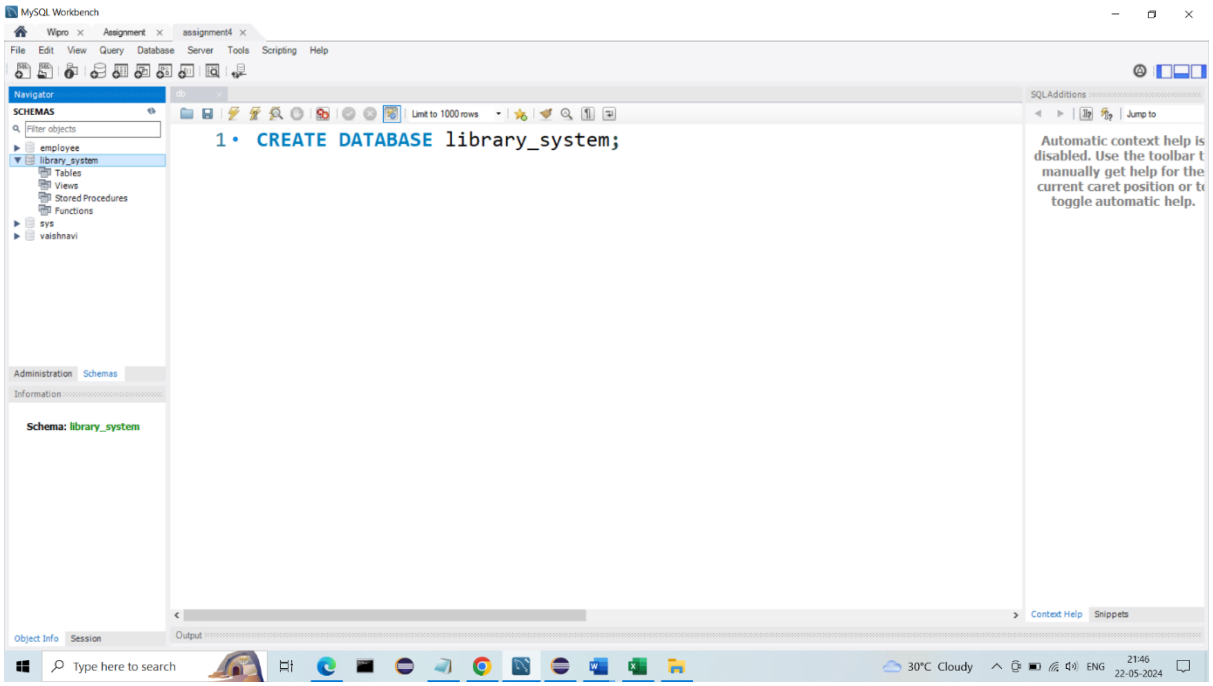
Assignment 04:

Write SQL statements to CREATE a new database and tables that reflect the library schema you designed earlier. Use ALTER statements to modify the table structures and DROP statements to remove a redundant table.

1.Create a new Database:



