

TASK-1 :- Database Setup and Schema Design.

(e.g., Library, E-commerce)

*Library

1.Entities:-

- **Library**
- **Book**
- **Member**
- **Loan**
- **Staff**

2,Relationships:-

- One **Library** has many **Books**, **Members**, and **Staff**
- One **Member** can borrow many **Books** (via **Loans**)
- One **Book** can be issued to many **Members** over time

3. TABLES CREATION:-

(Library)

```
CREATE TABLE Library (  
    LibraryID INT PRIMARY KEY,  
    LibraryName VARCHAR2(100),  
    Address VARCHAR2(255),  
    City VARCHAR2(50),  
    State VARCHAR2(50),  
    ZipCode VARCHAR2(10)  
);
```

Table created.

(BOOK) :-

```
CREATE TABLE BOOK (  
    BOOKID INT PRIMARY KEY,  
    TITLE VARCHAR(200),  
    AUTHOR VARCHAR(100),  
    YEARPUBLISHED INT,  
    LIBRARYID INT,  
    FOREIGN KEY (LibraryID) REFERENCES Libraries (LibraryID)  
);
```

(Members) :-

```
CREATE TABLE Members (  
    MemberID INT PRIMARY KEY,  
    FirstName VARCHAR2(50),  
    LastName VARCHAR2(50),  
    Email VARCHAR2(100) UNIQUE,  
    PhoneNumber VARCHAR2(15),  
    MembershipDate DATE,  
    LibraryID INT,  
    FOREIGN KEY (LibraryID) REFERENCES Library(LibraryID)  
);
```

(LOANS):-

```
CREATE TABLE Loans (  
    LoanID INT PRIMARY KEY,  
    BookID INT,  
    MemberID INT,
```

```
LoanDate DATE,  
DueDate DATE,  
ReturnDate DATE,  
FOREIGN KEY (BookID) REFERENCES Books(BookID),  
FOREIGN KEY (MemberID) REFERENCES Members(MemberID)  
);
```

