**Exercise 1: Control Structures**

Step 1: Create Tables

CREATE TABLE customers (

customer\_id NUMBER,

name VARCHAR2(100),

age NUMBER,

balance NUMBER,

is\_vip VARCHAR2(5) DEFAULT 'FALSE'

);

CREATE TABLE loans (

loan\_id NUMBER,

customer\_id NUMBER,

due\_date DATE,

interest\_rate NUMBER

);

Step 2: Inserting Sample Data

INSERT INTO customers VALUES (1, 'Ravi', 65, 12000, 'FALSE');

INSERT INTO customers VALUES (2, 'Anu', 45, 8000, 'FALSE');

INSERT INTO customers VALUES (3, 'Meena', 70, 15000, 'FALSE');

INSERT INTO loans VALUES (101, 1, SYSDATE + 20, 7.5);

INSERT INTO loans VALUES (102, 2, SYSDATE + 40, 6.0);

INSERT INTO loans VALUES (103, 3, SYSDATE + 10, 8.0);

COMMIT;

**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.

Ans:

BEGIN

FOR cust IN (

SELECT c.customer\_id, l.loan\_id

FROM customers c

JOIN loans l ON c.customer\_id = l.customer\_id

WHERE c.age > 60

) LOOP

UPDATE loans

SET interest\_rate = interest\_rate - 1

WHERE loan\_id = cust.loan\_id;

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.

Ans:

BEGIN

FOR cust IN (SELECT customer\_id FROM customers WHERE balance > 10000) LOOP

UPDATE customers

SET is\_vip = 'TRUE'

WHERE customer\_id = cust.customer\_id;

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.

Ans:

BEGIN

FOR loan IN (

SELECT l.loan\_id, c.name, l.due\_date

FROM loans l

JOIN customers c ON l.customer\_id = c.customer\_id

WHERE l.due\_date <= SYSDATE + 30

) LOOP

DBMS\_OUTPUT.PUT\_LINE('Reminder: Loan ID ' || loan.loan\_id || ' for ' || loan.name || ' is due on ' || TO\_CHAR(loan.due\_date, 'DD-MON-YYYY'));

END LOOP;

END;

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TO verify Results:

SELECT \* FROM customers;

SELECT \* FROM loans;