**Exercise 6: Cursors**

**Scenario 1:**

**DECLARE**

**CURSOR transaction\_cursor IS**

**SELECT customer\_id, transaction\_id, transaction\_date, amount, transaction\_type**

**FROM transactions**

**WHERE EXTRACT(MONTH FROM transaction\_date) = EXTRACT(MONTH FROM SYSDATE)**

**AND EXTRACT(YEAR FROM transaction\_date) = EXTRACT(YEAR FROM SYSDATE);**

**v\_customer\_id customers.customerid%TYPE;**

**v\_transaction\_id transactions.transactionid%TYPE;**

**v\_transaction\_date transactions.transactiondate%TYPE;**

**v\_amount transactions.amount%TYPE;**

**v\_transaction\_type transactions.transactiontype%TYPE;**

**BEGIN**

**OPEN transaction\_cursor;**

**LOOP**

**FETCH transaction\_cursor INTO v\_customer\_id, v\_transaction\_id, v\_transaction\_date, v\_amount, v\_transaction\_type;**

**EXIT WHEN transaction\_cursor%NOTFOUND;**

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

**DBMS\_OUTPUT.PUT\_LINE('Transaction ID: ' || v\_transaction\_id);**

**DBMS\_OUTPUT.PUT\_LINE('Transaction Date: ' || TO\_CHAR(v\_transaction\_date, 'YYYY-MM-DD'));**

**DBMS\_OUTPUT.PUT\_LINE('Amount: ' || v\_amount);**

**DBMS\_OUTPUT.PUT\_LINE('Transaction Type: ' || v\_transaction\_type);**

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

**END LOOP;**

**CLOSE transaction\_cursor;**

**END;**

**/**

**Scenario 2:**

**DECLARE**

**CURSOR account\_cursor IS**

**SELECT accountid, balance**

**FROM accounts;**

**v\_account\_id accounts.accountid%TYPE;**

**v\_balance accounts.balance%TYPE;**

**v\_annual\_fee CONSTANT NUMBER := 50;**

**BEGIN**

**OPEN account\_cursor;**

**LOOP**

**FETCH account\_cursor INTO v\_account\_id, v\_balance;**

**EXIT WHEN account\_cursor%NOTFOUND;**

**UPDATE accounts**

**SET balance = balance - v\_annual\_fee**

**WHERE accountid = v\_account\_id;**

**END LOOP;**

**CLOSE account\_cursor;**

**COMMIT;**

**END;**

**/**

**Scenario 3:**

**DECLARE**

**CURSOR loan\_cursor IS**

**SELECT loanid, interestrate**

**FROM loans;**

**v\_loan\_id loans.loanid%TYPE;**

**v\_interest\_rate loans.interestrate%TYPE;**

**v\_new\_interest\_rate NUMBER;**

**BEGIN**

**OPEN loan\_cursor;**

**LOOP**

**FETCH loan\_cursor INTO v\_loan\_id, v\_interest\_rate;**

**EXIT WHEN loan\_cursor%NOTFOUND;**

**v\_new\_interest\_rate := v\_interest\_rate - 0.5;**

**UPDATE loans**

**SET interestrate = v\_new\_interest\_rate**

**WHERE loanid = v\_loan\_id;**

**END LOOP;**

**CLOSE loan\_cursor;**

**COMMIT;**

**END;**

**/**