**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.

**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.

**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.

**Scenario 1**

CREATE OR REPLACE PROCEDURE ProcessMonthlyInterest

AS

BEGIN

UPDATE Accounts

SET Balance = Balance + (Balance \* 0.01),

LastModified = SYSDATE

WHERE AccountType = 'Savings';

COMMIT;

END;

/

**Scenario 2**

CREATE OR REPLACE PROCEDURE UpdateEmployeeBonus(

p\_Department IN VARCHAR2,

p\_BonusPercent IN NUMBER

)

AS

BEGIN

UPDATE Employees

SET Salary = Salary + (Salary \* p\_BonusPercent / 100)

WHERE Department = p\_Department;

COMMIT;

END;

/

**Scenario 3**

CREATE OR REPLACE PROCEDURE TransferFunds(

p\_FromAccountID IN NUMBER,

p\_ToAccountID IN NUMBER,

p\_Amount IN NUMBER

)

AS

v\_SourceBalance NUMBER;

BEGIN

SELECT Balance

INTO v\_SourceBalance

FROM Accounts

WHERE AccountID = p\_FromAccountID

FOR UPDATE;

IF v\_SourceBalance >= p\_Amount THEN

-- Deduct from source account

UPDATE Accounts

SET Balance = Balance - p\_Amount,

LastModified = SYSDATE

WHERE AccountID = p\_FromAccountID;

UPDATE Accounts

SET Balance = Balance + p\_Amount,

LastModified = SYSDATE

WHERE AccountID = p\_ToAccountID;

ELSE

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

END IF;

COMMIT;

END;