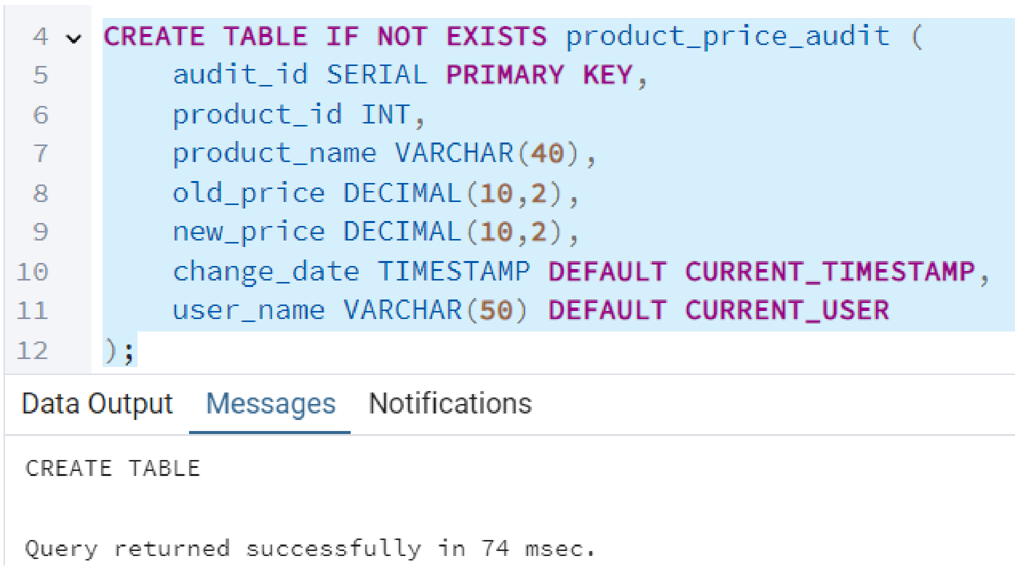
Day 9 Assignment

1. Create AFTER UPDATE trigger to track product price changes

```
CREATE TABLE IF NOT EXISTS product_price_audit (
  audit_id SERIAL PRIMARY KEY,
  product_id INT,
  product_name VARCHAR(40),
  old_price DECIMAL(10,2),
  new_price DECIMAL(10,2),
  change_date TIMESTAMP DEFAULT CURRENT_TIMESTAMP,
  user_name VARCHAR(50) DEFAULT CURRENT_USER
);
```

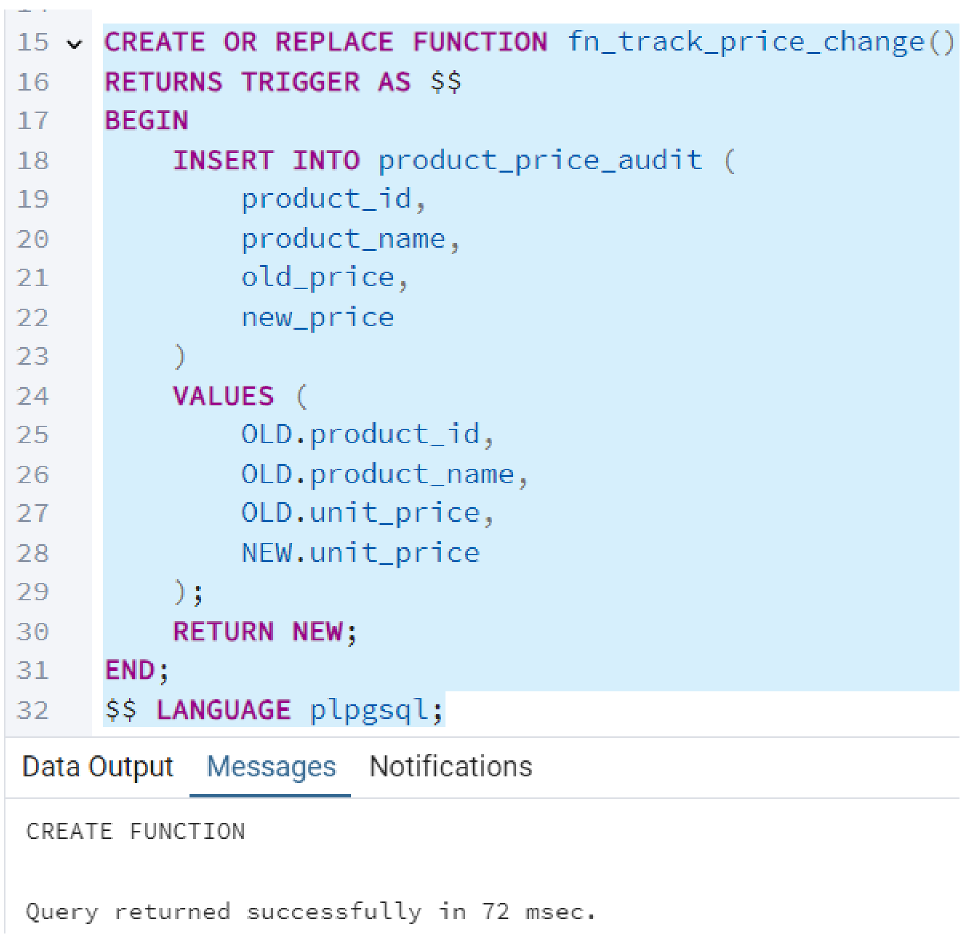


```
CREATE TABLE IF NOT EXISTS product_price_audit (
    audit_id SERIAL PRIMARY KEY,
    product_id INT,
    product_name VARCHAR(40),
    old_price DECIMAL(10,2),
    new_price DECIMAL(10,2),
    change_date TIMESTAMP DEFAULT CURRENT_TIMESTAMP,
    user_name VARCHAR(50) DEFAULT CURRENT_USER
);
```

```
CREATE TABLE

Query returned successfully in 74 msec.
```