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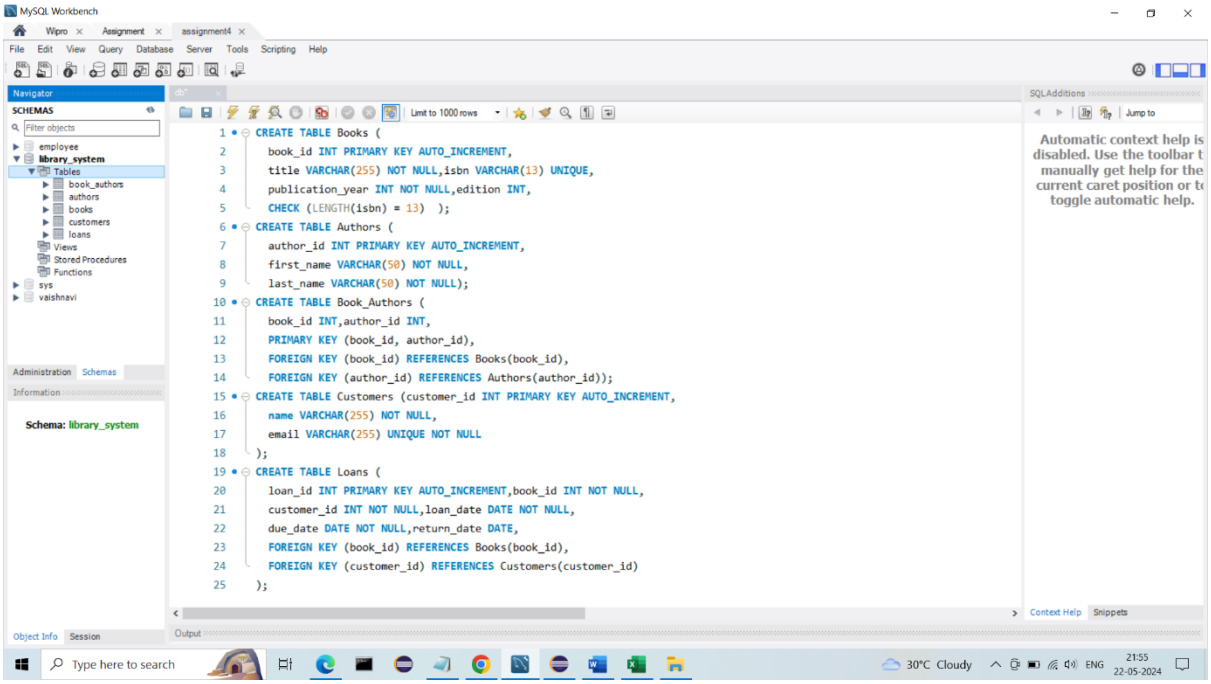
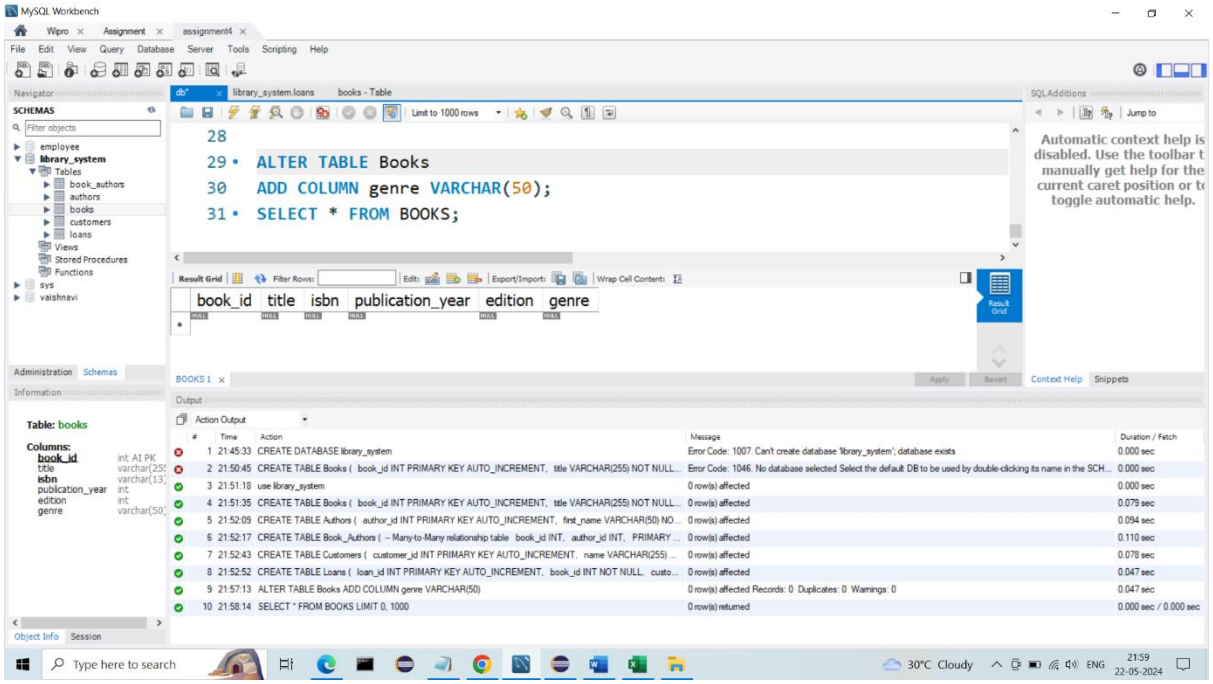
2. CREATE Tables:

```
CREATE TABLE Books (
  book_id INT PRIMARY KEY AUTO_INCREMENT,
  title VARCHAR(255) NOT NULL,isbn VARCHAR(13) UNIQUE,
  publication_year INT NOT NULL,edition INT,
  CHECK (LENGTH(isbn) = 13)  );
CREATE TABLE Authors (
  author_id INT PRIMARY KEY AUTO_INCREMENT,
  first_name VARCHAR(50) NOT NULL,
  last_name VARCHAR(50) NOT NULL);
CREATE TABLE Book_Authors (
  book_id INT,author_id INT,
  PRIMARY KEY (book_id, author_id),
  FOREIGN KEY (book_id) REFERENCES Books(book_id),
  FOREIGN KEY (author_id) REFERENCES Authors(author_id));
CREATE TABLE Customers (customer_id INT PRIMARY KEY AUTO_INCREMENT,
  name VARCHAR(255) NOT NULL,
  email VARCHAR(255) UNIQUE NOT NULL
);
```

