# 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.

# Answer:

BEGIN

*FOR* cust IN (SELECT CustomerID, (FLOOR(MONTHS\_BETWEEN(SYSDATE, DOB) /

12)) AS Age

FROM Customers)

*LOOP*

*IF* cust.Age > 60 *THEN*

UPDATE Loans

SET InterestRate = InterestRate - 1 WHERE CustomerID = cust.CustomerID;

END IF;

END LOOP;

*COMMIT*;

*END*;

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* 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.

# Answer:

ALTER TABLE Customers ADD IsVIP BOOLEAN;

## BEGIN

*FOR* cust IN (SELECT CustomerID, Balance FROM Customers)

*LOOP*

*IF* cust.Balance > 10000 THEN UPDATE Customers

SET IsVIP = TRUE

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

# Answer:

## BEGIN

FOR loan IN (SELECT LoanID, CustomerID, EndDate FROM Loans

WHERE EndDate BETWEEN SYSDATE AND SYSDATE + 30)

## LOOP

DECLARE

v\_customer\_name VARCHAR2(100); BEGIN

SELECT Name

INTO v\_customer\_name FROM Customers

WHERE CustomerID = loan.CustomerID;

DBMS\_OUTPUT.PUT\_LINE('Reminder: Dear ' || v\_customer\_name || ', your loan (Loan ID: ' || loan.LoanID || ') is due on ' || TO\_CHAR(loan.EndDate, 'YYYY-MM-DD'));

END;

END LOOP;

END;

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