**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.

**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.

**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:**

**Scenario 1:**

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

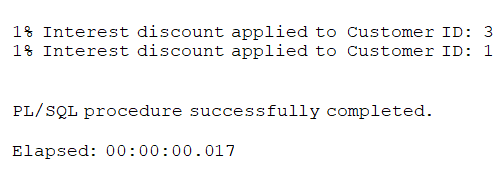
WHERE loan\_id = cust.loan\_id;

DBMS\_OUTPUT.PUT\_LINE('1% Interest discount applied to Customer ID: ' || cust.customer\_id);

END LOOP;

END;

**Output:**



**Scenario 2:**

BEGIN

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

IF cust.balance > 10000 THEN

UPDATE customers

SET isVIP = 'Y'

WHERE customer\_id = cust.customer\_id;

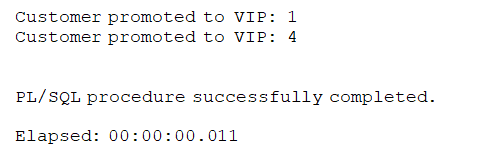
DBMS\_OUTPUT.PUT\_LINE('Customer promoted to VIP: ' || cust.customer\_id);

END IF;

END LOOP;

END;

**Output:**



**Scenario 3:**

BEGIN

FOR due\_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 BETWEEN SYSDATE AND SYSDATE + 30

) LOOP

DBMS\_OUTPUT.PUT\_LINE('Reminder: Loan ID ' || due\_loan.loan\_id ||

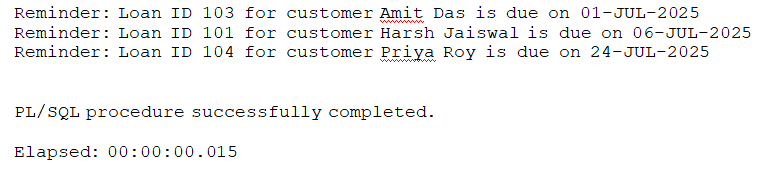
' for customer ' || due\_loan.name ||

' is due on ' || TO\_CHAR(due\_loan.due\_date, 'DD-MON-YYYY'));

END LOOP;

END;

**Output:**



**Tables:**

CREATE TABLE customers (

customer\_id NUMBER PRIMARY KEY,

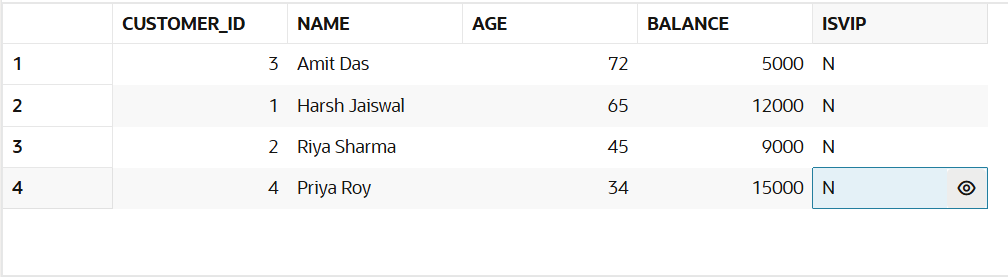
name VARCHAR2(100),

age NUMBER(3),

balance NUMBER(10, 2),

isVIP CHAR(1) DEFAULT 'N' -- 'Y' or 'N'

);

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CREATE TABLE loans (

loan\_id NUMBER PRIMARY KEY,

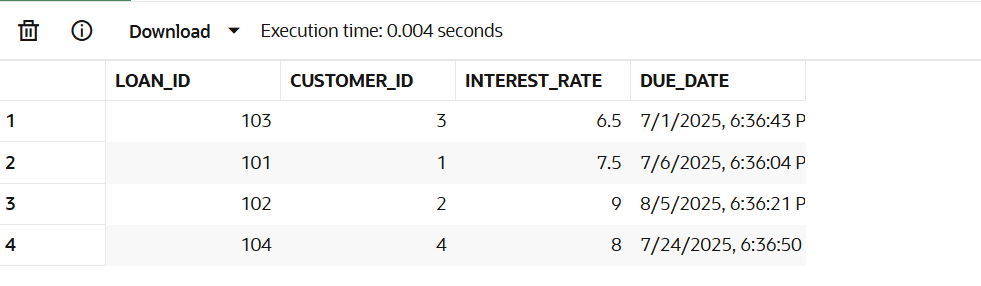
customer\_id NUMBER,

interest\_rate NUMBER(5,2),

due\_date DATE,

CONSTRAINT fk\_customer FOREIGN KEY (customer\_id) REFERENCES customers(customer\_id)

);

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