**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.

**Solution-**

Tables-

Customers(customer\_id,age)

Loans(loan\_id,customer\_id,interest\_rate)

**PL/SQL Block-**

DECLARE

CURSOR cur\_senior\_customers IS

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

FROM customers c

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

WHERE c.age > 60;

BEGIN

FOR rec IN cur\_senior\_customers LOOP

UPDATE loans

SET interest\_rate = interest\_rate - 1

WHERE loan\_id = rec.loan\_id;

END LOOP;

COMMIT;

END;

**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.

**Solution-**

Tables-

Customers(customer\_id,balance,isVIP)

**PL/SQL Block-**

BEGIN

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

UPDATE customers

SET isVIP = 'TRUE'

WHERE customer\_id = rec.customer\_id;

END LOOP;

COMMIT;

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.

**Solution-**

Tables-

Customers(customer\_id,age)

Loans(loan\_id,customer\_id,interest\_rate)

**PL/SQL Block-**

DECLARE

CURSOR cur\_due\_loans IS

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

FROM loans l

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

WHERE l.due\_date BETWEEN SYSDATE AND SYSDATE + 30;

BEGIN

FOR rec IN cur\_due\_loans LOOP

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

END LOOP;

END;