

 Problem Statement : Library Book Borrowing API  Models

RoleModel

Field Name	Datatype	Primary Key	Comments
-----	-----	-----	-----
id Integer Yes Autoincrement			
rolename String No Values: "MEMBER", "LIBRARIAN"			

UserModel

Field Name	Datatype	Primary Key	Foreign Key	Comments
-----	-----	-----	-----	-----
id Integer Yes No Autoincrement				
username String No No -				
email String No No Unique				
password String No No -				
role Integer No Yes FK to RoleModel				

BookModel

Field Name	Datatype	Primary Key	Comments
-----	-----	-----	-----
id Integer Yes Autoincrement			
title String No -			
author String No -			
category String No Example: "Fiction", "Science"			
price Double No -			
available Boolean No Default: True			

BorrowModel

Field Name	Datatype	Primary Key	Foreign Key	Comments
-----	-----	-----	-----	-----
id Integer Yes Autoincrement				
bookId Integer No FK to BookModel				
memberId Integer No FK to UserModel				
borrowDate String No Default: Current date				
returnDate String No -				
fine Double No Calculated: (daysLate * 10)				
status String No Default: "borrowed"				

Endpoints

1. POST /borrow/create (MEMBER only)
 - Manipulation: Fine auto-calculated if returnDate exceeds 14 days.
2. GET /borrow/list?category=Science&maxFine=100 (Both roles)
 - Filters by category and fine amount.
3. PATCH /borrow/update/{id} (LIBRARIAN only)
 - Updates status to "returned".
4. DELETE /borrow/delete/{id} (Conditional)
 - Librarian or member who borrowed can delete.

 Manipulations: Fine calculation based on late days, query params with category + maxFine.