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.

CREATE OR REPLACE PROCEDURE ProcessMonthlyInterest IS

BEGIN

FOR rec IN (SELECT AccountID, Balance FROM Accounts WHERE AccountType = 'Savings') LOOP

UPDATE Accounts

SET Balance = Balance + (Balance \* 0.01)

WHERE AccountID = rec.AccountID;

END LOOP;

COMMIT;

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.

CREATE OR REPLACE PROCEDURE UpdateEmployeeBonus(p\_department VARCHAR2, p\_bonus\_percentage NUMBER) IS

BEGIN

UPDATE Employees

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

WHERE Department = p\_department;

COMMIT;

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.

CREATE OR REPLACE PROCEDURE TransferFunds(p\_from\_account NUMBER, p\_to\_account NUMBER, p\_amount NUMBER) IS

insufficient\_balance EXCEPTION;

BEGIN

DECLARE

v\_balance NUMBER;

BEGIN

SELECT Balance INTO v\_balance FROM Accounts WHERE AccountID = p\_from\_account;

IF v\_balance < p\_amount THEN

RAISE insufficient\_balance;

END IF;

END;

UPDATE Accounts

SET Balance = Balance - p\_amount

WHERE AccountID = p\_from\_account;

UPDATE Accounts

SET Balance = Balance + p\_amount

WHERE AccountID = p\_to\_account;

COMMIT;

EXCEPTION

WHEN insufficient\_balance THEN

DBMS\_OUTPUT.PUT\_LINE('Error: Insufficient balance.');

ROLLBACK;

WHEN OTHERS THEN

DBMS\_OUTPUT.PUT\_LINE('Error occurred during fund transfer.');

ROLLBACK;

END;