**Exercise 1: Control Structures**

CREATE TABLE customers (

customer\_id INTEGER PRIMARY KEY,

name VARCHAR(50),

age INTEGER,

balance NUMERIC(12,2),

isvip VARCHAR(5)

);

CREATE TABLE loans (

loan\_id INTEGER PRIMARY KEY,

customer\_id INTEGER REFERENCES customers(customer\_id),

interest\_rate NUMERIC(5,2),

due\_date DATE

);

INSERT INTO customers VALUES (1, 'Alice', 65, 12000.00, 'FALSE');

INSERT INTO customers VALUES (2, 'Bob', 45, 8000.00, 'FALSE');

INSERT INTO customers VALUES (3, 'Carol', 70, 15000.00, 'FALSE');

INSERT INTO loans VALUES (101, 1, 10.00, CURRENT\_DATE + INTERVAL '10 days');

INSERT INTO loans VALUES (102, 2, 12.00, CURRENT\_DATE + INTERVAL '45 days');

INSERT INTO loans VALUES (103, 3, 11.00, CURRENT\_DATE + INTERVAL '20 days');

**Scenario 1:**

DO $$

BEGIN

UPDATE loans

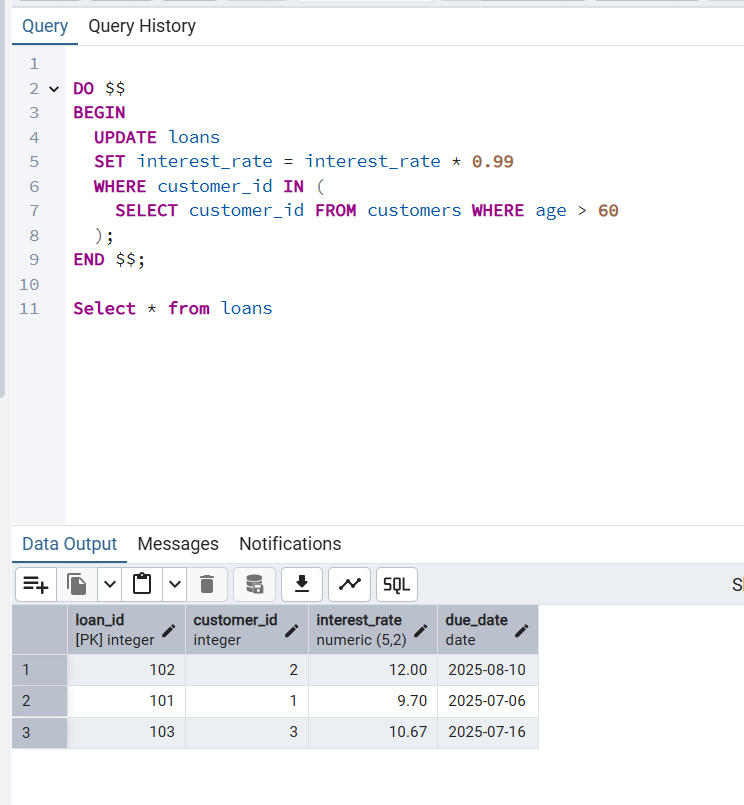
SET interest\_rate = interest\_rate \* 0.99

WHERE customer\_id IN (

SELECT customer\_id FROM customers WHERE age > 60

);

END $$;



