EXPERIMENT - 8

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Semester: 5th **Date of Performance: 7/10/2025**
Subject Name: ADBMS **Subject Code: 23CSP-333**

Aim: To understand and implement Transactions.

Objective:

1) 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

Code:

1) **DROP TABLE IF EXISTS students;**

```
CREATE TABLE students (
   id SERIAL PRIMARY KEY,
   name VARCHAR(50) UNIQUE,
   age INT,
   class INT
);

DO $$
BEGIN TRANSACTION
   BEGIN
      INSERT INTO students(name, age, class) VALUES ('Anisha',16,8);
      INSERT INTO students(name, age, class) VALUES ('Neha',17,8);
      INSERT INTO students(name, age, class) VALUES ('Mayank',19,9);
      RAISE NOTICE ' Transaction Successfully Done';
```

```
   EXCEPTION WHEN OTHERS THEN
         RAISE NOTICE 'Transaction Failed..! Rolling back changes.';
         RAISE;
   END;
END;
$$;


SELECT * FROM students;



DO $$
BEGIN TRANSACTION
   BEGIN
      INSERT INTO students(name, age, class) VALUES ('Anisha',16,8);
                  INSERT INTO students(name, age, class) VALUES ('Mayank',19,9);
      INSERT INTO students(name, age, class) VALUES ('Anisha',17,8);
      INSERT INTO students(name, age, class) VALUES ('Mayank',19,9);
      RAISE NOTICE ' Transaction Successfully Done';

   EXCEPTION WHEN OTHERS THEN
         RAISE NOTICE 'Transaction Failed..! Rolling back changes.';
         RAISE;
   END;
END;
$$;
```