin.com	456 Westeros Lane	555-7777	Fantasy	15	120	
13	Dune	info@herbert.com	789 Arrakis Ave	555-8888	Science F...	20	935	
14	Foundation	info@asimov.com	101 Terminus Blvd	555-9999	Science F...	15	720	
15	The Name of the Wind	info@rothfuss.com	234 Edema Ruh Rd	555-0001	Fantasy	20	150	
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL	

select Title from Books where Price>=700 order by Title ;

	Title
▶	1984
	Dune
	Foundation

14. find out the total no of books available in the library.

`select count(*) from Books;`

	count(*)
▶	15

15. List all the books that are currently on loan.

`select Books.Title from Loans join Books on Loans.BookID=Books.BookID where returnDate is null;`

	Title
▶	The Great Gatsby
	Pride and Prejudice
	1984
	Harry Potter and the Sorcerer's Stone
	The Da Vinci Code
	The Lord of the Rings
	The Shining
	A Game of Thrones
	Dune
	Foundation

16. List all the members that have borrowed a specific book.

`select Members.Name from Members join Loans on Members.MemberID=Loans.MemberID join Books on Books.BookID=Loans.LoanID where Books.Title='To kill a MockingBird';`

	Name
▶	Jane Smith

`insert into Loans values(16,2,4,'2024-05-21','2024-05-19',null);`

	LoanID	BookID	MemberID	LoanDate	due	returnDate
▶	1	1	1	2024-06-21	2024-07-21	NULL
	2	2	2	2024-06-15	2024-07-15	2024-07-10
	3	3	3	2024-06-10	2024-07-10	NULL
	4	4	4	2024-06-25	2024-07-25	NULL
	5	5	5	2024-06-18	2024-07-18	2024-07-12
	6	6	6	2024-06-05	2024-07-05	NULL
	7	7	7	2024-06-12	2024-07-12	2024-07-08
	8	8	8	2024-06-28	2024-07-28	NULL
	9	9	9	2024-06-20	2024-07-20	2024-07-15
	10	10	10	2024-06-30	2024-07-30	NULL
	11	11	1	2024-06-01	2024-06-30	NULL
	12	12	2	2024-06-05	2024-07-05	NULL
	13	13	3	2024-06-10	2024-07-10	NULL
	14	14	4	2024-06-15	2024-07-15	NULL
	16	2	4	2024-05-21	2024-05-19	NULL
*	NULL	NULL	NULL	NULL	NULL	NULL

select MemberID from Loans where BookID=2;

	MemberID
▶	2
	4

17. find total no of books borrowed between "particular date"

select count(BookID) from Loans where due='2024-07-15';

	count(BookID)
▶	2


18. Select the books which are currently on loan.

select Books.Title from Books join Loans on Books.BookID=Loans.BookID where Loans.returnDate is null;

Title
The Great Gatsby
Pride and Prejudice
1984
Harry Potter and the Sorcerer's Stone
The Da Vinci Code
The Lord of the Rings
The Shining
▶ A Game of Thrones
Dune
Foundation
To Kill a Mockingbird

19. List all the books along with their authors.

select Books.Title , Authors.Name from Books join BookAuthors on
BookAuthors.BookID=Books.BookID join Authors on BookAuthors.AuthorID=Authors.AuthorID
order By Books.Title asc;

Result Grid		
Filter Rows: <input type="text"/>		
Export:  		
Title	Name	
▶ 1984	George Orwell	
A Game of Thrones	George R. R. Martin	
Dune	Frank Herbert	
Foundation	Isaac Asimov	
Harry Potter and the Sorcerer's Stone	J.K. Rowling	
Pride and Prejudice	Jane Austen	
The Catcher in the Rye	J.D. Salinger	
The Da Vinci Code	Dan Brown	
The Great Gatsby	F. Scott Fitzgerald	
The Hobbit	J.R.R. Tolkien	
The Hunger Games	Suzanne Collins	
The Lord of the Rings	J.R.R. Tolkien	
The Name of the Wind	Patrick Rothfuss	
The Shining	Stephen King	
To Kill a Mockingbird	Harper Lee	

Books Tables:

