**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.

**My answers :**

CREATE OR REPLACE PROCEDURE ProcessMonthlyInterest IS

BEGIN

UPDATE Accounts

SET Balance = Balance + (Balance \* 0.01)

WHERE AccountType = 'Savings';

COMMIT;

DBMS\_OUTPUT.PUT\_LINE(' Monthly interest added to savings accounts.');

END;

/

**Case with output :**

SET SERVEROUTPUT ON;

EXEC ProcessMonthlyInterest;

Op 🡪 Monthly interest added to savings accounts.

Verification 🡪 SELECT \* FROM Accounts WHERE AccountType = 'Savings';

**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.

**My answers :**

CREATE OR REPLACE PROCEDURE UpdateEmployeeBonus (

p\_dept IN VARCHAR2,

p\_bonus\_percent IN NUMBER

) IS

BEGIN

UPDATE Employees

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

WHERE Department = p\_dept;

COMMIT;

DBMS\_OUTPUT.PUT\_LINE('Bonus applied to department: ' || p\_dept);

END;

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**Case with output :**

🡪 EXEC UpdateEmployeeBonus('IT', 10); -- Gives 10% bonus to IT dept

🡪 op : Bonus applied to department: IT

🡪 SELECT \* FROM Employees WHERE Department = 'IT';

**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.

**My answers :**

CREATE OR REPLACE PROCEDURE TransferFunds (

p\_fromAcct IN NUMBER,

p\_toAcct IN NUMBER,

p\_amount IN NUMBER

) IS

v\_fromBal NUMBER;

BEGIN

SELECT Balance INTO v\_fromBal

FROM Accounts

WHERE AccountID = p\_fromAcct

FOR UPDATE;

IF v\_fromBal < p\_amount THEN

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

END IF;

UPDATE Accounts

SET Balance = Balance - p\_amount

WHERE AccountID = p\_fromAcct;

UPDATE Accounts

SET Balance = Balance + p\_amount

WHERE AccountID = p\_toAcct;

COMMIT;

DBMS\_OUTPUT.PUT\_LINE(' Transfer completed from Account ' || p\_fromAcct || ' to ' || p\_toAcct);

END;

/

**Case with output :**

🡪 EXEC TransferFunds(1, 2, 100); // Transfer ₹100 from Acc 1 to Acc 2

🡪 op : Transfer completed from Account 1 to 2

🡪Failure samples : EXEC TransferFunds(1, 2, 999999); // Too much, fails

🡪op: ORA-20001: Insufficient funds.