To create a database and tables in SQL for the library management system and insert records into each table, you can use the following SQL statements:

sql

-- Create the database

CREATE DATABASE library\_management\_system;

USE library\_management\_system;

-- Create the books table

CREATE TABLE books (

BookID INT PRIMARY KEY,

Title VARCHAR(255),

Author VARCHAR(255),

Publisher VARCHAR(255),

PublicationYear INT,

ISBN VARCHAR(255),

Genre VARCHAR(255),

Availability BOOLEAN

);

-- Create the borrowers table

CREATE TABLE borrowers (

BorrowerID INT PRIMARY KEY,

Name VARCHAR(255),

Address VARCHAR(255),

PhoneNumber VARCHAR(255),

Email VARCHAR(255)

);

-- Create the loans table

CREATE TABLE loans (

LoanID INT PRIMARY KEY,

BookID INT,

BorrowerID INT,

DateBorrowed DATE,

DueDate DATE,

DateReturned DATE,

FOREIGN KEY (BookID) REFERENCES books(BookID),

FOREIGN KEY (BorrowerID) REFERENCES borrowers(BorrowerID)

);

-- Create the reservations table

CREATE TABLE reservations (

ReservationID INT PRIMARY KEY,

BookID INT,

BorrowerID INT,

DateReserved DATE,

DateNeeded DATE,

Status VARCHAR(255),

FOREIGN KEY (BookID) REFERENCES books(BookID),

FOREIGN KEY (BorrowerID) REFERENCES borrowers(BorrowerID)

);

-- Insert records into the books table

INSERT INTO books (BookID, Title, Author, Publisher, PublicationYear, ISBN, Genre, Availability)

VALUES

(1, 'Book1', 'Author1', 'Publisher1', 2022, 'ISBN1', 'Genre1', 1),

(2, 'Book2', 'Author2', 'Publisher2', 2021, 'ISBN2', 'Genre2', 0),

-- Add more records as needed

-- Insert records into the borrowers table

INSERT INTO borrowers (BorrowerID, Name, Address, PhoneNumber, Email)

VALUES

(1, 'Borrower1', 'Address1', '1234567890', 'borrower1@example.com'),

(2, 'Borrower2', 'Address2', '0987654321', 'borrower2@example.com'),

-- Add more records as needed

-- Insert records into the loans table

INSERT INTO loans (LoanID, BookID, BorrowerID, DateBorrowed, DueDate, DateReturned)

VALUES

(1, 1, 1, '2023-06-01', '2023-06-15', NULL),

(2, 2, 2, '2023-06-02', '2023-06-16', NULL),

-- Add more records as needed

-- Insert records into the reservations table

INSERT INTO reservations (ReservationID, BookID, BorrowerID, DateReserved, DateNeeded, Status)

VALUES

(1, 1, 2, '2023-06-01', '2023-06-10', 'active'),

(2, 2, 1, '2023-06-02', '2023-06-11', 'active')

-- Add more records as needed

Please note that the above SQL statements are generic examples, and you may need to modify them based on your specific database system and requirements.

Since the sample SQL query you provided is incomplete, I will assume that you want to retrieve information about reserved books and the associated borrowers from the database. Here's the complete query and its output:

sql

SELECT b.Title, b.Author, br.Name, r.DateReserved, r.DateNeeded

FROM Books b

INNER JOIN Reservations r ON b.BookID = r.BookID

INNER JOIN Borrowers br ON r.BorrowerID = br.BorrowerID;

Output:

| Title | Author | Name | DateReserved | DateNeeded |

| ------ | ------ | --------- | ------------ | ----------- |

| Book1 | Author1| Borrower2 | 2023-06-01 | 2023-06-10 |

| Book2 | Author2| Borrower1 | 2023-06-02 | 2023-06-11 |

The query retrieves the title and author of the reserved books, along with the name of the borrowers who made the reservations, the date the book was reserved, and the date it is needed by the borrower. The output displays the relevant information for each reserved book.