	BookID	Title	Email	Address	phone	Genre	stock	Price
▶	1	The Great Gatsby	info@gatsby.com	123 West Egg Lane	555-1234	Fiction	10	120
	2	To Kill a Mockingbird	contact@mockingbird.com	456 Robinson Ave	555-5678	Fiction	10	150
	3	Pride and Prejudice	library@bennet.com	789 Longbourn Street	555-9876	Fiction	5	455
	4	1984	info@orwell.com	101 Ministry Lane	555-4321	Dystopian	10	720
	5	The Catcher in the Rye	contact@salinge.com	234 Holden St	555-8765	Fiction	10	120
	6	Harry Potter and the Sorcerer's Stone	info@potter.com	7 Privet Drive	555-1111	Fiction	30	455
	7	The Hobbit	contact@tolkien.com	22 Bag End	555-2222	Fantasy	5	378
	8	The Da Vinci Code	info@brown.com	143 Louvre St	555-5555	Fiction	10	120
	9	The Hunger Games	contact@collins.com	12 District Lane	555-4444	Fiction	5	378
	10	The Lord of the Rings	info@tolkien.com	1 Middle Earth Blvd	555-5555	Fiction	5	455
	11	The Shining	info@king.com	123 Overlook Hotel	555-6666	Fantasy	5	378
	12	A Game of Thrones	info@martin.com	456 Westeros Lane	555-7777	Fantasy	15	120
	13	Dune	info@herbert.com	789 Arrakis Ave	555-8888	Science F...	20	935
	14	Foundation	info@asimov.com	101 Terminus Blvd	555-9999	Science F...	15	720
	15	The Name of the Wind	info@rothfuss.com	234 Edema Ruh Rd	555-0001	Fantasy	20	150
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

Members Table:

	MemberID	Name	Email	Address	Phone
▶	1	John Doe	john.doe@email.com	10 Main St	555-1111
	2	Jane Smith	jane.smith@email.com	20 Oak Ave	555-2222
	3	Michael Brown	michael.brown@email.com	30 Elm Rd	555-3333
	4	Emily Johnson	emily.johnson@email.com	40 Pine Blvd	555-4444
	5	David Wilson	david.wilson@email.com	50 Maple Dr	555-5555
	6	Sarah Miller	sarah.miller@email.com	60 Cedar Lane	555-6666
	7	James Taylor	james.taylor@email.com	70 Birch Ave	555-7777
	8	Emma Garcia	emma.garcia@email.com	80 Willow St	555-8888
	9	Andrew Martinez	andrew.martinez@email.com	90 Elmwood Dr	555-9999
	10	Olivia Hernandez	olivia.hernandez@email.com	100 Oakwood Rd	555-0000
	11	William Evans	william.evans@email.com	110 Cedar St	555-1112
	12	Sophia Clark	sophia.clark@email.com	120 Maple Ave	555-2223
	13	Benjamin Lewis	benjamin.lewis@email.com	130 Pine Rd	555-3334
	14	Ava Scott	ava.scott@email.com	140 Oak Blvd	555-4445
	15	Isabella White	isabella.white@email.com	150 Elm Dr	555-5556
*	NULL	NULL	NULL	NULL	NULL

Loans Table:

	LoanID	BookID	MemberID	LoanDate	due	returnDate
▶	1	1	1	2024-06-21	2024-07-21	NULL
	2	2	2	2024-06-15	2024-07-15	2024-07-10
	3	3	3	2024-06-10	2024-07-10	NULL
	4	4	4	2024-06-25	2024-07-25	NULL
	5	5	5	2024-06-18	2024-07-18	2024-07-12
	6	6	6	2024-06-05	2024-07-05	NULL
	7	7	7	2024-06-12	2024-07-12	2024-07-08
	8	8	8	2024-06-28	2024-07-28	NULL
	9	9	9	2024-06-20	2024-07-20	2024-07-15
	10	10	10	2024-06-30	2024-07-30	NULL
	11	11	1	2024-06-01	2024-06-30	NULL
	12	12	2	2024-06-05	2024-07-05	NULL
	13	13	3	2024-06-10	2024-07-10	NULL
	14	14	4	2024-06-15	2024-07-15	NULL
	16	2	4	2024-05-21	2024-05-19	NULL
*	NULL	NULL	NULL	NULL	NULL	NULL

