**Exercise 7: Packages**

**Scenario 1:**

**CREATE OR REPLACE PACKAGE CustomerManagement IS**

**PROCEDURE AddNewCustomer(p\_customer\_id IN NUMBER, p\_name IN VARCHAR2, p\_dob IN DATE, p\_balance IN NUMBER);**

**PROCEDURE UpdateCustomerDetails(p\_customer\_id IN NUMBER, p\_name IN VARCHAR2, p\_dob IN DATE, p\_balance IN NUMBER);**

**FUNCTION GetCustomerBalance(p\_customer\_id IN NUMBER) RETURN NUMBER;**

**END CustomerManagement;**

**/**

**CREATE OR REPLACE PACKAGE BODY CustomerManagement IS**

**PROCEDURE AddNewCustomer(p\_customer\_id IN NUMBER, p\_name IN VARCHAR2, p\_dob IN DATE, p\_balance IN NUMBER) IS**

**BEGIN**

**INSERT INTO customers (customerid, name, dob, balance, lastmodified)**

**VALUES (p\_customer\_id, p\_name, p\_dob, p\_balance, SYSDATE);**

**COMMIT;**

**END AddNewCustomer;**

**PROCEDURE UpdateCustomerDetails(p\_customer\_id IN NUMBER, p\_name IN VARCHAR2, p\_dob IN DATE, p\_balance IN NUMBER) IS**

**BEGIN**

**UPDATE customers**

**SET name = p\_name, dob = p\_dob, balance = p\_balance, lastmodified = SYSDATE**

**WHERE customerid = p\_customer\_id;**

**COMMIT;**

**END UpdateCustomerDetails;**

**FUNCTION GetCustomerBalance(p\_customer\_id IN NUMBER) RETURN NUMBER IS**

**v\_balance NUMBER;**

**BEGIN**

**SELECT balance INTO v\_balance FROM customers WHERE customerid = p\_customer\_id;**

**RETURN v\_balance;**

**END GetCustomerBalance;**

**END CustomerManagement;**

**/**

**Scenario 2:**

**CREATE OR REPLACE PACKAGE EmployeeManagement IS**

**PROCEDURE HireEmployee(p\_employee\_id IN NUMBER, p\_name IN VARCHAR2, p\_position IN VARCHAR2, p\_salary IN NUMBER, p\_department IN VARCHAR2, p\_hiredate IN DATE);**

**PROCEDURE UpdateEmployeeDetails(p\_employee\_id IN NUMBER, p\_name IN VARCHAR2, p\_position IN VARCHAR2, p\_salary IN NUMBER, p\_department IN VARCHAR2);**

**FUNCTION CalculateAnnualSalary(p\_employee\_id IN NUMBER) RETURN NUMBER;**

**END EmployeeManagement;**

**/**

**CREATE OR REPLACE PACKAGE BODY EmployeeManagement IS**

**PROCEDURE HireEmployee(p\_employee\_id IN NUMBER, p\_name IN VARCHAR2, p\_position IN VARCHAR2, p\_salary IN NUMBER, p\_department IN VARCHAR2, p\_hiredate IN DATE) IS**

**BEGIN**

**INSERT INTO employees (employeeid, name, position, salary, department, hiredate)**

**VALUES (p\_employee\_id, p\_name, p\_position, p\_salary, p\_department, p\_hiredate);**

**COMMIT;**

**END HireEmployee;**

**PROCEDURE UpdateEmployeeDetails(p\_employee\_id IN NUMBER, p\_name IN VARCHAR2, p\_position IN VARCHAR2, p\_salary IN NUMBER, p\_department IN VARCHAR2) IS**

**BEGIN**

**UPDATE employees**

**SET name = p\_name, position = p\_position, salary = p\_salary, department = p\_department**

**WHERE employeeid = p\_employee\_id;**

**COMMIT;**

**END UpdateEmployeeDetails;**

**FUNCTION CalculateAnnualSalary(p\_employee\_id IN NUMBER) RETURN NUMBER IS**

**v\_salary NUMBER;**

**BEGIN**

**SELECT salary \* 12 INTO v\_salary FROM employees WHERE employeeid = p\_employee\_id;**

**RETURN v\_salary;**

**END CalculateAnnualSalary;**

**END EmployeeManagement;**

**/**

**Scenario 3:**

**CREATE OR REPLACE PACKAGE AccountOperations IS**

**PROCEDURE OpenAccount(p\_account\_id IN NUMBER, p\_customer\_id IN NUMBER, p\_account\_type IN VARCHAR2, p\_balance IN NUMBER);**

**PROCEDURE CloseAccount(p\_account\_id IN NUMBER);**

**FUNCTION GetTotalBalance(p\_customer\_id IN NUMBER) RETURN NUMBER;**

**END AccountOperations;**

**/**

**CREATE OR REPLACE PACKAGE BODY AccountOperations IS**

**PROCEDURE OpenAccount(p\_account\_id IN NUMBER, p\_customer\_id IN NUMBER, p\_account\_type IN VARCHAR2, p\_balance IN NUMBER) IS**

**BEGIN**

**INSERT INTO accounts (accountid, customerid, accounttype, balance, lastmodified)**

**VALUES (p\_account\_id, p\_customer\_id, p\_account\_type, p\_balance, SYSDATE);**

**COMMIT;**

**END OpenAccount;**

**PROCEDURE CloseAccount(p\_account\_id IN NUMBER) IS**

**BEGIN**

**DELETE FROM accounts WHERE accountid = p\_account\_id;**

**COMMIT;**

**END CloseAccount;**

**FUNCTION GetTotalBalance(p\_customer\_id IN NUMBER) RETURN NUMBER IS**

**v\_total\_balance NUMBER;**

**BEGIN**

**SELECT SUM(balance) INTO v\_total\_balance FROM accounts WHERE customerid = p\_customer\_id;**

**RETURN v\_total\_balance;**

**END GetTotalBalance;**

**END AccountOperations;**

**/**