**Exercise 3: Stored Procedures**

**Scenario 1:** The bank needs to process monthly interest for all savings accounts.

**Question:** Write a stored procedure **ProcessMonthlyInterest** that calculates and updates the balance of all savings accounts by applying an interest rate of 1% to the current balance.

**SOLUTION SCRIPT**

CREATE OR REPLACE PROCEDURE ProcessMonthlyInterest IS

BEGIN

FOR RECORD IN (

SELECT CUSTOMERID FROM CUSTOMERS

FOR UPDATE

) LOOP

UPDATE CUSTOMERS

SET BALANCE = BALANCE + BALANCE \* 0.01

WHERE CUSTOMERID = RECORD.CUSTOMERID;

END LOOP;

COMMIT;

END;

/

-- or

CREATE OR REPLACE PROCEDURE ProcessMonthlyInterest IS

BEGIN

UPDATE CUSTOMERS

SET BALANCE = BALANCE + BALANCE \* 0.01;

COMMIT;

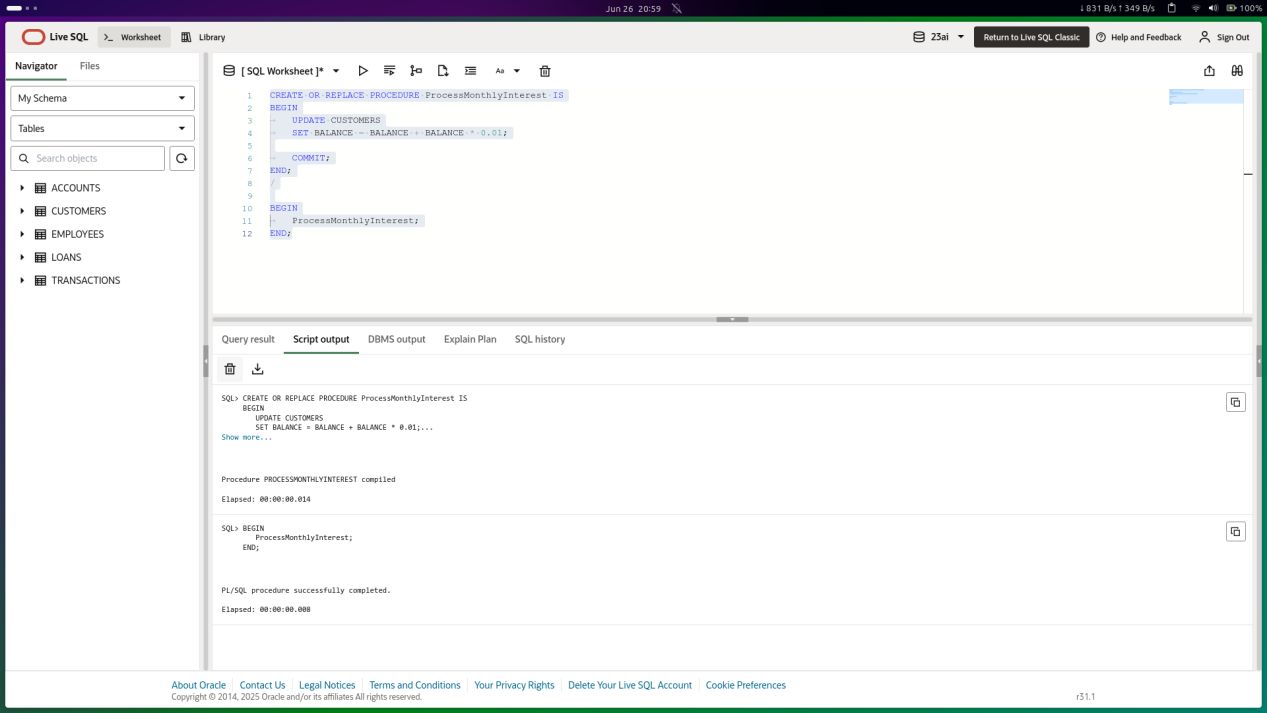
END;

