/* CONTROL STRUCTURE AND EXERTION HANDLING USING LIBRARY FINE MANAGEMENT SYSTEM   */

```sql
-- Step 1: Create Database and Use it
CREATE DATABASE IF NOT EXISTS library;
USE library;

-- Step 2: Create Borrower and Fine Tables
CREATE TABLE IF NOT EXISTS borrower (
    rollno INT PRIMARY KEY,
    name VARCHAR(20),
    dateofissue DATE,
    nameofbook VARCHAR(20),
    status VARCHAR(1)
);

CREATE TABLE IF NOT EXISTS fine (
    rollno INT,
    returndate DATE,
    amount INT,
    FOREIGN KEY (rollno) REFERENCES borrower(rollno)
);

-- Step 3: Insert Sample Data into Borrower Table
INSERT INTO borrower VALUES (1, 'Amit', '2021-06-01', 'SEPM', 'I');
INSERT INTO borrower VALUES (2, 'Rohit', '2021-05-01', 'OOP', 'I');
INSERT INTO borrower VALUES (3, 'Priya', '2021-06-15', 'DBMS', 'I');
INSERT INTO borrower VALUES (4, 'Suman', '2021-06-30', 'DSA', 'I');
INSERT INTO borrower VALUES (5, 'Vikram', '2021-07-05', 'ADS', 'I');

-- Step 4: Display Borrower Table to Verify Insertion
SELECT * FROM borrower;

-- Step 5: Create Stored Procedure to Calculate Fine

DELIMITER $$

CREATE PROCEDURE calc_fine_lib(IN roll INT)
BEGIN
    DECLARE fine1 INT DEFAULT 0;
    DECLARE noofdays INT;
    DECLARE issuedate DATE;

    -- Fetch the date of issue for the given roll number
```

SELECT dateofissue INTO issuedate FROM borrower WHERE rollno = roll;

-- Calculate the number of days since the date of issue
SELECT DATEDIFF(CURDATE(), issuedate) INTO noofdays;

-- Calculate fine based on overdue days
IF noofdays > 15 AND noofdays <= 30 THEN
   SET fine1 = noofdays * 5;
   INSERT INTO fine VALUES (roll, CURDATE(), fine1);
ELSEIF noofdays > 30 THEN
   SET fine1 = ((noofdays - 30) * 50) + (30 * 5);
   INSERT INTO fine VALUES (roll, CURDATE(), fine1);
ELSE
   INSERT INTO fine VALUES (roll, CURDATE(), 0);
END IF;

-- Update book status to 'R' (Returned)
   UPDATE borrower SET status = 'R' WHERE rollno = roll;
END $$

DELIMITER ;

-- Step 6: Call the Procedure for Each Borrower
CALL calc_fine_lib(1);
CALL calc_fine_lib(2);
CALL calc_fine_lib(3);
CALL calc_fine_lib(4);
CALL calc_fine_lib(5);

-- Step 7: Display Fine Table to Verify Results
SELECT * FROM fine;

-- Optional: Drop the database (uncomment if needed)
-- DROP DATABASE library;

—OUTPUT :

```
+--------+------------+--------+
| rollno | returndate | amount |
+--------+------------+--------+
| 1      | 2024-11-13 | 0      |
| 2      | 2024-11-13 | 7050   |
| 3      | 2024-11-13 | 545    |
| 4      | 2024-11-13 | 225    |
| 5      | 2024-11-13 | 195    |
+--------+------------+--------+
```