Exercise 3: Stored Procedures

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

**O 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

CURSOR c\_accounts IS SELECT AccountID, Balance FROM Accounts WHERE AccountType = 'Savings';

v\_account\_id NUMBER;

v\_balance NUMBER;

BEGIN

OPEN c\_accounts;

LOOP

FETCH c\_accounts INTO v\_account\_id, v\_balance;

EXIT WHEN c\_accounts%NOTFOUND;

UPDATE Accounts SET Balance = Balance \* 1.01 WHERE AccountID = v\_account\_id;

END LOOP;

CLOSE c\_accounts;

COMMIT;

END;

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

**O 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 \* (1 + p\_bonus\_percentage / 100) WHERE Department = p\_department;

COMMIT;

END;

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

**O 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

v\_balance NUMBER;

BEGIN

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

IF v\_balance >= p\_amount THEN

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;

ELSE

DBMS\_OUTPUT.PUT\_LINE('Insufficient funds in account ' || p\_from\_account);

END IF;

END;

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