Step 1: Create a trigger function with the below logic.

```
CREATE OR REPLACE FUNCTION fn_track_price_change()
RETURNS TRIGGER AS $$
BEGIN
  INSERT INTO product_price_audit (
    product_id,
    product_name,
    old_price,
        new_price
    )
    VALUES (
        OLD.product_id,
        OLD.product_name,
        OLD.unit_price,
        NEW.unit_price
    );
    RETURN NEW;
END;
$$ LANGUAGE plpgsql;
```

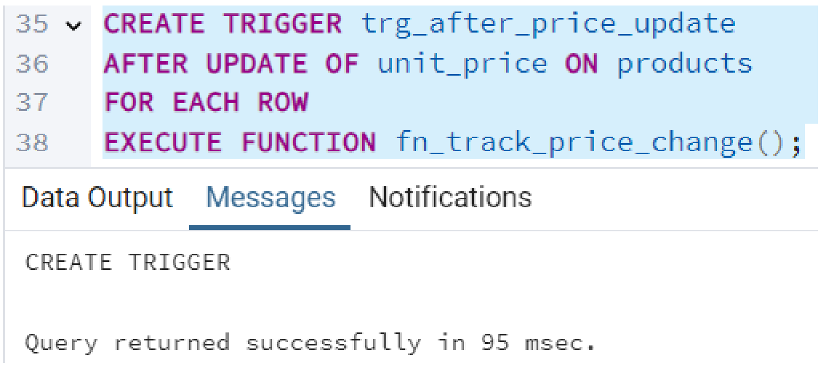


```
CREATE OR REPLACE FUNCTION fn_track_price_change()
RETURNS TRIGGER AS $$
BEGIN
    INSERT INTO product_price_audit (
        product_id,
        product_name,
        old_price,
        new_price
    )
    VALUES (
        OLD.product_id,
        OLD.product_name,
        OLD.unit_price,
        NEW.unit_price
    );
    RETURN NEW;
END;
$$ LANGUAGE plpgsql;
```

```
CREATE FUNCTION

Query returned successfully in 72 msec.
```

Step 3: Create a row level trigger for the event below.

CREATE TRIGGER trg_after_price_update
AFTER UPDATE OF unit_price ON products
FOR EACH ROW
EXECUTE FUNCTION fn_track_price_change();



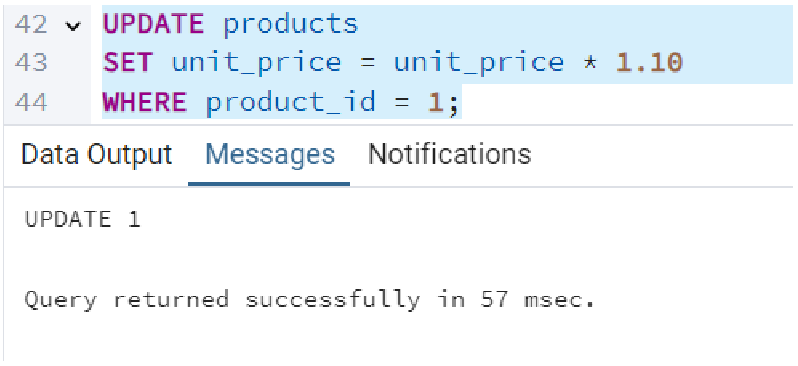
```
CREATE TRIGGER trg_after_price_update
AFTER UPDATE OF unit_price ON products
FOR EACH ROW
EXECUTE FUNCTION fn_track_price_change();
```

