**EXERCISE 7 : PACKAGES**

-- Exercise 7: Simulated Packages in MySQL

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-- CUSTOMER MANAGEMENT "PACKAGE"

-- ========================================

-- Procedure: Add new customer

DELIMITER //

CREATE PROCEDURE Customer\_Add(

IN cust\_id INT,

IN cust\_name VARCHAR(100),

IN dob DATE,

IN balance DECIMAL(10,2)

)

BEGIN

INSERT INTO Customers (CustomerID, Name, DOB, Balance, LastModified)

VALUES (cust\_id, cust\_name, dob, balance, NOW());

END;

//

-- Procedure: Update customer details

CREATE PROCEDURE Customer\_Update(

IN cust\_id INT,

IN new\_name VARCHAR(100),

IN new\_dob DATE

)

BEGIN

UPDATE Customers

SET Name = new\_name,

DOB = new\_dob,

LastModified = NOW()

WHERE CustomerID = cust\_id;

END;

//

-- Function: Get customer balance

CREATE FUNCTION Customer\_GetBalance(cust\_id INT)

RETURNS DECIMAL(10,2)

DETERMINISTIC

BEGIN

DECLARE bal DECIMAL(10,2);

SELECT Balance INTO bal FROM Customers WHERE CustomerID = cust\_id;

RETURN bal;

END;

//

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-- EMPLOYEE MANAGEMENT "PACKAGE"

-- ========================================

-- Procedure: Hire new employee

CREATE PROCEDURE Employee\_Hire(

IN emp\_id INT,

IN emp\_name VARCHAR(100),

IN position VARCHAR(50),

IN salary DECIMAL(10,2),

IN dept VARCHAR(50),

IN hire\_date DATE

)

BEGIN

INSERT INTO Employees (EmployeeID, Name, Position, Salary, Department, HireDate)

VALUES (emp\_id, emp\_name, position, salary, dept, hire\_date);

END;

//

-- Procedure: Update employee details

CREATE PROCEDURE Employee\_Update(

IN emp\_id INT,

IN new\_position VARCHAR(50),

IN new\_salary DECIMAL(10,2)

)

BEGIN

UPDATE Employees

SET Position = new\_position,

Salary = new\_salary

WHERE EmployeeID = emp\_id;

END;

//

-- Function: Calculate annual salary

CREATE FUNCTION Employee\_AnnualSalary(emp\_id INT)

RETURNS DECIMAL(10,2)

DETERMINISTIC

BEGIN

DECLARE annual\_salary DECIMAL(10,2);

SELECT Salary \* 12 INTO annual\_salary FROM Employees WHERE EmployeeID = emp\_id;

RETURN annual\_salary;

END;

//

-- ========================================

-- ACCOUNT OPERATIONS "PACKAGE"

-- ========================================

-- Procedure: Open a new account

CREATE PROCEDURE Account\_Open(

IN acc\_id INT,

IN cust\_id INT,

IN acc\_type VARCHAR(20),

IN balance DECIMAL(10,2)

)

BEGIN

INSERT INTO Accounts (AccountID, CustomerID, AccountType, Balance, LastModified)

VALUES (acc\_id, cust\_id, acc\_type, balance, NOW());

END;

//

-- Procedure: Close an account

CREATE PROCEDURE Account\_Close(

IN acc\_id INT

)

BEGIN

DELETE FROM Accounts WHERE AccountID = acc\_id;

END;

//

-- Function: Get total customer balance across accounts

CREATE FUNCTION Account\_TotalBalance(cust\_id INT)

RETURNS DECIMAL(10,2)

DETERMINISTIC

BEGIN

DECLARE total DECIMAL(10,2);

SELECT SUM(Balance) INTO total FROM Accounts WHERE CustomerID = cust\_id;

RETURN IFNULL(total, 0.00);

END;

//

DELIMITER ;

**OUTPUT:**

USE bankdb;

CALL Customer\_Add(5, 'Ravi', '1980-10-10', 6000);

SELECT \* FROM Customers;

SELECT Customer\_GetBalance(5);

CALL Employee\_Hire(3, 'Meena', 'Clerk', 30000, 'Admin', CURDATE());

SELECT \* FROM Employees;







