Exercise 1: Control Structures

**Scenario 1: The bank wants to apply a discount to loan interest rates for customers above 60 years old.**

**o Question: Write a PL/SQL block that loops through all customers, checks their age, and if they are above 60, apply a 1% discount to their current loan interest rates.**

BEGIN

FOR rec IN (SELECT CustomerID, DOB FROM Customers) LOOP

DECLARE

v\_age NUMBER;

BEGIN

v\_age := FLOOR(MONTHS\_BETWEEN(SYSDATE, rec.DOB) / 12);

IF v\_age > 60 THEN

UPDATE Loans

SET InterestRate = InterestRate - 1

WHERE CustomerID = rec.CustomerID;

END IF;

END;

END LOOP;

COMMIT;

END;

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**Scenario 2: A customer can be promoted to VIP status based on their balance.**

**o Question: Write a PL/SQL block that iterates through all customers and sets a flag IsVIP to TRUE for those with a balance over $10,000.**

ALTER TABLE Customers ADD (IsVIP CHAR(1) DEFAULT 'N');

BEGIN

FOR rec IN (SELECT CustomerID, Balance FROM Customers) LOOP

IF rec.Balance > 10000 THEN

-- Promote to VIP

UPDATE Customers

SET IsVIP = 'Y'

WHERE CustomerID = rec.CustomerID;

END IF;

END LOOP;

COMMIT;

END;

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**Scenario 3: The bank wants to send reminders to customers whose loans are due within the next 30 days.**

**o Question: Write a PL/SQL block that fetches all loans due in the next 30 days and prints a reminder message for each customer.**

BEGIN

FOR rec IN (

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

FROM Loans l

JOIN Customers c ON l.CustomerID = c.CustomerID

WHERE l.EndDate BETWEEN SYSDATE AND SYSDATE + 30

) LOOP

DBMS\_OUTPUT.PUT\_LINE('Reminder: Loan ID ' || rec.LoanID || ' for customer ' || rec.Name || ' is due on ' || TO\_CHAR(rec.EndDate, 'YYYY-MM-DD'));

END LOOP;

END;

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