CREATE DATABASE library;

USE library;

CREATE TABLE Borrower (

Roll\_no INT PRIMARY KEY,

Name VARCHAR(100),

DateofIssue DATE,

NameofBook VARCHAR(100),

Status VARCHAR(10)

);

CREATE TABLE Fine (

Roll\_no INT,

Date DATE,

Amount DECIMAL(10,2),

FOREIGN KEY (Roll\_no) REFERENCES Borrower(Roll\_no)

);

DELIMITER //

CREATE PROCEDURE calc\_fine(

IN p\_roll\_no INT,

IN p\_book\_name VARCHAR(100)

)

BEGIN

DECLARE v\_days INT;

DECLARE v\_fine\_amount DECIMAL(10,2);

-- Check if the book is available

DECLARE exit handler for SQLEXCEPTION

BEGIN

SELECT 'Book not found' INTO @error\_message;

SIGNAL SQLSTATE '45000'

SET MESSAGE\_TEXT = @error\_message;

END;

-- Calculate the number of days

SELECT DATEDIFF(CURDATE(), DateofIssue) INTO v\_days FROM Borrower WHERE Roll\_no = p\_roll\_no AND NameofBook = p\_book\_name;

-- Calculate the fine amount

IF v\_days BETWEEN 15 AND 30 THEN

SET v\_fine\_amount = v\_days \* 5;

ELSEIF v\_days > 30 THEN

SET v\_fine\_amount = (v\_days - 30) \* 50 + 30 \* 5;

ELSE

SET v\_fine\_amount = 0;

END IF;

-- Insert fine details into the Fine table

INSERT INTO Fine VALUES (p\_roll\_no, CURDATE(), v\_fine\_amount);

-- Update the borrower's status

UPDATE Borrower SET Status = 'R' WHERE Roll\_no = p\_roll\_no AND NameofBook = p\_book\_name;

END //

DELIMITER ;

INSERT INTO Borrower VALUES (1, 'John Doe', '2023-01-01', 'Book1', 'I');

INSERT INTO Borrower VALUES (2, 'Jane Smith', '2023-02-01', 'Book2', 'I');

CALL calc\_fine(1, 'Book1');

CALL calc\_fine(2, 'Book2');

SELECT \* FROM Fine;

SELECT \* FROM Borrower;