**Exercise 3: Stored Procedures**

## Create Tables and Insert Data

**Savings Accounts Table**

CREATE TABLE savings\_accounts (

account\_id NUMBER PRIMARY KEY,

balance NUMBER

);

**Employees Table**

CREATE TABLE employees (

employee\_id NUMBER PRIMARY KEY,

department\_id NUMBER,

salary NUMBER

);

**Accounts Table (for fund transfers)**

CREATE TABLE accounts (

account\_id NUMBER PRIMARY KEY,

balance NUMBER

);

**Savings Accounts**

INSERT INTO savings\_accounts VALUES (501, 1000.00);INSERT INTO savings\_accounts VALUES (502, 2000.00);

**Employees**

INSERT INTO employees VALUES (601, 10, 50000);INSERT INTO employees VALUES (602, 10, 55000);

**General Accounts**

INSERT INTO accounts VALUES (701, 3000);INSERT INTO accounts VALUES (702, 2000);

COMMIT;

## Scenario 1: Process Monthly Interest

CREATE OR REPLACE PROCEDURE ProcessMonthlyInterest ISBEGIN

FOR rec IN (SELECT account\_id, balance FROM savings\_accounts) LOOP

UPDATE savings\_accounts

SET balance = balance + (balance \* 0.01)

WHERE account\_id = rec.account\_id;

END LOOP;

COMMIT;

END;/

BEGIN

ProcessMonthlyInterest;

END;

/

### Output

**Before:**

| **account\_id** | **balance** |
| --- | --- |
| 501 | 1000.00 |
| 502 | 2000.00 |

**After:**

| **account\_id** | **balance** |
| --- | --- |
| 501 | 1010.00 |
| 502 | 2020.00 |

## Scenario 2: Update Employee Bonus

CREATE OR REPLACE PROCEDURE UpdateEmployeeBonus (

dept\_id IN NUMBER,

bonus\_percent IN NUMBER

) ISBEGIN

UPDATE employees

SET salary = salary + (salary \* bonus\_percent / 100)

WHERE department\_id = dept\_id;

COMMIT;

END;

/

BEGIN

UpdateEmployeeBonus(10, 10);END;/

### Output

**Before:**

| **employee\_id** | **department\_id** | **salary** |
| --- | --- | --- |
| 601 | 10 | 50000 |
| 602 | 10 | 55000 |

**After:**

| **employee\_id** | **department\_id** | **salary** |
| --- | --- | --- |
| 601 | 10 | 55000 |
| 602 | 10 | 60500 |

## Scenario 3: Transfer Funds Between Accounts

CREATE OR REPLACE PROCEDURE TransferFunds (

from\_acc IN NUMBER,

to\_acc IN NUMBER,

amt IN NUMBER

) IS

v\_balance NUMBER;

BEGIN

SELECT balance INTO v\_balance FROM accounts WHERE account\_id = from\_acc;

IF v\_balance >= amt THEN

UPDATE accounts SET balance = balance - amt WHERE account\_id = from\_acc;

UPDATE accounts SET balance = balance + amt WHERE account\_id = to\_acc;

COMMIT;

ELSE

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

END IF;

END;

/

BEGIN

TransferFunds(701, 702, 1000);END;/

### Output

**Before:**

| **account\_id** | **balance** |
| --- | --- |
| 701 | 3000 |
| 702 | 2000 |

**After:**

| **account\_id** | **balance** |
| --- | --- |
| 701 | 2000 |
| 702 | 3000 |