PL/SQL Control Structures Exercise

# Create Tables and Sample Data

BEGIN  
EXECUTE IMMEDIATE 'DROP TABLE loans';  
EXECUTE IMMEDIATE 'DROP TABLE customers';  
EXCEPTION  
WHEN OTHERS THEN NULL;  
END;  
/  
  
CREATE TABLE customers (  
customer\_id NUMBER PRIMARY KEY,  
name VARCHAR2(50),  
age NUMBER,  
balance NUMBER,  
interest\_rate NUMBER,  
is\_vip CHAR(1) DEFAULT 'N'  
);  
  
CREATE TABLE loans (  
loan\_id NUMBER PRIMARY KEY,  
customer\_id NUMBER,  
due\_date DATE,  
FOREIGN KEY (customer\_id) REFERENCES customers(customer\_id)  
);  
  
BEGIN  
INSERT INTO customers VALUES (1, 'Adnan', 65, 15000, 7.5, 'N');  
INSERT INTO customers VALUES (2, 'Siva', 45, 9000, 8.0, 'N');  
INSERT INTO customers VALUES (3, 'Somu', 70, 12000, 6.5, 'N');  
INSERT INTO customers VALUES (4, 'Rafi', 30, 5000, 9.0, 'N');  
COMMIT;  
END;  
/  
  
BEGIN  
INSERT INTO loans VALUES (101, 1, SYSDATE + 10);  
INSERT INTO loans VALUES (102, 2, SYSDATE + 40);  
INSERT INTO loans VALUES (103, 3, SYSDATE + 5);  
INSERT INTO loans VALUES (104, 4, SYSDATE + 25);  
COMMIT;  
END;/

# Scenario 1: Discount for Senior Citizens

BEGIN  
FOR cust IN (SELECT customer\_id, age FROM customers) LOOP  
IF cust.age > 60 THEN  
UPDATE customers SET interest\_rate = interest\_rate - 1 WHERE customer\_id = cust.customer\_id;  
END IF;  
END LOOP;  
DBMS\_OUTPUT.PUT\_LINE('Scenario 1: Discount applied to senior citizens.');  
END;  
/

# Scenario 2: Promote to VIP

BEGIN  
FOR cust IN (SELECT customer\_id, balance FROM customers) LOOP  
IF cust.balance > 10000 THEN  
UPDATE customers SET is\_vip = 'Y' WHERE customer\_id = cust.customer\_id;  
END IF;  
END LOOP;  
DBMS\_OUTPUT.PUT\_LINE('Scenario 2: VIP flag set for eligible customers.');  
END;  
/

# Scenario 3: Send Loan Reminders

BEGIN  
FOR l IN (  
SELECT c.name, l.due\_date FROM loans l JOIN customers c ON c.customer\_id = l.customer\_id  
WHERE l.due\_date <= SYSDATE + 30  
) LOOP  
DBMS\_OUTPUT.PUT\_LINE('Reminder: Loan due for ' || l.name || ' on ' || TO\_CHAR(l.due\_date, 'DD-MON-YYYY'));  
END LOOP;  
END;  
/

# Final Output

SELECT \* FROM customers;