**Exercise 6: Cursors**

**Scenario 1:**

**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 txn\_cursor IS

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

    FROM Transactions t

    JOIN Accounts a ON t.AccountID = a.AccountID

    JOIN Customers c ON a.CustomerID = c.CustomerID

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

  v\_name Customers.Name%TYPE;

  v\_date DATE;

  v\_amount NUMBER;

  v\_type VARCHAR2(10);

DBMS\_OUTPUT.PUT\_LINE('Monthly Statement - Transactions');

  FOR txn IN txn\_cursor LOOP

    DBMS\_OUTPUT.PUT\_LINE(txn.Name || ' | ' ||TO\_CHAR(txn.TransactionDate, 'DD-Mon-YYYY') || ' | ' ||

                         txn.TransactionType || ' | ₹' || txn.Amount);

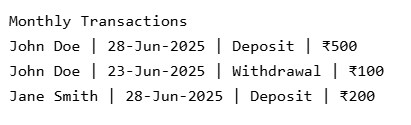
  END LOOP;

COMMIT;

END;

/

**Output**



**Scenario 2:**

**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 acc\_cursor IS

SELECT AccountID, Balance FROM Accounts

v\_fee NUMBER := 100;

BEGIN

DBMS\_OUTPUT.PUT\_LINE('Annual Maintenance Fee Deduction');

    FOR acc IN acc\_cursor LOOP

    IF acc.Balance >= v\_fee THEN

      UPDATE Accounts

      SET Balance = Balance - v\_fee,

          LastModified = SYSDATE

      WHERE AccountID = acc.AccountID;

DBMS\_OUTPUT.PUT\_LINE('Fee applied to Account ID: ' || acc.AccountID);

    ELSE

      DBMS\_OUTPUT.PUT\_LINE('Skipped (Low Balance): Account ID: ' || acc.AccountID);

    END IF;

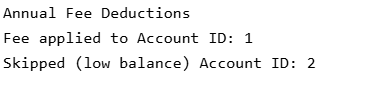
  END LOOP;

COMMIT;

END;

/

**Output**



**Scenario 3:**

**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 loan\_cursor IS

    SELECT LoanID, InterestRate FROM Loans;

  v\_new\_rate NUMBER;

BEGIN

  DBMS\_OUTPUT.PUT\_LINE('Loan Interest Rate Adjustment');

    FOR l IN loan\_cursor LOOP

    IF l.InterestRate > 6 THEN

      v\_new\_rate := l.InterestRate - 0.5;

    ELSE

      v\_new\_rate := l.InterestRate;

    END IF;

    UPDATE Loans

    SET InterestRate = v\_new\_rate

    WHERE LoanID = l.LoanID;

    DBMS\_OUTPUT.PUT\_LINE('Loan ID ' || l.LoanID || ' new rate: ' || v\_new\_rate || '%');

  END LOOP;

  COMMIT;

END;

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**Output**

