**Exercise 1: Control Structures**

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

* + **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.

**CODE:**

BEGIN

FOR rec IN (

SELECT l.LoanID, l.InterestRate, c.DOB

FROM Loans l JOIN Customers c ON l.CustomerID = c.CustomerID

) LOOP

IF MONTHS\_BETWEEN(SYSDATE, rec.DOB) / 12 > 60 THEN

UPDATE Loans

SET InterestRate = rec.InterestRate - 1

WHERE LoanID = rec.LoanID;

END IF;

END LOOP;

END;

/

select \* from Loans;

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

* + **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.

**CODE:**

**As there is no isVIP column, we have to add that.**

BEGIN

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

EXCEPTION

WHEN OTHERS THEN

IF SQLCODE = -1430 THEN -- column already exists

NULL; -- Continue execution

ELSE

RAISE;

END IF;

END;

/

BEGIN

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

IF rec.Balance > 10000 THEN

UPDATE Customers SET IsVIP = 'Y' WHERE CustomerID = rec.CustomerID;

END IF;

END LOOP;

END;

/

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

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

**CODE:**

BEGIN

FOR rec IN (SELECT LoanID, CustomerID, EndDate FROM Loans WHERE EndDate BETWEEN SYSDATE AND SYSDATE + 30) LOOP

DBMS\_OUTPUT.PUT\_LINE('Reminder: Customer ' || rec.CustomerID || ' has a loan due on ' || TO\_CHAR(rec.EndDate, 'YYYY-MM-DD'));

END LOOP;

END;

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