Data Output Messages Notifications

```
CREATE TRIGGER

Query returned successfully in 95 msec.
```

Step 4: Test the trigger by updating the product price by 10% to any one

UPDATE products
SET unit_price = unit_price * 1.10
WHERE product_id = 1;

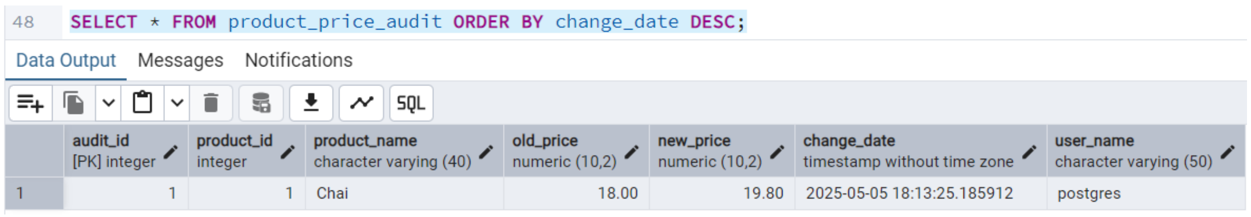


```
UPDATE products
SET unit_price = unit_price * 1.10
WHERE product_id = 1;
```

Data Output Messages Notifications

```
UPDATE 1

Query returned successfully in 57 msec.
```

SELECT * FROM product_price_audit ORDER BY change_date DESC;



```
SELECT * FROM product_price_audit ORDER BY change_date DESC;
```

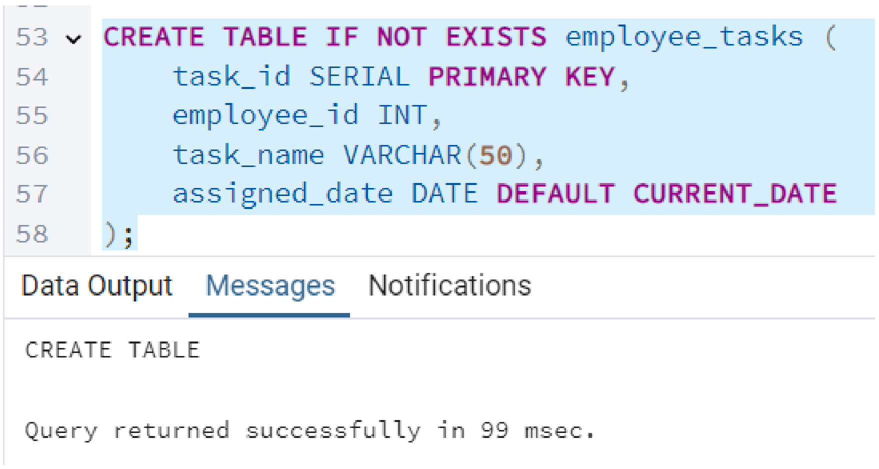
Data Output Messages Notifications

	audit_id [PK] integer	product_id integer	product_name character varying (40)	old_price numeric (10,2)	new_price numeric (10,2)	change_date timestamp without time zone	user_name character varying (50)
1	1	1	Chai	18.00	19.80	2025-05-05 18:13:25.185912	postgres

2. Stored Procedure to Assign Tasks to Employees

Step 1: Create the employee_tasks table

```
CREATE TABLE IF NOT EXISTS employee_tasks (
    task_id SERIAL PRIMARY KEY,
    employee_id INT,
    task_name VARCHAR(50),
    assigned_date DATE DEFAULT CURRENT_DATE
);
```

