**Exercise 7: Packages**

**-- Scenario 1**

CREATE OR REPLACE PACKAGE CustomerManagement AS

PROCEDURE AddCustomer(p\_ID NUMBER, p\_Name VARCHAR2, p\_DOB DATE, p\_Balance NUMBER);

PROCEDURE UpdateCustomer(p\_ID NUMBER, p\_Name VARCHAR2);

FUNCTION GetCustomerBalance(p\_ID NUMBER) RETURN NUMBER;

END CustomerManagement;

/

CREATE OR REPLACE PACKAGE BODY CustomerManagement AS

PROCEDURE AddCustomer(p\_ID NUMBER, p\_Name VARCHAR2, p\_DOB DATE, p\_Balance NUMBER) IS

BEGIN

INSERT INTO Customers VALUES (p\_ID, p\_Name, p\_DOB, p\_Balance, SYSDATE);

END;

PROCEDURE UpdateCustomer(p\_ID NUMBER, p\_Name VARCHAR2) IS

BEGIN

UPDATE Customers SET Name = p\_Name WHERE CustomerID = p\_ID;

END;

FUNCTION GetCustomerBalance(p\_ID NUMBER) RETURN NUMBER IS

v\_Bal NUMBER;

BEGIN

SELECT Balance INTO v\_Bal FROM Customers WHERE CustomerID = p\_ID;

RETURN v\_Bal;

END;

END CustomerManagement;

/

**-- Scenario 2**

CREATE OR REPLACE PACKAGE EmployeeManagement AS

PROCEDURE HireEmployee(p\_ID NUMBER, p\_Name VARCHAR2, p\_Position VARCHAR2, p\_Salary NUMBER, p\_Dept VARCHAR2, p\_HireDate DATE);

PROCEDURE UpdateEmployee(p\_ID NUMBER, p\_Salary NUMBER);

FUNCTION GetAnnualSalary(p\_ID NUMBER) RETURN NUMBER;

END EmployeeManagement;

/

CREATE OR REPLACE PACKAGE BODY EmployeeManagement AS

PROCEDURE HireEmployee(p\_ID NUMBER, p\_Name VARCHAR2, p\_Position VARCHAR2, p\_Salary NUMBER, p\_Dept VARCHAR2, p\_HireDate DATE) IS

BEGIN

INSERT INTO Employees VALUES (p\_ID, p\_Name, p\_Position, p\_Salary, p\_Dept, p\_HireDate);

END;

PROCEDURE UpdateEmployee(p\_ID NUMBER, p\_Salary NUMBER) IS

BEGIN

UPDATE Employees SET Salary = p\_Salary WHERE EmployeeID = p\_ID;

END;

FUNCTION GetAnnualSalary(p\_ID NUMBER) RETURN NUMBER IS

v\_Sal NUMBER;

BEGIN

SELECT Salary INTO v\_Sal FROM Employees WHERE EmployeeID = p\_ID;

RETURN v\_Sal \* 12;

END;

END EmployeeManagement;

/

**-- Scenario 3**

CREATE OR REPLACE PACKAGE AccountOperations AS

PROCEDURE OpenAccount(p\_AccID NUMBER, p\_CustID NUMBER, p\_Type VARCHAR2, p\_Balance NUMBER);

PROCEDURE CloseAccount(p\_AccID NUMBER);

FUNCTION TotalBalance(p\_CustID NUMBER) RETURN NUMBER;

END AccountOperations;

/

CREATE OR REPLACE PACKAGE BODY AccountOperations AS

PROCEDURE OpenAccount(p\_AccID NUMBER, p\_CustID NUMBER, p\_Type VARCHAR2, p\_Balance NUMBER) IS

BEGIN

INSERT INTO Accounts VALUES (p\_AccID, p\_CustID, p\_Type, p\_Balance, SYSDATE);

END;

PROCEDURE CloseAccount(p\_AccID NUMBER) IS

BEGIN

DELETE FROM Accounts WHERE AccountID = p\_AccID;

END;

FUNCTION TotalBalance(p\_CustID NUMBER) RETURN NUMBER IS

v\_Total NUMBER;

BEGIN

SELECT SUM(Balance) INTO v\_Total FROM Accounts WHERE CustomerID = p\_CustID;

RETURN v\_Total;

END;

END AccountOperations;

/