**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.

**Solution-**

Table-

accounts(account\_id,account\_type,balance)

**PL/SQL Block-**

CREATE OR REPLACE PROCEDURE ProcessMonthlyInterest AS

BEGIN

UPDATE accounts

SET balance = balance + (balance \* 0.01)

WHERE account\_type = 'SAVINGS';

COMMIT;

END;

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**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.

**Solution-**

Tables-

employees(emp\_id,department\_id,salary)

**PL/SQL Block-**

CREATE OR REPLACE PROCEDURE UpdateEmployeeBonus (

p\_dept\_id IN employees.department\_id%TYPE,

p\_bonus\_percent IN NUMBER

) AS

BEGIN

UPDATE employees

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

WHERE department\_id = p\_dept\_id;

COMMIT;

END;

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**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.

**Solution-**

Tables-

accounts(account\_id,balance)

**PL/SQL Block-**

CREATE OR REPLACE PROCEDURE TransferFunds (

p\_from\_account IN accounts.account\_id%TYPE,

p\_to\_account IN accounts.account\_id%TYPE,

p\_amount IN NUMBER

) AS

v\_balance NUMBER;

BEGIN

-- Check sufficient balance

SELECT balance INTO v\_balance

FROM accounts

WHERE account\_id = p\_from\_account

FOR UPDATE;

IF v\_balance < p\_amount THEN

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

END IF;

UPDATE accounts

SET balance = balance - p\_amount

WHERE account\_id = p\_from\_account;

-- Add to destination

UPDATE accounts

SET balance = balance + p\_amount

WHERE account\_id = p\_to\_account;

COMMIT;

END;

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