Authors Table:

	AuthorID	Name	Bio
▶	1	F. Scott Fitzgerald	F. Scott Fitzgerald was an American writer kno...
	2	Harper Lee	Harper Lee was an American novelist best know...
	3	Jane Austen	Jane Austen was an English novelist known prim...
	4	George Orwell	George Orwell was an English novelist, essayist...
	5	J.D. Salinger	J.D. Salinger was an American writer best know...
	6	J.K. Rowling	J.K. Rowling is a British author known for the H...
	7	J.R.R. Tolkien	J.R.R. Tolkien was an English writer, poet, philo...
	8	Dan Brown	Dan Brown is an American author known for his ...
	9	Suzanne Collins	Suzanne Collins is an American television writer ...
	10	Stephen King	Stephen King is an American author of horror, s...
	11	Stephen King	Stephen King is an American author of horror, s...
	12	George R. R. Martin	George R. R. Martin is an American novelist and...
	13	Frank Herbert	Frank Herbert was an American science-fiction ...
	14	Isaac Asimov	Isaac Asimov was a Russian-born American aut...
	15	Patrick Rothfuss	Patrick Rothfuss is an American writer of epic fa...
*	NULL	NULL	NULL

BookAuthors Table:

	BookAuthorID	BookID	AuthorID
▶	1	1	1
	2	2	2
	3	3	3
	4	4	4
	5	5	5
	6	6	6
	7	7	7
	8	8	8
	9	9	9
	10	10	7
	11	11	11
	12	12	12
	13	13	13
	14	14	14
	15	15	15
*	NULL	NULL	NULL

20. Retrieve the top3 members with highest no of borrowed books.

select Members.Name, count(Loans.LoanID) as BorrowedBooks from Members join Loans on Members.MemberID=Loans.LoanID group by Members.Name order by BorrowedBooks desc limit 3;

	Name	BorrowedBooks
▶	John Doe	1
	Jane Smith	1
	Michael Brown	1

21. Select the top 3 genres with highest average book price.

select Books.Genre, avg(Books.price) as ave from Books group by Books.Genre order by ave desc limit 3;

	Genre	ave
▶	Science Fiction	827.5000
	Dystopian	720.0000
	Fiction	304.7143

22. List all the books along with number of times they have been borrowed.

select Books.Title, count(Loans.BookID) as BorrowCount from Books join Loans on Books.BookID=Loans.BookID group by Books.Title order by BorrowCount desc;

	Title	BorrowCount
►	To Kill a Mockingbird	2
	The Great Gatsby	1
	Pride and Prejudice	1
	1984	1
	The Catcher in the Rye	1
	Harry Potter and the Sorcerer's Stone	1
	The Hobbit	1
	The Da Vinci Code	1
	The Hunger Games	1
	The Lord of the Rings	1
	The Shining	1
	A Game of Thrones	1
	Dune	1
	Foundation	1

23. find all author who have more than 1 books

select Authors.Name, count(Authors.Name) as BookAuthor from Authors group by Authors.Name having BookAuthor>=2;

	Name	BookAuthor
►	Stephen King	2

24. find out the 2nd highest average book price.

select Title, Genre, avg(price) as avgprice from Books group by Title,Genre order by avgprice desc limit 1 offset 1;

	Title	Genre	avgprice
►	1984	Dystopian	720.0000

25. Retrieve average loan duration for each member.

select Members.Name,avg(datediff(ifnull(returnDate,curDate()),LoanDate)) as duration from Members join Loans on Members.MemberID=Loans.MemberID group by Members.Name;

	Name	duration
▶	John Doe	10.0000
	Jane Smith	20.5000
	Michael Brown	11.0000
	Emily Johnson	11.0000
	David Wilson	24.0000
	Sarah Miller	16.0000
	James Taylor	26.0000
	Emma Garcia	-7.0000
	Andrew Martinez	25.0000
	Olivia Hernandez	-9.0000

26. list all members along with total number of books they borrowed.