STAFF

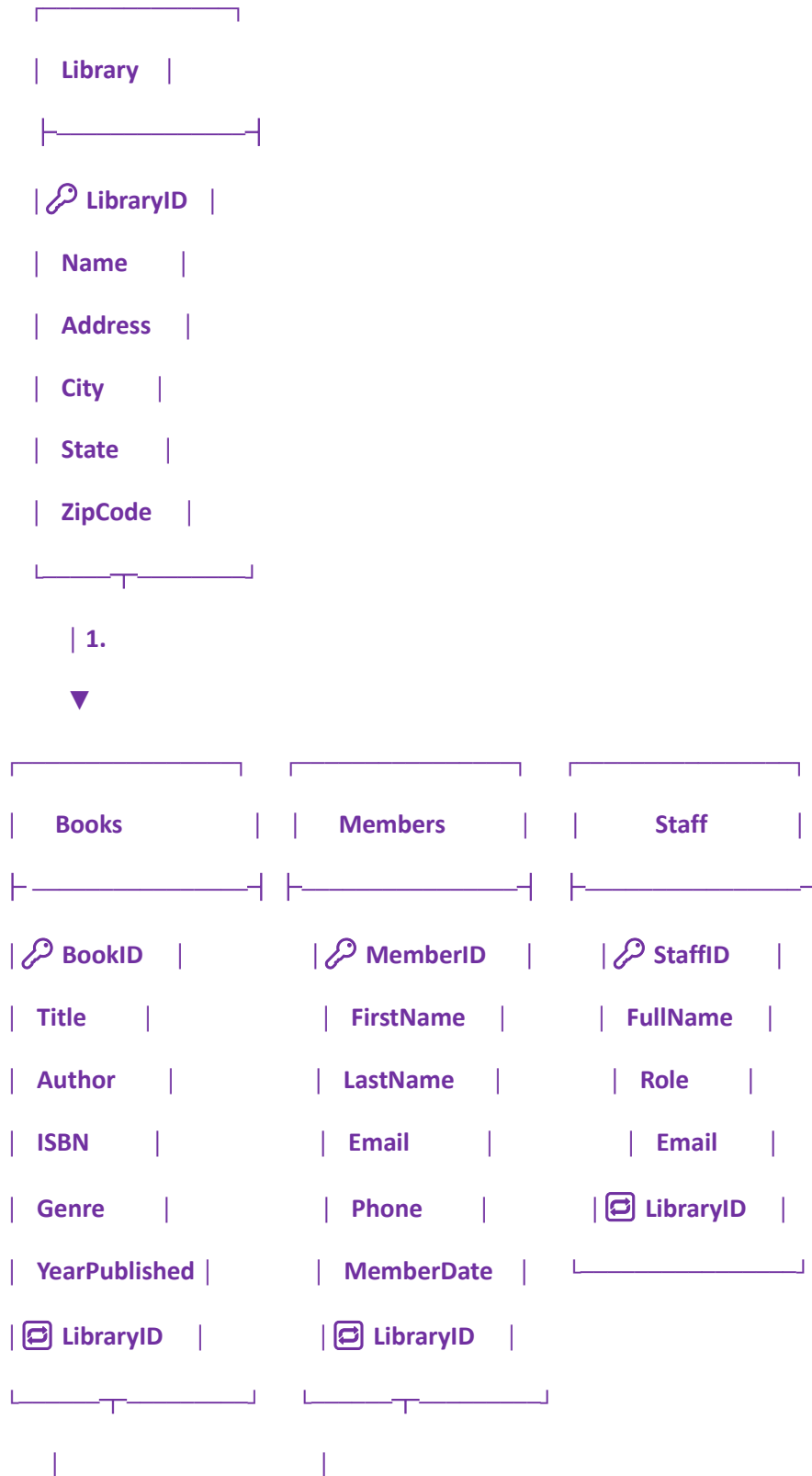
```
CREATE TABLE Staff (  
StaffID INT PRIMARY KEY,  
FullName VARCHAR2(100),  
Role VARCHAR2(50),  
Email VARCHAR2(100),  
LibraryID INT,  
FOREIGN KEY (LibraryID) REFERENCES Library(LibraryID)  
);
```

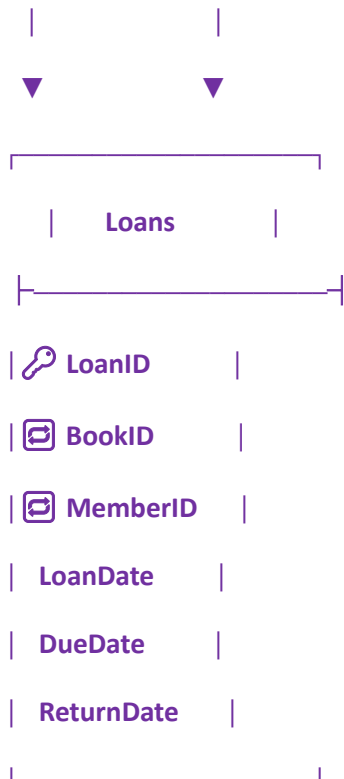
Table created.

4. Define primary and foreign keys

Table	Primary Key	Foreign Keys
Library	LibraryID	–
Books	BookID	LibraryID → Library(LibraryID)
Members	MemberID	LibraryID → Library(LibraryID)
Loans	LoanID	BookID → Books(BookID), MemberID → Members(MemberID)
Staff	StaffID	LibraryID → Library(LibraryID)

5.ER DIAGRAM





Relationships:

- A Library has many Books, Members, and Staff
- A Book can be borrowed by many Members (via Loans)
- A Member can borrow many Books
- Loans acts as a bridge between Books and Members

-----THE END TS-1-----