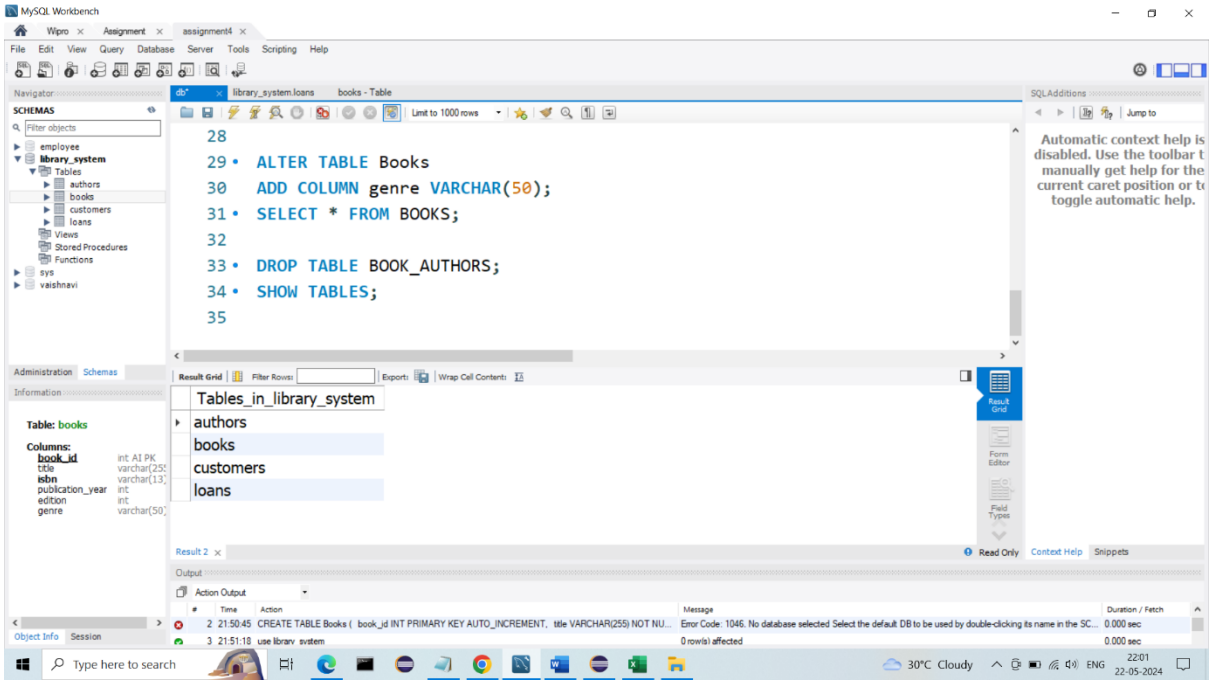
```
CREATE TABLE Loans (
  loan_id INT PRIMARY KEY AUTO_INCREMENT,book_id INT NOT NULL,
  customer_id INT NOT NULL,loan_date DATE NOT NULL,
  due_date DATE NOT NULL,return_date DATE,
  FOREIGN KEY (book_id) REFERENCES Books(book_id),
  FOREIGN KEY (customer_id) REFERENCES Customers(customer_id)
);
```



3. ALTER TABLE: -


MySQL Workbench
ALTER TABLE Books
ADD COLUMN genre VARCHAR(50);
SELECT * FROM BOOKS;
book_id title isbn publication_year edition genre
CREATE DATABASE library_system
CREATE TABLE Books (book_id INT PRIMARY KEY AUTO_INCREMENT, title VARCHAR(255) NOT NULL...
use library_system
CREATE TABLE Authors (author_id INT PRIMARY KEY AUTO_INCREMENT, first_name VARCHAR(50) NO...
CREATE TABLE Book_Authors (-- Many-to-Many relationship table book_id INT, author_id INT, PRIMARY ...
CREATE TABLE Customers (customer_id INT PRIMARY KEY AUTO_INCREMENT, name VARCHAR(255) ...
CREATE TABLE Loans (loan_id INT PRIMARY KEY AUTO_INCREMENT, book_id INT NOT NULL, custo...
ALTER TABLE Books ADD COLUMN genre VARCHAR(50)
SELECT * FROM BOOKS LIMIT 0, 1000

4. DROP TABLE: -


MySQL Workbench
ALTER TABLE Books
ADD COLUMN genre VARCHAR(50);
SELECT * FROM BOOKS;
DROP TABLE BOOK_AUTHORS;
SHOW TABLES;
Tables_in_library_system
authors
books
customers
loans