select Members.MemberID,Members.Name, count(Loans.BookID) as NoBookBorr from Members join Loans on Members.MemberID=Loans.MemberID group by Members.MemberID,Members.Name order by Members.MemberID asc;

	MemberID	Name	NoBookBorr
▶	1	John Doe	2
	2	Jane Smith	2
	3	Michael Brown	2
	4	Emily Johnson	3
	5	David Wilson	1
	6	Sarah Miller	1
	7	James Taylor	1
	8	Emma Garcia	1
	9	Andrew Martinez	1
	10	Olivia Hernandez	1

27. find 2nd and 3rd highest borrowed book from each genere.

select Books.Title,Books.Genre,count(Loans.BookID) as BorrBook from Books join Loans
 where Books.BookID=Loans.BookID group by Books.Genre,Books.Title order by BorrBook desc
 limit 2 offset 1;

	Title	Genre	BorrBook
▶	The Great Gatsby	Fiction	1
	Pride and Prejudice	Fiction	1

28. calculate the total number of overdue books

select count(BookID) from Loans where returnDate>due || returnDate is null;

	count(BookID)
▶	11

29. Find the top 3 members with highest fines. (note consider Rs1 for each overdue day)

select Members.MemberID, Members.Name,
 sum(datediff(ifnull(returnDate,curDate()),LoanDate)) as overDue from Members join Loans on
 Members.MemberID=Loans.MemberID group by Members.MemberID,Members.Name order by
 overDue desc limit 3;

	MemberID	Name	overDue
▶	2	Jane Smith	41
	4	Emily Johnson	33
	7	James Taylor	26

30. List all books that have never been borrowed.

select Books.BookID,Books.title from Books left join Loans on Books.BookID=Loans.BookID
 where Loans.BookID is null group by Books.BookID,Books.Title order by Books.BookID asc;

	BookID	title
▶	15	The Name of the Wind

31. retrieve the total number of books borrowed in each month by year

select LoanDate,count(BookID) from Loans group by LoanDate order by LoanDate asc;

	LoanDate	count(BookID)
	2024-05-21	1
	2024-06-01	1
▶	2024-06-05	2
	2024-06-10	2
	2024-06-12	1
	2024-06-15	2
	2024-06-18	1
	2024-06-20	1
	2024-06-21	1
	2024-06-25	1
	2024-06-28	1
	2024-06-30	1

select Year(LoanDate) as year,Month(LoanDate) as month,count(*) as count from Loans group by year,month order by year,month asc;

	year	month	count
▶	2024	5	1
	2024	6	14

32. Find all members who have borrowed books from 3 different genres.

select Members.MemberID, Members.Name,count(Books.BookID) as BookCount from Members join Loans on Members.MemberID=Loans.MemberID join Books on Books.BookID=Loans.BookID group by Members.MemberID,Members.Name having BookCount=3;

	MemberID	Name	BookCount
▶	4	Emily Johnson	3

33. List all authors with total number of books they have written

```
select Authors.Name,count(BookAuthors.BookID) as BookCount from BookAuthors join Authors
on Authors.AuthorID=BookAuthors.BookAuthorID group by Authors.Name order by BookCount
desc;
```

Result Grid			Filter Rows:
	Name	BookCount	
▶	Stephen King	2	
	F. Scott Fitzgerald	1	
	Harper Lee	1	
	Jane Austen	1	
	George Orwell	1	
	J.D. Salinger	1	
	J.K. Rowling	1	
	J.R.R. Tolkien	1	
	Dan Brown	1	
	Suzanne Collins	1	
	George R. R. Martin	1	
	Frank Herbert	1	
	Isaac Asimov	1	
	Patrick Rothfuss	1	

34. Find the genre with highest number of books available.

```
select genre from Books where stock=(select max(stock) from Books);
```

	genre
▶	Fiction

35. Retrive top 3 books with highest stocks.

```
select Title from Books order by stock desc limit 3;
```

	Title
▶	Harry Potter and the Sorcerer's Stone
	Dune
	The Name of the Wind

36. Write a trigger to update the stocks of the book when a book is issued from the library.

```
delimiter //
```

```
create trigger after_update_stock
```

```
after insert on Loans
```

```
for each row
```

```
begin
```

```
update Books
```

```
set stock=stock-1
```

```
where BookID=new.BookID;
```

```
end //
```

```
delimiter ;
```

```
SELECT BookID, Title, Stock FROM Books WHERE BookID = 1;
```

