**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.

**Program:**

CREATE OR REPLACE PROCEDURE ProcessMonthlyInterest IS

BEGIN

FOR acc IN (

SELECT AccountID, Balance

FROM ACCOUNTS

WHERE AccountType = 'SAVINGS'

) LOOP

UPDATE ACCOUNTS

SET Balance = Balance + (Balance \* 0.01)

WHERE AccountID = acc.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\_DepartmentID IN NUMBER,

p\_BonusPercentage IN NUMBER

) IS

BEGIN

UPDATE EMPLOYEES

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

WHERE DepartmentID = p\_DepartmentID;

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.

**Program:**

CREATE OR REPLACE PROCEDURE TransferFunds (

p\_FromAccountID IN NUMBER,

p\_ToAccountID IN NUMBER,

p\_Amount IN NUMBER

) IS

v\_SourceBalance NUMBER;

BEGIN

SELECT Balance INTO v\_SourceBalance

FROM ACCOUNTS

WHERE AccountID = p\_FromAccountID;

IF v\_SourceBalance < p\_Amount THEN

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

END IF;

UPDATE ACCOUNTS

SET Balance = Balance - p\_Amount

WHERE AccountID = p\_FromAccountID;

UPDATE ACCOUNTS

SET Balance = Balance + p\_Amount

WHERE AccountID = p\_ToAccountID;

COMMIT;

END;