**Exercise 3: Stored Procedures**

**Scenario 1: Process Monthly Interest**

**Stored Procedure**:

CREATE OR REPLACE PROCEDURE ProcessMonthlyInterest AS

BEGIN

UPDATE Accounts

SET Balance = Balance \* 1.01

WHERE AccountType = 'Savings';

COMMIT;

END;

/

**Verification Query**:

BEGIN

ProcessMonthlyInterest;

END;

/

**Sample Verification**:

SELECT \* FROM Accounts;

**Sample Output**:

ACCOUNTID | CUSTOMERID | ACCOUNTTYPE | BALANCE | LASTMODIFIED

------------------------------------------------------------

1 | 1 | Savings | 1010 | 2024-08-08

**Scenario 2: Update Employee Bonus**

**Stored Procedure**:

CREATE OR REPLACE PROCEDURE UpdateEmployeeBonus (

p\_department IN VARCHAR2,

p\_bonus\_percentage IN NUMBER

) AS

BEGIN

UPDATE Employees

SET Salary = Salary \* (1 + p\_bonus\_percentage / 100)

WHERE Department = p\_department;

COMMIT;

END;

/

**Verification Query**:

BEGIN

UpdateEmployeeBonus('IT', 5);

END;

/

**Sample Output**: Verify with:

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

**Sample Output**:

EMPLOYEEID | NAME | POSITION | SALARY | DEPARTMENT | HIREDATE

----------------------------------------------------------------------

2 | Bob Brown | Developer | 63000 | IT | 2017-03-20

**Scenario 3: Transfer Funds Between Accounts**

**Stored Procedure**:

CREATE OR REPLACE PROCEDURE TransferFunds (

p\_from\_account IN NUMBER,

p\_to\_account IN NUMBER,

p\_amount IN NUMBER

) AS

v\_balance NUMBER;

BEGIN

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

IF v\_balance < p\_amount THEN

RAISE\_APPLICATION\_ERROR(-20003, 'Insufficient funds');

ELSE

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;

END IF;

EXCEPTION

WHEN OTHERS THEN

DBMS\_OUTPUT.PUT\_LINE('Error: ' || ERRM);

ROLLBACK;

END;

/

**Verification Query**:

BEGIN

TransferFunds(1, 2, 200);

END;

/

**Sample Output**:

If there are sufficient funds:

No output; balances in Accounts table will be updated.

If there are insufficient funds:

Error: Insufficient funds