	BookID	Title	Stock
▶	1	The Great Gatsby	10
✱	NULL	NULL	NULL

```
INSERT INTO Loans (LoanID, BookID, MemberID, LoanDate, due, returnDate)
```

```
VALUES (18, 1, 1, '2024-07-01', '2024-07-15', NULL);
```

```
-- Step 4: Check Stock After Issuing the Book
```

```
SELECT BookID, Title, Stock FROM Books WHERE BookID = 1;
```

	BookID	Title	Stock
▶	1	The Great Gatsby	9
✱	NULL	NULL	NULL

37. Write a trigger to update the book count after you return the book.

|

	BookID	Title	Stock
▶	8	The Da Vinci Code	10
✱	NULL	NULL	NULL

```
drop trigger after_Book_return;

delimiter //

create trigger after_Book_return
after update on Loans
for each row
begin
-- declare current_stock int;
-- select stock into current_stock from Books where BookID=new.BookID;

if new.returnDate is not null and old.returnDate is null then

update Books

set stock=stock+1

where BookID=new.BookID;

end if;

end//

delimiter ;
```

```
SELECT BookID, Title, Stock FROM Books WHERE BookID = 1;
```

```
update Loans

set returnDate=curDate()

where LoanID=18;
```

```
update Loans

set returnDate=curDate()

where LoanID=13;
```

```
select BookID,Title,Stock from Books where BookID=13;
```

	BookID	Title	Stock
▶	13	Dune	21
*	NULL	NULL	NULL

select * from Loans;

	LoanID	BookID	MemberID	LoanDate	due	returnDate
▶	1	1	1	2024-06-21	2024-07-21	NULL
	2	2	2	2024-06-15	2024-07-15	2024-07-10
	3	3	3	2024-06-10	2024-07-10	NULL
	4	4	4	2024-06-25	2024-07-25	NULL
	5	5	5	2024-06-18	2024-07-18	2024-07-12
	6	6	6	2024-06-05	2024-07-05	NULL
	7	7	7	2024-06-12	2024-07-12	2024-07-08
	8	8	8	2024-06-28	2024-07-28	2024-06-22
	9	9	9	2024-06-20	2024-07-20	2024-07-15
	10	10	10	2024-06-30	2024-07-30	NULL
	11	11	1	2024-06-01	2024-06-30	NULL
	12	12	2	2024-06-05	2024-07-05	NULL
	13	13	3	2024-06-10	2024-07-10	2024-06-22
	14	14	4	2024-06-15	2024-07-15	NULL
	16	2	4	2024-05-21	2024-05-19	NULL
	17	1	1	2024-07-01	2024-07-15	NULL
	18	1	1	2024-07-01	2024-07-15	2024-06-22
*	NULL	NULL	NULL	NULL	NULL	NULL

38. Find the top 3 genres with the most loans and list the number of loans for each genre.

select Books.Genre, count(Books.BookID) as No_loans from Books join Loans on Books.BookID=Loans.BookID where Loans.returnDate is null group by Books.Genre order by No_loans desc limit 3;

	Genre	No_loans
▶	Fiction	6
	Fantasy	2
	Dystopian	1

39. List all books that have been borrowed once than along with their titles and the number of times they have been borrowed.

select Books.Title, count(Loans.LoanID) as BorrowCount from Books join Loans on Books.BookID=Loans.BookID group by Books.Title having BorrowCount>=1;

	Title	BorrowCount
▶	The Great Gatsby	3
	To Kill a Mockingbird	2
	Pride and Prejudice	1
	1984	1
	The Catcher in the Rye	1
	Harry Potter and the Sorcerer's Stone	1
	The Hobbit	1
	The Da Vinci Code	1
	The Hunger Games	1
	The Lord of the Rings	1
	The Shining	1
	A Game of Thrones	1
	Dune	1
	Foundation	1

