**Assignment 2:Design a database schema for a library system, including tables, fields, and constraints like NOT NULL, UNIQUE, and CHECK. Include primary and foreign keys to establish relationships between tables.**

CREATE TABLE Authors (

AuthorID NUMBER AUTO\_INCREMENT PRIMARY KEY,

FirstName VARCHAR2 (50) NOT NULL,

LastName VARCHAR2 (50) NOT NULL,

DateOfBirth DATE

);

CREATE TABLE Categories (

CategoryID NUMBER AUTO\_INCREMENT PRIMARY KEY,

CategoryName VARCHAR2 (50) NOT NULL UNIQUE

);

CREATE TABLE Books (

BookID NUMBER AUTO\_INCREMENT PRIMARY KEY,

Title VARCHAR2 (100) NOT NULL,

ISBN VARCHAR2 (13) NOT NULL UNIQUE,

Publisher VARCHAR2 (100),

PublicationYear YEAR CHECK (PublicationYear <= YEAR(CURDATE())),

CategoryID NUMBER NOT NULL,

CONSTRAINT FK1 FOREIGN KEY (CategoryID) REFERENCES Categories(CategoryID)

);

CREATE TABLE BookAuthors (

BookID NUMBER NOT NULL,

AuthorID NUMBER NOT NULL,

PRIMARY KEY (BookID, AuthorID),

CONSTRAINT FK2 FOREIGN KEY (BookID) REFERENCES Books(BookID),

CONSTRAINT FK3 FOREIGN KEY (AuthorID) REFERENCES Authors(AuthorID)

);

CREATE TABLE Members (

MemberID NUMBER AUTO\_INCREMENT PRIMARY KEY,

FirstName VARCHAR2 (50) NOT NULL,

LastName VARCHAR2 (50) NOT NULL,

Email VARCHAR2 (100) NOT NULL UNIQUE,

Phone VARCHAR2 (15)

);

CREATE TABLE Loans (

LoanID NUMBER AUTO\_INCREMENT PRIMARY KEY,

BookID NUMBER NOT NULL,

MemberID NUMBER NOT NULL,

LoanDate DATE NOT NULL,

ReturnDate DATE,

DueDate DATE NOT NULL,

CONSTRAINT FK4 FOREIGN KEY (BookID) REFERENCES Books(BookID),

CONSTRAINT FK5 FOREIGN KEY (MemberID) REFERENCES Members(MemberID)

);

**Assignment 3: Write a SELECT query to retrieve all columns from a 'customers' table, and modify it to return only the customer name and email address for customers in a specific city.**

* Select \* from customer;
* Select cust\_name,email from customer where city=’kolkata’;

**Assignment 4: Craft a query using an INNER JOIN to combine 'orders' and 'customers' tables for customers in a specified region, and a LEFT JOIN to display all customers including those without orders.**

**Create table orders(**

Id number (10) primary key,

Name varchar2 (30) not null,

Address varchar2(30),

Email varchar2(30),

custId number(10)

CONSTRAINT FK1 FOREIGN KEY(custId) reference customers(id)

**);**

**Create table customers(**

Id number (10) primary key,

Name varchar2 (30) not null,

Address varchar2(30),

PhNo varchar2(10) unique,

Email varchar2(30)

**);**

**INNER JOIN**

Select c.id,c.name,c.address,c.phno,c.email address,o.id,o.name,o.address,o.email

From customer

Inner join

Orders

On

c.id=o.custId

where c.address=’kolkata’

**LEFT JOIN:**

Select c.id,c.name,c.address,c.phno,c.email address,o.id,o.name,o.address,o.email

From customer

Left outer join

Orders

Onc.id=o.custId where c.address=’kolkata’