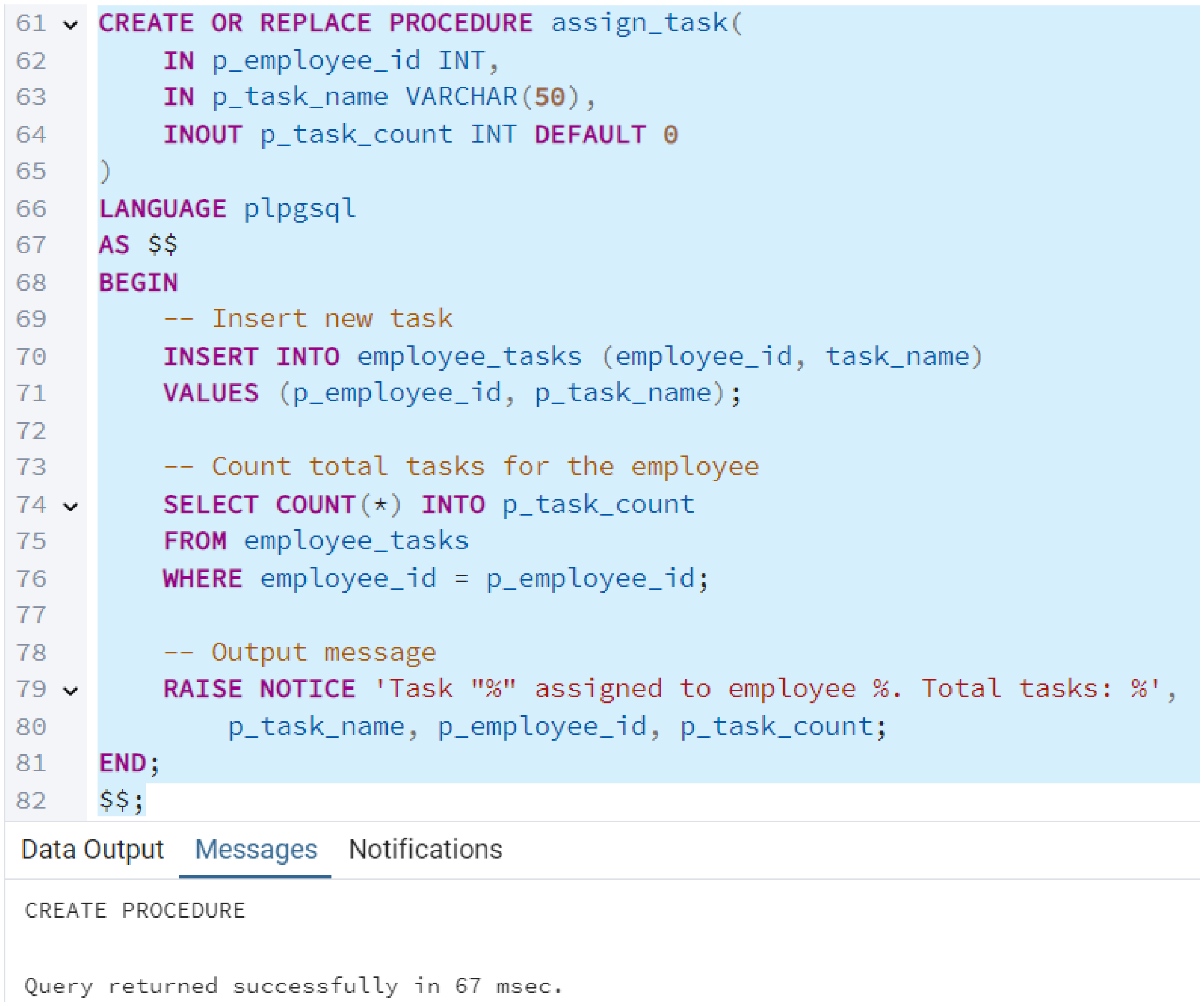


```
CREATE TABLE IF NOT EXISTS employee_tasks (
    task_id SERIAL PRIMARY KEY,
    employee_id INT,
    task_name VARCHAR(50),
    assigned_date DATE DEFAULT CURRENT_DATE
);
```

```
CREATE TABLE

Query returned successfully in 99 msec.
```

Step 2: Create the stored procedure

```
CREATE OR REPLACE PROCEDURE assign_task(
    IN p_employee_id INT,
    IN p_task_name VARCHAR(50),
    INOUT p_task_count INT DEFAULT 0
)
LANGUAGE plpgsql
AS $$
BEGIN
    -- Insert new task
    INSERT INTO employee_tasks (employee_id, task_name)
    VALUES (p_employee_id, p_task_name);
    -- Count total tasks for the employee
    SELECT COUNT(*) INTO p_task_count
    FROM employee_tasks
    WHERE employee_id = p_employee_id;

    -- Output message
    RAISE NOTICE 'Task "%" assigned to employee %. Total tasks: %',
      p_task_name, p_employee_id, p_task_count;
END;
$$;
```