40. List the top 3 authors whose books are borrowed the most, including the number of times their books were borrowed.

SELECT

a.Name AS AuthorName,

COUNT(I.LoanID) AS TimesBorrowed

FROM

Authors a

JOIN

BookAuthors ba ON a.AuthorID = ba.AuthorID

JOIN

Loans I ON ba.BookID = I.BookID

GROUP BY

a.Name

ORDER BY

TimesBorrowed DESC

LIMIT 3;

	AuthorName	TimesBorrowed
▶	F. Scott Fitzgerald	3
	Harper Lee	2
	J.R.R. Tolkien	2

41. Write a function to get the average price by genre

delimiter //

create function avgPri(Genre1 varchar(50))

returns int

deterministic

begin

declare avgSal int;

select avg(price) into avgSal from Books

where Genre=Genre1;

return avgSal;

end//

delimiter ;

select avgPri('Fiction') as avgPrice;

	avgPrice
▶	305

select distinct Books.Genre, avgPri(Books.Genre) as avgPrice from Books;

	Genre	avgPrice
▶	Fiction	305
	Dystopian	720
	Fantasy	257
	Thriller	120
	Science Fiction	828

42. Write a procedure to get the member loan history including member name , member ID, loanID, title of book, loanDate, DueDate, returnDate

```

delimiter //

create procedure LoanHistory()

begin

select Members.Name as MemberName,

Members.MemberID as MemberID,

Loans.LoanID as LoanID,

Books.Title as BookTitle,

Loans.LoanDate as LoanDate,

Loans.Due as DueDate,

Loans.returnDate as returnDate

from Members join Loans on Members.MemberID = Loans.MemberID

join Books on Books.BookID=Loans.BookID

order by Loans.LoanDate,Members.MemberID;

end//

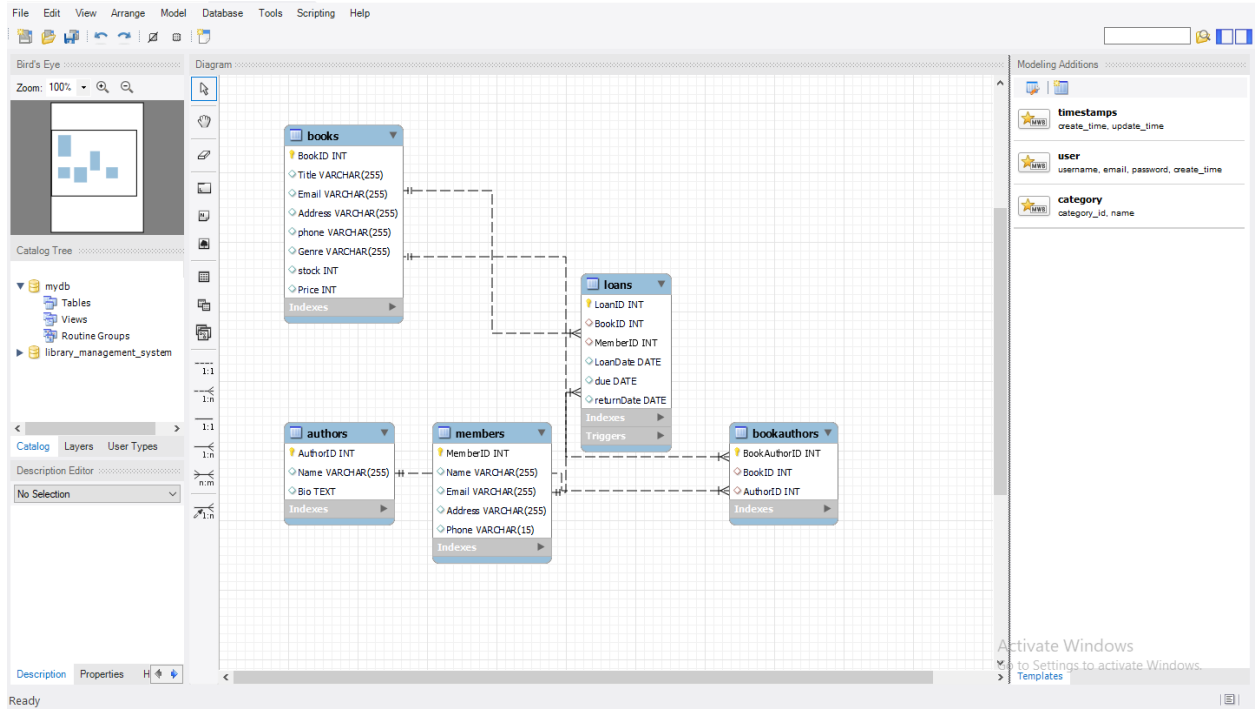
delimiter ;

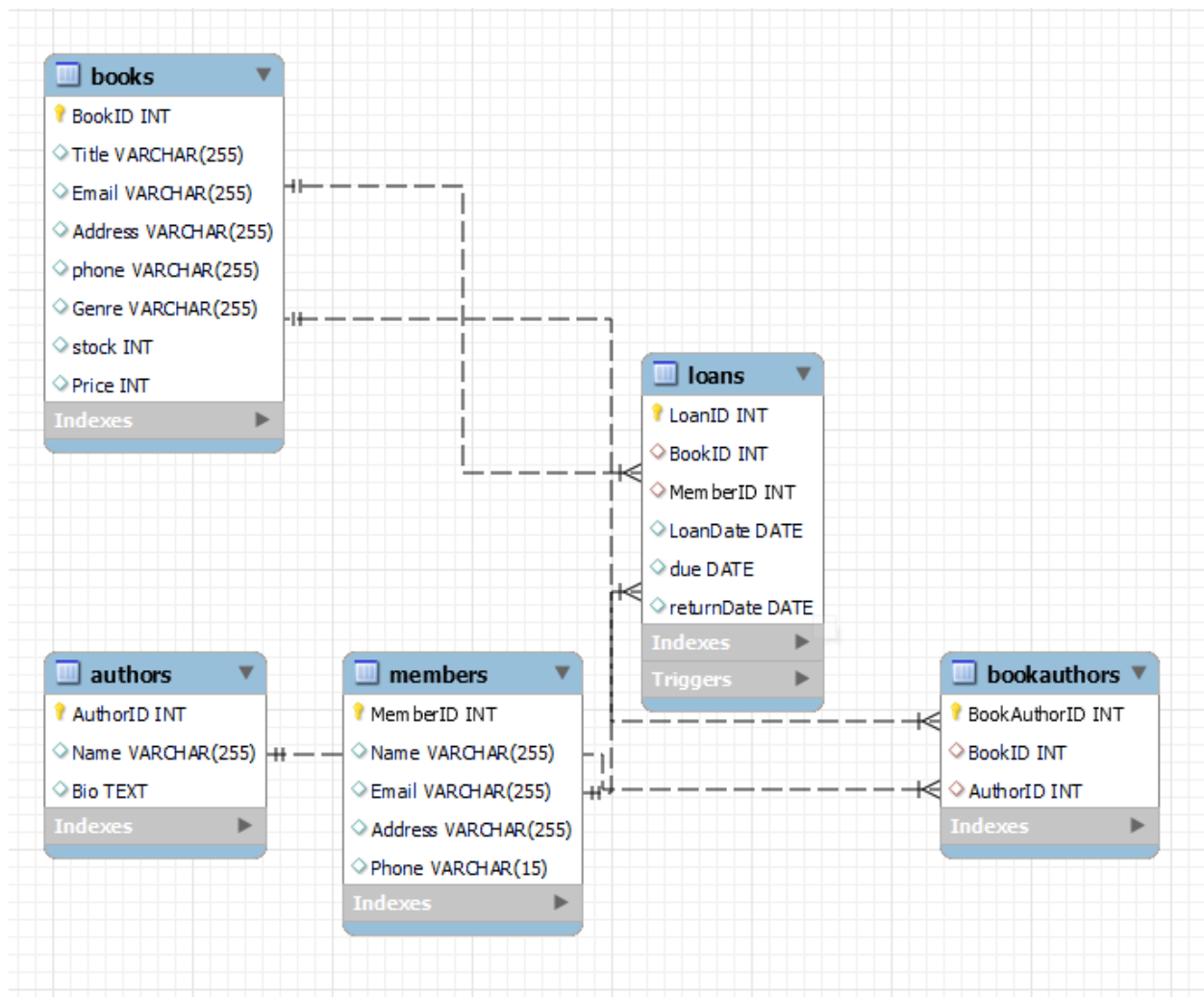
drop procedure LoanHistory;

call LoanHistory();

