



## **EXPERIMENT - 8**

**Student Name:**Manit Saxena

**Branch:** BE-CSE

**Semester:** 5<sup>th</sup>

**Subject Name:** ADBMS

**UID:** 23BCS13532

**Section/Group:** KRG\_1-B

**Date of Performance:** 28/10/2025

**Subject Code:** 23CSP-333

### **1. Aim:**

--- Hard Level Problem ---

**Design a robust PostgreSQL transaction system for the students table where multiple student records are inserted in a single transaction.**

**If any insert fails due to invalid data, only that insert should be rolled back while preserving the previous successful inserts using savepoints.**

**The system should provide clear messages for both successful and failed insertions, ensuring data integrity and controlled error handling.**

**HINT: YOU HAVE TO USE SAVEPOINTS**

### **2. Platform Used:**

Microsoft SQL Server Management Studio

### 3. SQL Code:

```
a) CREATE TABLE students (  
    id SERIAL PRIMARY KEY,  
    name VARCHAR(50) UNIQUE,  
    age INT,  
    class INT  
);  
  
DO $$  
DECLARE  
    student_data RECORD;  
BEGIN  
    FOR student_data IN  
        SELECT * FROM (VALUES  
            ('Anisha', 16, 8),  
            ('Neha', 17, 8),  
            ('Mayank', 19, 9),  
            ('Anisha', 18, 9) -- duplicate  
        ) AS t(name, age, class)  
    LOOP  
        BEGIN  
            INSERT INTO students(name, age, class)  
            VALUES (student_data.name, student_data.age, student_data.class);  
            RAISE NOTICE 'Inserted student: %', student_data.name;  
        EXCEPTION WHEN unique_violation THEN  
            RAISE NOTICE 'Failed to insert student: % (Duplicate Name)', student_data.name;  
        WHEN others THEN  
            RAISE NOTICE 'Failed to insert student: % (Other Error)', student_data.name;  
        END;  
    END LOOP;  
  
    RAISE NOTICE 'Transaction completed with individual error handling.';  
END;  
$$;  
  
SELECT * FROM students;
```



# DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Discover. Learn. Empower.

## Output:

```
NOTICE:  Inserted student: Anisha
NOTICE:  Inserted student: Neha
NOTICE:  Inserted student: Mayank
NOTICE:  Failed to insert student: Anisha (Duplicate Name)
NOTICE:  Transaction completed with individual error handling.
```

id	name	age	class
1	Anisha	16	8
2	Neha	17	8
3	Mayank	19	9

(3 rows)