**Exercise 6: Cursors**

**Scenario 1:** Generate monthly statements for all customers.

* **Question:** Write a PL/SQL block using an explicit cursor **GenerateMonthlyStatements** that retrieves all transactions for the current month and prints a statement for each customer.

DECLARE

CURSOR c\_transactions IS

SELECT c.CustomerID, c.Name, t.TransactionDate, t.Amount, t.TransactionType

FROM Customers c

JOIN Accounts a ON c.CustomerID = a.CustomerID

JOIN Transactions t ON a.AccountID = t.AccountID

WHERE TRUNC(t.TransactionDate, 'MM') = TRUNC(SYSDATE, 'MM');

BEGIN

FOR rec IN c\_transactions LOOP

DBMS\_OUTPUT.PUT\_LINE('Customer: ' || rec.Name || ', Date: ' || rec.TransactionDate || ', Amount: ' || rec.Amount || ', Type: ' || rec.TransactionType);

END LOOP;

END;

**Scenario 2:** Apply annual fee to all accounts.

* **Question:** Write a PL/SQL block using an explicit cursor **ApplyAnnualFee** that deducts an annual maintenance fee from the balance of all accounts.

DECLARE

CURSOR c\_accounts IS

SELECT AccountID, Balance FROM Accounts;

v\_fee NUMBER := 50;

BEGIN

FOR rec IN c\_accounts LOOP

UPDATE Accounts

SET Balance = rec.Balance - v\_fee

WHERE AccountID = rec.AccountID;

END LOOP;

COMMIT;

END;

**Scenario 3:** Update the interest rate for all loans based on a new policy.

* **Question:** Write a PL/SQL block using an explicit cursor **UpdateLoanInterestRates** that fetches all loans and updates their interest rates based on the new policy.

DECLARE

CURSOR c\_loans IS

SELECT LoanID, InterestRate FROM Loans;

v\_newRate NUMBER := 4.5;

BEGIN

FOR rec IN c\_loans LOOP

UPDATE Loans

SET InterestRate = v\_newRate

WHERE LoanID = rec.LoanID;

END LOOP;

COMMIT;

END;