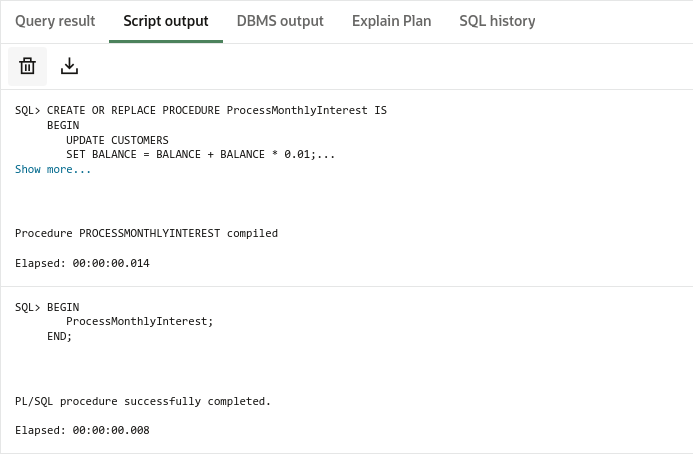
BEGIN

ProcessMonthlyInterest;

END;

**OUTPUT**

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**Scenario 2:** The bank wants to implement a bonus scheme for employees based on their performance.

**Question:** Write a stored procedure **UpdateEmployeeBonus** that updates the salary of employees in a given department by adding a bonus percentage passed as a parameter.

**SOLUTION SCRIPT**

CREATE OR REPLACE PROCEDURE UpdateEmployeeBonus (

dept\_name IN VARCHAR2,

bonus\_percent IN NUMBER

) IS

BEGIN

FOR RECORD IN (

SELECT EMPLOYEEID FROM EMPLOYEES

WHERE DEPARTMENT = dept\_name

FOR UPDATE

) LOOP

UPDATE EMPLOYEES

SET SALARY = SALARY + SALARY \* (bonus\_percent/100)

WHERE EMPLOYEEID = RECORD.EMPLOYEEID;

END LOOP;

DBMS\_OUTPUT.PUT\_LINE('Bonus added to ' || dept\_name || ' Employees!');

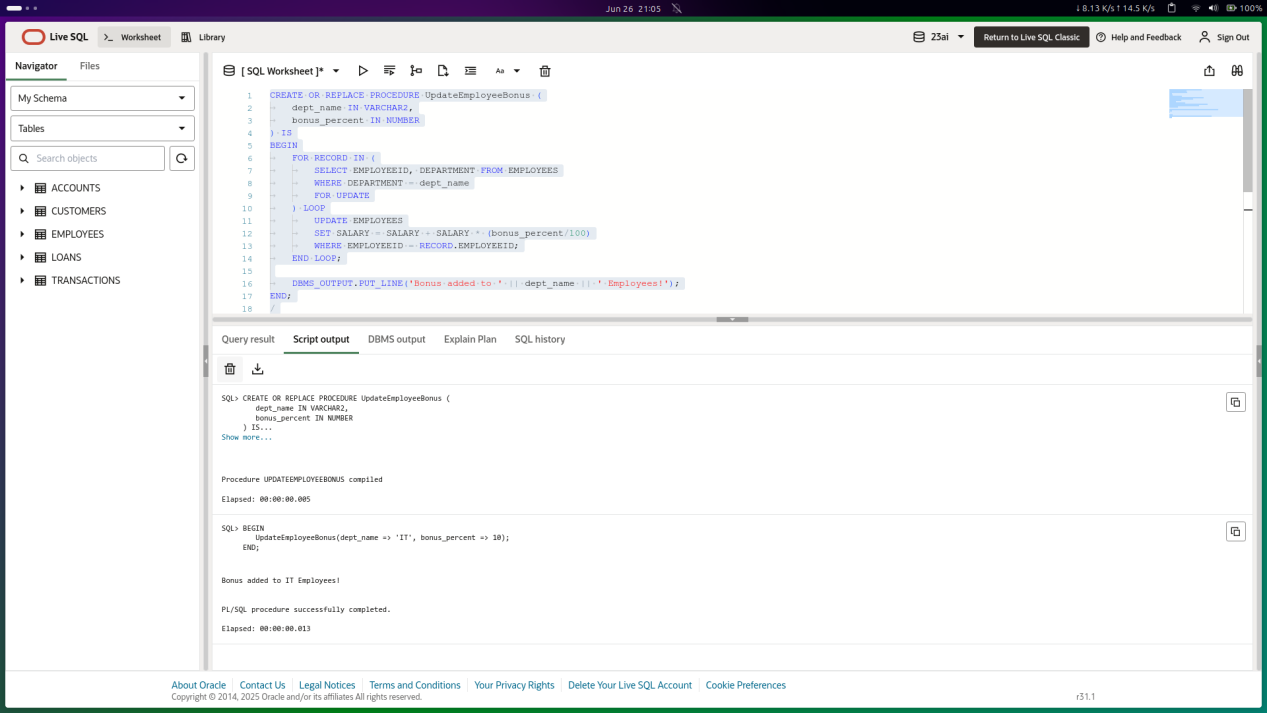
END;

