**Exercise 6: Cursors**

**Scenario 1: (Ex6-Scenario1.sql)**

@InitializeData.sql

SET ECHO ON

SET SERVEROUTPUT ON SIZE UNLIMITED

SPOOL output-Ex6-Scenario1.txt

VARIABLE input VARCHAR2(30)

*-- PL/SQL block to generate monthly statements for all customers*

DECLARE

    CURSOR c\_monthly\_transactions IS

        SELECT

            t.TRANSACTIONID,

            t.ACCOUNTID,

            t.TRANSACTIONDATE,

            t.AMOUNT,

            t.TRANSACTIONTYPE,

            a.CUSTOMERID,

            c.NAME

        FROM

            TRANSACTIONS t

            JOIN ACCOUNTS a ON t.ACCOUNTID = a.ACCOUNTID

            JOIN CUSTOMERS c ON a.CUSTOMERID = c.CUSTOMERID

        WHERE

            EXTRACT(MONTH FROM t.TRANSACTIONDATE) = EXTRACT(MONTH FROM SYSDATE)

            AND EXTRACT(YEAR FROM t.TRANSACTIONDATE) = EXTRACT(YEAR FROM SYSDATE);

    v\_customer\_id CUSTOMERS.CUSTOMERID%TYPE;

    v\_customer\_name CUSTOMERS.NAME%TYPE;

    v\_transaction\_details VARCHAR2(1000);

BEGIN

    FOR r IN c\_monthly\_transactions LOOP

        v\_customer\_id := r.CUSTOMERID;

        v\_customer\_name := r.NAME;

        v\_transaction\_details := 'Transaction ID: ' || r.TRANSACTIONID ||

                                  ', Date: ' || TO\_CHAR(r.TRANSACTIONDATE, 'YYYY-MM-DD') ||

                                  ', Amount: ' || r.AMOUNT ||

                                  ', Type: ' || r.TRANSACTIONTYPE;

        DBMS\_OUTPUT.PUT\_LINE('Customer: ' || v\_customer\_name || ' (ID: ' || v\_customer\_id || ')');

        DBMS\_OUTPUT.PUT\_LINE(v\_transaction\_details);

        DBMS\_OUTPUT.PUT\_LINE('---------------------------------------------');

    END LOOP;

END;

/

SPOOL OFF

@DropData.sql

**Scenario 2: (Ex6-Scenario2.sql)**

@InitializeData.sql

SET ECHO ON

SET SERVEROUTPUT ON SIZE UNLIMITED

SPOOL output-Ex6-Scenario2.txt

VARIABLE input VARCHAR2(30)

*-- PL/SQL block to apply an annual fee to all accounts*

DECLARE

    CURSOR c\_accounts IS

        SELECT ACCOUNTID, BALANCE

        FROM ACCOUNTS;

    v\_fee NUMBER := 50; *-- Example annual fee amount*

BEGIN

    FOR r IN c\_accounts LOOP

        UPDATE ACCOUNTS

        SET BALANCE = BALANCE - v\_fee

        WHERE ACCOUNTID = r.ACCOUNTID;

        DBMS\_OUTPUT.PUT\_LINE('Account ID: ' || r.ACCOUNTID || ' - Fee applied. New balance: ' || (r.BALANCE - v\_fee));

    END LOOP;

END;

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SPOOL OFF

@DropData.sql

**Scenario 3: (Ex6-Scenario3.sql)**

@InitializeData.sql

SET ECHO ON

SET SERVEROUTPUT ON SIZE UNLIMITED

SPOOL output-Ex6-Scenario3.txt

VARIABLE input VARCHAR2(30)

*-- PL/SQL block to update interest rates for all loans based on a new policy*

DECLARE

    CURSOR c\_loans IS

        SELECT LOANID, INTERESTRATE

        FROM LOANS;

    v\_new\_interest\_rate NUMBER := 3; *-- Example new interest rate*

BEGIN

    FOR r IN c\_loans LOOP

        UPDATE LOANS

        SET INTERESTRATE = v\_new\_interest\_rate

        WHERE LOANID = r.LOANID;

        DBMS\_OUTPUT.PUT\_LINE('Loan ID: ' || r.LOANID || ' - Interest rate updated to: ' || v\_new\_interest\_rate);

    END LOOP;

END;

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SPOOL OFF

@DropData.sql