**Scenario 2:**

DO $$

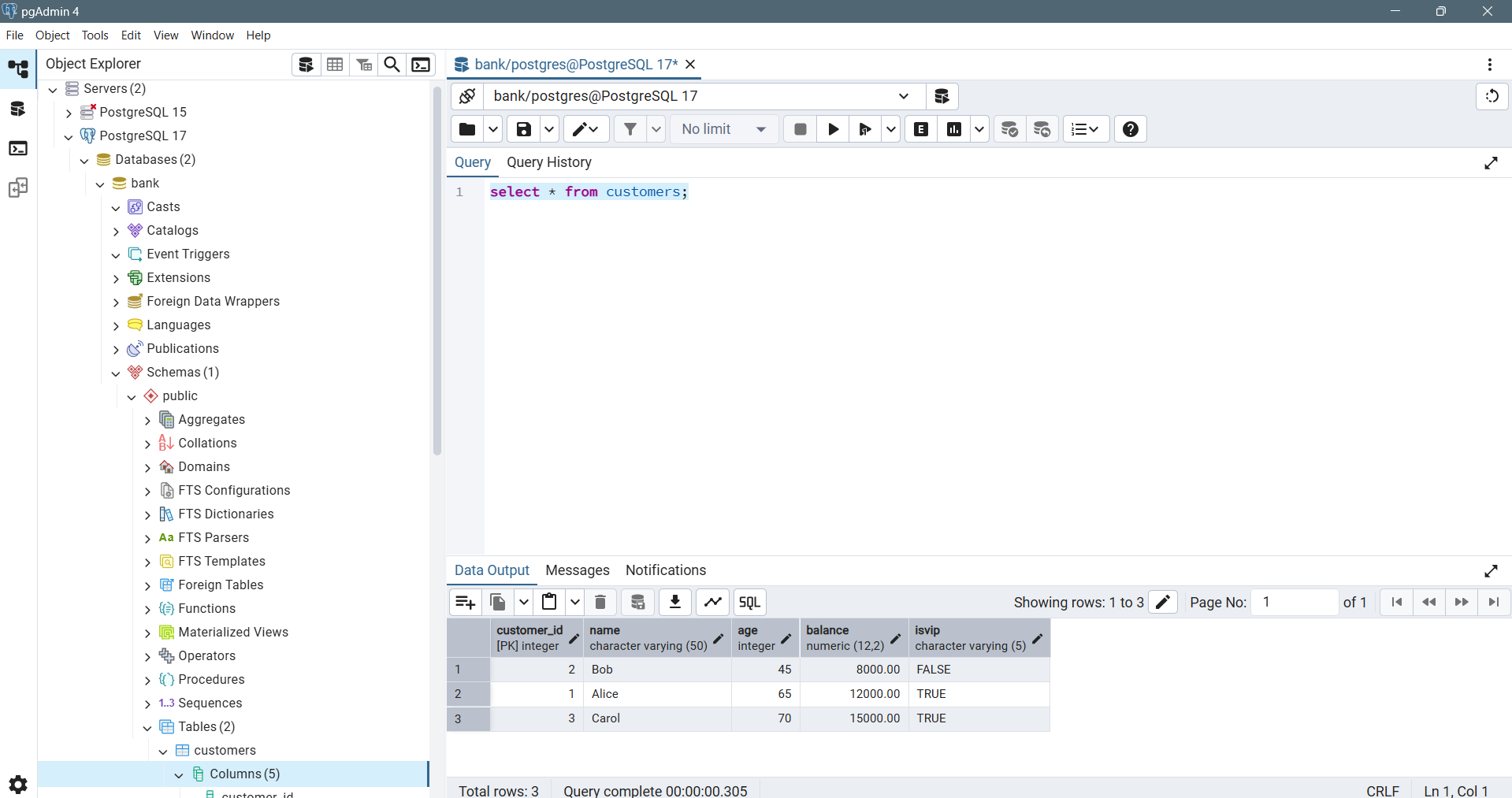
BEGIN

UPDATE customers

SET isvip = 'TRUE'

WHERE balance > 10000;

END $$;



**Scenario 3:**

DO $$

DECLARE

rec RECORD;

BEGIN

FOR rec IN

SELECT c.name, l.loan\_id, l.due\_date

FROM loans l

JOIN customers c ON l.customer\_id = c.customer\_id

WHERE l.due\_date BETWEEN CURRENT\_DATE AND CURRENT\_DATE + INTERVAL '30 days'

LOOP

RAISE NOTICE 'Reminder → %, your loan #% is due on %',

rec.name, rec.loan\_id, TO\_CHAR(rec.due\_date, 'DD-Mon-YYYY');

END LOOP;

END $$;