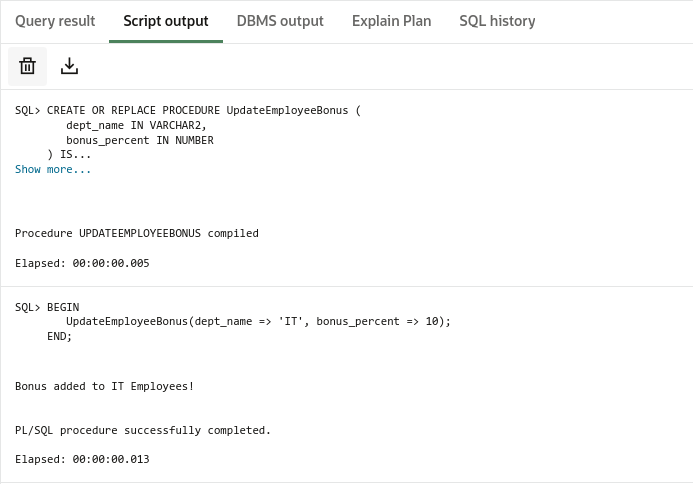
BEGIN

UpdateEmployeeBonus(dept\_name => 'IT', bonus\_percent => 10);

END;

**OUTPUT**

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**Scenario 3:** Customers should be able to transfer funds between their accounts.

**Question:** Write a stored procedure **TransferFunds** that transfers a specified amount from one account to another, checking that the source account has sufficient balance before making the transfer.

**SOLUTION SCRIPT**

CREATE OR REPLACE PROCEDURE UpdateEmployeeBonus (

dept\_name IN VARCHAR2,

bonus\_percent IN NUMBER

) IS

BEGIN

FOR RECORD IN (

SELECT EMPLOYEEID FROM EMPLOYEES

WHERE DEPARTMENT = dept\_name

FOR UPDATE

) LOOP

UPDATE EMPLOYEES

SET SALARY = SALARY + SALARY \* (bonus\_percent/100)

WHERE EMPLOYEEID = RECORD.EMPLOYEEID;

END LOOP;

DBMS\_OUTPUT.PUT\_LINE('Bonus added to ' || dept\_name || ' Employees!');