```

	MemberName	MemberID	LoanID	BookTitle	LoanDate	DueDate	returnDate
▶	Emily Johnson	4	16	To Kill a Mockingbird	2024-05-21	2024-05-19	NULL
	John Doe	1	11	The Shining	2024-06-01	2024-06-30	NULL
	Jane Smith	2	12	A Game of Thrones	2024-06-05	2024-07-05	NULL
	Sarah Miller	6	6	Harry Potter and the Sorcerer's Stone	2024-06-05	2024-07-05	NULL
	Michael Brown	3	3	Pride and Prejudice	2024-06-10	2024-07-10	NULL
	Michael Brown	3	13	Dune	2024-06-10	2024-07-10	2024-06-22
	James Taylor	7	7	The Hobbit	2024-06-12	2024-07-12	2024-07-08
	Jane Smith	2	2	To Kill a Mockingbird	2024-06-15	2024-07-15	2024-07-10
	Emily Johnson	4	14	Foundation	2024-06-15	2024-07-15	NULL
	David Wilson	5	5	The Catcher in the Rye	2024-06-18	2024-07-18	2024-07-12
	Andrew Marti...	9	9	The Hunger Games	2024-06-20	2024-07-20	2024-07-15
	John Doe	1	1	The Great Gatsby	2024-06-21	2024-07-21	NULL
	Emily Johnson	4	4	1984	2024-06-25	2024-07-25	NULL
	Emma Garcia	8	8	The Da Vinci Code	2024-06-28	2024-07-28	2024-06-22
	Olivia Hernan...	10	10	The Lord of the Rings	2024-06-30	2024-07-30	NULL
	John Doe	1	17	The Great Gatsby	2024-07-01	2024-07-15	NULL
	John Doe	1	18	The Great Gatsby	2024-07-01	2024-07-15	2024-06-22





Write a function to get the average price by genere.

List the top 3 authors whose books are borrowed the most, including the number of times their books were borrowed.

17. find total no of books borrowed between "particular date"
18. Write a trigger to update the stocks of the book when a book is issued from the library.

practice question

13. list all the books with price greater than a "particular price"
14. find out the total no of books available in the library.
15. List all the books that are currently on loan.
16. List all the members that have borrowed a specific book.
17. find total no of books borrowed between "particular date"
18. Select the books which are currently on loan.
19. List all the books along with their authors.
20. Retrieve the top3 members with highest no of borrowed books.
21. Select the top 3 genres with highest average book price.
22. List all the books along with number of times they have been borrowed.
23. find all author who have more than 1 books

18. Write a trigger to update the stocks of the book when a book is issued from the library.

19. Write a trigger to update the book count after you return the book.

I

```
where BookID = new.BookID;
end $$
DELIMITER ;

select * from loans;

insert into loans(LoanID, BookID, MemberID, LoanDate, DueDate, ReturnDate) values(987, 1, 2, '2024-06-21', '2024-06-30', '2024-06-27');

select * from books;

desc books;

-- create a trigger to update the book stock after it is returned
DELIMITER $$
create trigger
```

practice question

22. List all the books along with number of times they have been borrowed.
23. find all author who have more than 1 books.
24. find out the 2nd highest average book price.
25. Retrieve average loan duration for each member.
26. list all members along with total number of books they borrowed.
27. find 2nd and 3rd highest borrowed book from each genre.
28. calculate the total number of overdue books
29. Find the top 3 members with highest fines. (note - consider Rs1 for each overdue day)
30. List all books that have never been borrowed.
31. retrieve the total number of books borrowed in each month by year
32. Find all members who have borrowed books from 3 different genres.
33. List all authors with total number of books they have written
34. Find the genre with highest number of books available.
35. Retrieve top 3 books with highest stocks.