Assignment No 6

Problem Statement:

cursors - (All types; Implicit, Explicit, Cursor for loop, parameterized Cursor) Write a PL/SQL block of Code using parameterized cursor, that will merge the data variable in the newly created table N- Rollcall with the data available in the table O-Rollcall.

Input:

```sql
-- Create O_Rollcall (Old Rollcall)
CREATE TABLE O_Rollcall (
    student_id INT PRIMARY KEY,
    student_name VARCHAR(50),
    attendance_date DATE,
    status VARCHAR(10)  -- Present/Absent
);

-- Insert some data into O_Rollcall
INSERT INTO O_Rollcall VALUES
(1, 'John Doe', '2024-10-10', 'Present'),
(2, 'Jane Smith', '2024-10-10', 'Absent'),
(3, 'Alice Johnson', '2024-10-11', 'Present');

-- Create N_Rollcall (New Rollcall)
CREATE TABLE N_Rollcall (
    student_id INT,
    student_name VARCHAR(50),
    attendance_date DATE,
    status VARCHAR(10),
    PRIMARY KEY (student_id, attendance_date)
);
DELIMITER $$

CREATE PROCEDURE merge_rollcall(p_date DATE)
BEGIN
    -- Declare variables for cursor fetching
    DECLARE v_student_id INT;
    DECLARE v_student_name VARCHAR(50);
    DECLARE v_status VARCHAR(10);
    DECLARE done INT DEFAULT 0;

    -- Declare a cursor for the parameterized query
    DECLARE cur_rollcall CURSOR FOR
        SELECT student_id, student_name, status
        FROM O_Rollcall
        WHERE attendance_date = p_date;

    -- Declare a handler for when the cursor reaches the end
    DECLARE CONTINUE HANDLER FOR NOT FOUND SET done = 1;

    -- Open the cursor
    OPEN cur_rollcall;
```

```sql
-- Loop to fetch each row from the cursor
read_loop: LOOP
    -- Fetch the cursor data into variables
    FETCH cur_rollcall INTO v_student_id, v_student_name, v_status;

    -- Exit the loop if no more rows are found
    IF done = 1 THEN
        LEAVE read_loop;
    END IF;

    -- Insert or update the data into N_Rollcall
    INSERT INTO N_Rollcall (student_id, student_name, attendance_date, status)
    VALUES (v_student_id, v_student_name, p_date, v_status)
    ON DUPLICATE KEY UPDATE
        student_name = VALUES(student_name),
        status = VALUES(status);
END LOOP;

    -- Close the cursor
    CLOSE cur_rollcall;
END $$

DELIMITER ;
CALL merge_rollcall('2024-10-10');
CALL merge_rollcall('2024-10-11');

SELECT * FROM N_Rollcall;
```

Output:

```
+------------+---------------+-----------------+---------+
| student_id | student_name  | attendance_date | status  |
+------------+---------------+-----------------+---------+
|          1 | John Doe      | 2024-10-10      | Present |
|          2 | Jane Smith    | 2024-10-10      | Absent  |
|          3 | Alice Johnson | 2024-10-11      | Present |
+------------+---------------+-----------------+---------+
3 rows in set (0.00 sec)
```