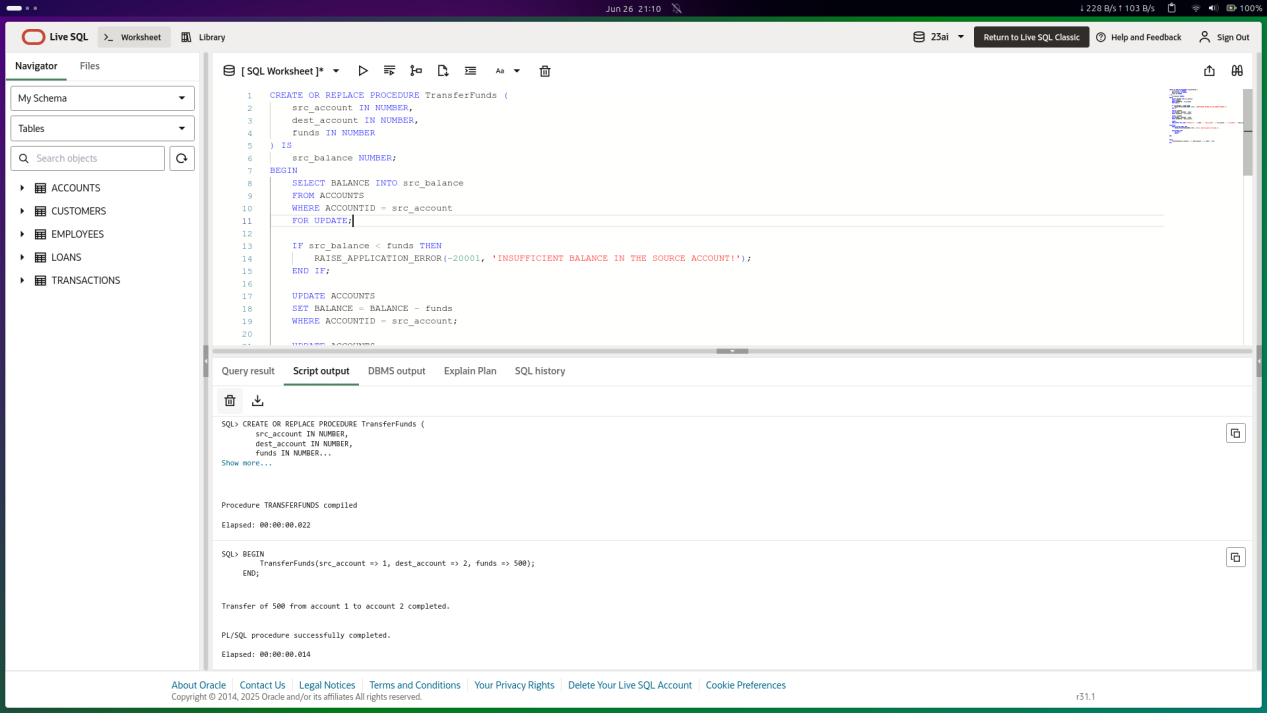
END;

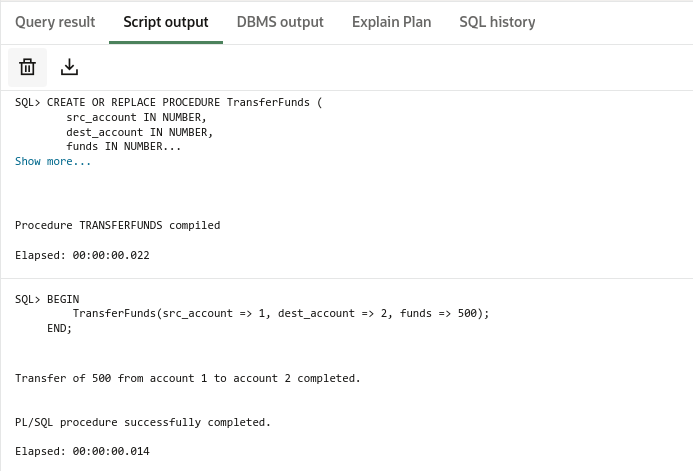
BEGIN

UpdateEmployeeBonus(dept\_name => 'IT', bonus\_percent => 10);

END;

**OUTPUT**

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