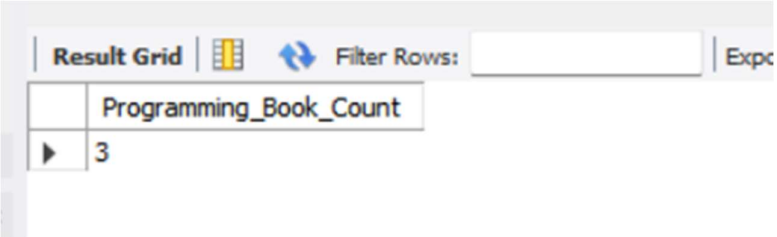
```
-- Task :Stored Procedures and Functions

-- database
USE library_management_system;

-- Count books by category
DELIMITER //

CREATE PROCEDURE CountBooksInCategory(
   IN categoryName VARCHAR(50),
   OUT totalBooks INT
)
BEGIN
   -- Count books in the given category
   SELECT COUNT(*) INTO totalBooks
   FROM Books
   WHERE category = categoryName;

   -- Safety: if no books found, return 0
   IF totalBooks IS NULL THEN
      SET totalBooks = 0;
   END IF;
END //

DELIMITER ;
```

-- Usage

CALL CountBooksInCategory('Programming', @count);

SELECT @count AS Programming_Book_Count;

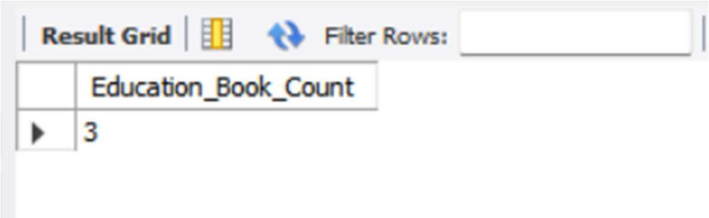
Output:-



CALL CountBooksInCategory('Education', @count);

SELECT @count AS Education_Book_Count;

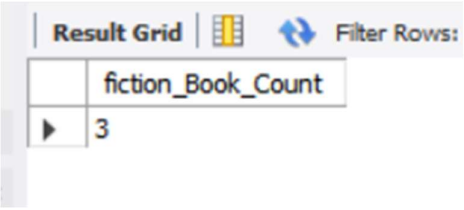
Output:-



CALL CountBooksInCategory('fiction', @count);

SELECT @count AS fiction_Book_Count;

Output:-



```
--  Calculate Late Fee
DELIMITER //

CREATE FUNCTION CalculateLateFee(daysLate INT)
RETURNS DECIMAL(10,2)
DETERMINISTIC
BEGIN
    DECLARE fee DECIMAL(10,2);

    -- Rs. 2.50 per day late
    SET fee = daysLate * 2.50;

    RETURN fee;
END //

DELIMITER ;

-- Usage
SELECT CalculateLateFee(5) AS LateFee;  -- 5 days late
```

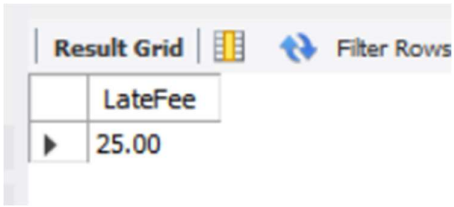
Output:-


```
SELECT CalculateLateFee(0) AS LateFee;  -- 0 days late
```

Output:-

```
SELECT CalculateLateFee(10) AS LateFee; -- 10 days late
```

Output:-




```
-- Get full name of a reader by readerId safely
DELIMITER //
CREATE FUNCTION GetReaderFullName(readerId INT)
RETURNS VARCHAR(100)
DETERMINISTIC
BEGIN
    DECLARE fullName VARCHAR(100);

    -- Combine first and last name
    SELECT CONCAT(first_name, ' ', last_name)
    INTO fullName
    FROM Readers
    WHERE reader_id = readerId;

    -- if reader is not existed so return messege 'Reader Not Found'
    IF fullName IS NULL THEN
        RETURN 'Reader Not Found';
    ELSE
        RETURN fullName;
    END IF;
END //
DELIMITER ;
```

-- Usage

SELECT GetReaderFullName(3) AS ReaderName;

Output:-