**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.

**PL/SQL Block to Apply 1% Discount:**

BEGIN

FOR rec IN (

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

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

)

LOOP

IF rec.age > 60 THEN

UPDATE loans

SET interest\_rate = interest\_rate - 1

WHERE loan\_id = rec.loan\_id;

END IF;

END LOOP;

COMMIT;

END;

/

**Display Output:**

SELECT \* FROM loans;

**OUTPUT SCREENSHOTS:**

|  |
| --- |
| VIEW OF CREATED TABLES: |
|  |
| PL/SQL BLOCK : |
|  |
| OUTPUT AFTER EXECUTION OF PL/SQL BLOCK: |
|  |

**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.

**PL/SQL Block to Set VIP Status:**

BEGIN

FOR rec IN (SELECT customer\_id, balance FROM customers)

LOOP

IF rec.balance > 10000 THEN

UPDATE customers

SET IsVIP = 'TRUE'

WHERE customer\_id = rec.customer\_id;

END IF;

END LOOP;

COMMIT;

END;

/

**View Final Table with Updated VIP Flags:**  
SELECT \* FROM customers;

**OUTPUT SCREENSHOTS:**

|  |
| --- |
| CREATION OF TABLE AND INSERTION OF VALUES: |
|  |
| PL/SQL BLOCK: |
|  |
| OUTPUT AFTER EXECUTION OF PL/SQL BLOCK: |
|  |

**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.

**PL/SQL Block to Print Reminders for Loans Due in Next 30 Days:**  
BEGIN

FOR rec 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 BETWEEN SYSDATE AND SYSDATE + 30

)

LOOP

DBMS\_OUTPUT.PUT\_LINE(

'Reminder: Loan ' || rec.loan\_id ||

' for customer ' || rec.name ||

' is due on ' || TO\_CHAR(rec.due\_date, 'DD-Mon-YYYY')

);

END LOOP;

END;

/

**View All Loan Records:**

SELECT \* FROM loans;

**OUTPUT SCREENSHOTS:**

|  |
| --- |
| CREATION OF TABLE AND INSERTION OF VALUES: |
|  |
| PL/SQL BLOCK: |
|  |
| OUTPUT AFTER EXECUTION OF PL/SQL BLOCK: |
|  |