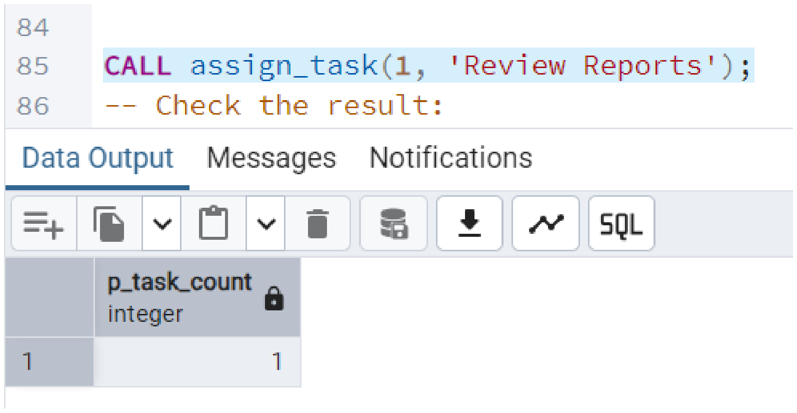


```
CREATE OR REPLACE PROCEDURE assign_task(
    IN p_employee_id INT,
    IN p_task_name VARCHAR(50),
    INOUT p_task_count INT DEFAULT 0
)
LANGUAGE plpgsql
AS $$
BEGIN
    -- Insert new task
    INSERT INTO employee_tasks (employee_id, task_name)
    VALUES (p_employee_id, p_task_name);

    -- Count total tasks for the employee
    SELECT COUNT(*) INTO p_task_count
    FROM employee_tasks
    WHERE employee_id = p_employee_id;

    -- Output message
    RAISE NOTICE 'Task "%" assigned to employee %. Total tasks: %',
        p_task_name, p_employee_id, p_task_count;
END;
$$;
```

```
CREATE PROCEDURE

Query returned successfully in 67 msec.
```

Step 3: Call the procedure and test

CALL assign_task(1, 'Review Reports');



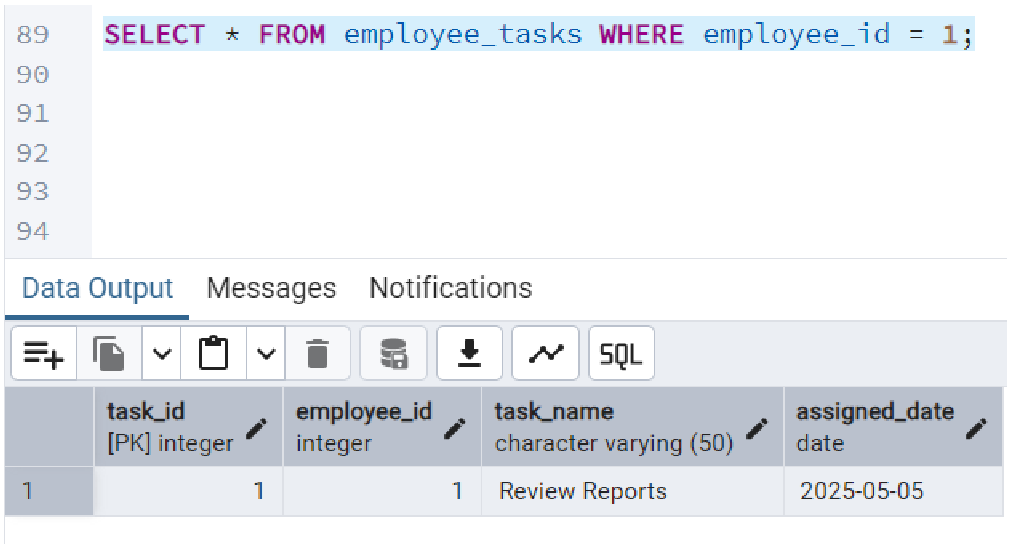
```
CALL assign_task(1, 'Review Reports');
-- Check the result:
```

Data Output Messages Notifications

	p_task_count integer
1	1

Check the result:

SELECT * FROM employee_tasks WHERE employee_id = 1;



```
SELECT * FROM employee_tasks WHERE employee_id = 1;
```

Data Output Messages Notifications

	task_id [PK] integer	employee_id integer	task_name character varying (50)	assigned_date date
1	1	1	Review Reports	2025-05-05