Define Entities and Attributes

Books

1. BookID (Primary Key)
2. Title
3. AuthorID (Foreign Key)
4. Year
5. Pages
6. ISBN
7. Location
8. Status ( "Borrowed" or "Available")

Authors

1. AuthorID (Primary Key)
2. FirstName
3. LastName
4. Patronymic (Optional)
5. BirthDate
6. Country

Readers

1. ReaderID (Primary Key)
2. FullName
3. Address
4. Phone
5. RegistrationDate
6. BorrowedBooks (Foreign Key)
7. VisitHistory

Employees

1. EmployeeID (Primary Key)
2. FullName
3. Position
4. ContactInfo
5. WorkSchedule

**Связи**

Books and Authors: Many-to-many relationship (a book can have multiple authors, and anauthor can write multiple books). This is implemented through the `BooksAuthors` table.

Books and Readers: One-to-many relationship (a book can be borrowed by multiple readers, but only one reader at a time). This is implemented through the `BorrowRecords` table.

Readers and Employees: One-to-many relationship (an employee can serve multiple readers). This is implemented through the `EmployeeID` foreign key in the `Readers` table.

CREATE TABLE Authors (

AuthorID INT AUTO\_INCREMENT PRIMARY KEY,

FirstName VARCHAR(50) NOT NULL,

LastName VARCHAR(50) NOT NULL,

Patronymic VARCHAR(50),

BirthDate DATE,

Country VARCHAR(50)

);

CREATE TABLE Books (

BookID INT AUTO\_INCREMENT PRIMARY KEY,

Title VARCHAR(100) NOT NULL,

Year INT,

Pages INT,

ISBN VARCHAR(20) UNIQUE,

Location VARCHAR(50),

Status ENUM('Available', 'Borrowed') DEFAULT 'Available'

);

CREATE TABLE Readers (

ReaderID INT AUTO\_INCREMENT PRIMARY KEY,

FullName VARCHAR(100) NOT NULL,

Address VARCHAR(200),

Phone VARCHAR(20),

RegistrationDate DATE

);

CREATE TABLE Employees (

EmployeeID INT AUTO\_INCREMENT PRIMARY KEY,

FullName VARCHAR(100) NOT NULL,

Position VARCHAR(50),

ContactInfo VARCHAR(100),

WorkSchedule TEXT

);

CREATE TABLE BooksAuthors (

BookID INT,

AuthorID INT,

PRIMARY KEY (BookID, AuthorID),

FOREIGN KEY (BookID) REFERENCES Books(BookID) ON DELETE CASCADE,

FOREIGN KEY (AuthorID) REFERENCES Authors(AuthorID) ON DELETE CASCADE

);

CREATE TABLE BorrowRecords (

BorrowID INT AUTO\_INCREMENT PRIMARY KEY,

BookID INT,

ReaderID INT,

BorrowDate DATE,

ReturnDate DATE,

FOREIGN KEY (BookID) REFERENCES Books(BookID) ON DELETE CASCADE,

FOREIGN KEY (ReaderID) REFERENCES Readers(ReaderID) ON DELETE CASCADE

);

MySQL:



