**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.

**Procedure:**

CREATE OR REPLACE PROCEDURE ProcessMonthlyInterest IS

BEGIN

UPDATE Accounts

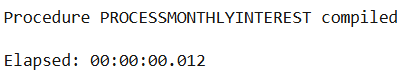
SET Balance = Balance + (Balance \* 0.01)

WHERE AccountType = 'Savings';

COMMIT;

END;

/

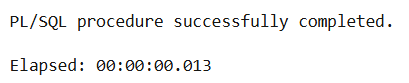


BEGIN

ProcessMonthlyInterest;

END;

/



**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.

**Procedure:**

CREATE OR REPLACE PROCEDURE UpdateEmployeeBonus (

p\_dept\_id IN NUMBER,

p\_bonus\_pct IN NUMBER

) IS

BEGIN

UPDATE Employees

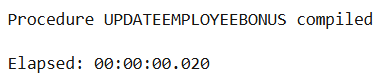
SET Salary = Salary + (Salary \* p\_bonus\_pct / 100)

WHERE DepartmentID = p\_dept\_id;

COMMIT;

END;

/

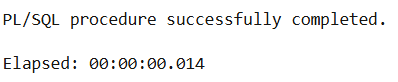


BEGIN

UpdateEmployeeBonus(10, 10);

END;

/



**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.

**Procedure:**

CREATE OR REPLACE PROCEDURE TransferFunds (

p\_from\_acc IN NUMBER,

p\_to\_acc IN NUMBER,

p\_amount IN NUMBER

) IS

v\_balance NUMBER;

BEGIN

SELECT Balance INTO v\_balance

FROM Accounts

WHERE AccountID = p\_from\_acc

FOR UPDATE;

IF v\_balance >= p\_amount THEN

UPDATE Accounts

SET Balance = Balance - p\_amount

WHERE AccountID = p\_from\_acc;

UPDATE Accounts

SET Balance = Balance + p\_amount

WHERE AccountID = p\_to\_acc;

COMMIT;

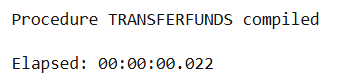
ELSE

RAISE\_APPLICATION\_ERROR(-20001, 'Insufficient balance in source account');

END IF;

END;

/



BEGIN

TransferFunds(104, 105, 5000); -- Transfer 5000 from Diana to Bruce

END;

/

