**Exercise 1: Control Structures**

**ANS1.**

DECLARE

    VID CUSTOMERS.CUSTOMERID%TYPE;

    VDOB CUSTOMERS.DOB%TYPE;

    VINTEREST LOANS.INTERESTRATE%TYPE;

    VAGE NUMBER;

    CURSOR C\_CUST IS SELECT CUSTOMERS.CUSTOMERID,CUSTOMERS.DOB,LOANS.INTERESTRATE FROM CUSTOMERS,LOANS

    WHERE CUSTOMERS.CUSTOMERID=LOANS.CUSTOMERID;

BEGIN

    OPEN C\_CUST;

    LOOP

    FETCH C\_CUST INTO VID,VDOB,VINTEREST;

    EXIT WHEN C\_CUST%NOTFOUND;

    VAGE:= FLOOR((SYSDATE - VDOB) / 12);

    IF VAGE>60 THEN

        UPDATE LOANS

        SET INTERESTRATE= VINTEREST\*0.99

        WHERE LOANS.CUSTOMERID=VID;

    END IF;

    END LOOP;

    CLOSE C\_CUST;

    COMMIT;

END;

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**ANS2.**

DECLARE

    VID CUSTOMERS.CUSTOMERID%TYPE;

    VBAL CUSTOMERS.BALANCE%TYPE;

    CURSOR C2\_CUST IS SELECT CUSTOMERID,BALANCE FROM CUSTOMERS;

BEGIN

    OPEN C2\_CUST;

    LOOP

    FETCH C2\_CUST INTO VID,VBAL;

    EXIT WHEN C2\_CUST%NOTFOUND;

    IF VBAL>10000 THEN

        UPDATE CUSTOMERS

        SET IsVIP = 'TRUE'

        WHERE CUSTOMERID = VID;

    ELSE

        UPDATE CUSTOMERS

        SET IsVIP = 'FALSE'

        WHERE CUSTOMERID = VID;

    END IF;

    END LOOP;

    CLOSE C2\_CUST;

    COMMIT;

END;

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**ANS3.**

DECLARE

CURSOR due\_loans IS

SELECT l.LoanID, l.CUSTOMERID, l.EndDate, c.Name

FROM Loans l

JOIN Customers c ON l.CUSTOMERID = c.CUSTOMERID

WHERE l.EndDate BETWEEN SYSDATE AND SYSDATE + 30;

v\_loan\_id Loans.LoanID%TYPE;

v\_customer\_id Loans.CUSTOMERID%TYPE;

v\_end\_date Loans.EndDate%TYPE;

v\_customer\_name Customers.Name%TYPE;

BEGIN

OPEN due\_loans;

LOOP

FETCH due\_loans INTO v\_loan\_id, v\_customer\_id, v\_end\_date, v\_customer\_name;

EXIT WHEN due\_loans%NOTFOUND;

DBMS\_OUTPUT.PUT\_LINE('Reminder: Customer ' || v\_customer\_name || ' (CUSTOMERID: ' || v\_customer\_id || ') has a loan (LoanID: ' || v\_loan\_id || ') due on ' || TO\_CHAR(v\_end\_date, 'YYYY-MM-DD'));

END LOOP;

CLOSE due\_loans;

END;

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