Exercise 3: Stored Procedures

Code:

-- Table: savings\_accounts

CREATE TABLE savings\_accounts (

  account\_id NUMBER PRIMARY KEY,

  customer\_id NUMBER,

  balance NUMBER(10, 2)

);

-- Table: employees

CREATE TABLE employees (

  emp\_id NUMBER PRIMARY KEY,

  name VARCHAR2(100),

  department\_id NUMBER,

  salary NUMBER(10, 2)

);

-- Table: accounts (for fund transfers)

CREATE TABLE accounts (

  account\_id NUMBER PRIMARY KEY,

  customer\_id NUMBER,

  balance NUMBER(10, 2)

);

-- Sample savings accounts

INSERT INTO savings\_accounts VALUES (1, 101, 10000);

INSERT INTO savings\_accounts VALUES (2, 102, 20000);

-- Sample employees

INSERT INTO employees VALUES (1, 'Alice', 10, 50000);

INSERT INTO employees VALUES (2, 'Bob', 10, 55000);

INSERT INTO employees VALUES (3, 'Charlie', 20, 60000);

-- Sample general accounts

INSERT INTO accounts VALUES (1001, 101, 8000);

INSERT INTO accounts VALUES (1002, 101, 4000);

COMMIT;

CREATE OR REPLACE PROCEDURE ProcessMonthlyInterest IS

BEGIN

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

    UPDATE savings\_accounts

    SET balance = balance + (acc.balance \* 0.01)

    WHERE account\_id = acc.account\_id;

  END LOOP;

  COMMIT;

END;

/

BEGIN

  ProcessMonthlyInterest;

END;

/

CREATE OR REPLACE PROCEDURE UpdateEmployeeBonus (

  p\_dept\_id IN NUMBER,

  p\_bonus\_pct IN NUMBER

) IS

BEGIN

  UPDATE employees

  SET salary = salary + (salary \* p\_bonus\_pct / 100)

  WHERE department\_id = p\_dept\_id;

  COMMIT;

END;

/

BEGIN

  UpdateEmployeeBonus(10, 10);  -- Give 10% bonus to dept 10

END;

/

CREATE OR REPLACE PROCEDURE TransferFunds (

  p\_from\_acc IN NUMBER,

  p\_to\_acc IN NUMBER,

  p\_amount IN NUMBER

) IS

  v\_balance NUMBER;

BEGIN

  -- Check balance of source account

  SELECT balance INTO v\_balance

  FROM accounts

  WHERE account\_id = p\_from\_acc;

  IF v\_balance < p\_amount THEN

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

  ELSE

    -- Deduct from source

    UPDATE accounts

    SET balance = balance - p\_amount

    WHERE account\_id = p\_from\_acc;

    -- Add to destination

    UPDATE accounts

    SET balance = balance + p\_amount

    WHERE account\_id = p\_to\_acc;

    COMMIT;

  END IF;

END;

/

BEGIN

  TransferFunds(1001, 1002, 2000);  -- Transfer ₹2000 from 1001 to 1002

END;

/

-- Check savings interest update

SELECT \* FROM savings\_accounts;

-- Check employee salary update

SELECT \* FROM employees;

-- Check account balances after fund transfer

SELECT \* FROM accounts;

Output:

A screenshot of a computer

AI-generated content may be incorrect.