














EXERCISE – 1 CONTROL STRUCTURES

SCENARIO 1

```
CREATE TABLE Customers (  
    CustomerID SERIAL PRIMARY KEY,  
    Name VARCHAR(100),  
    Age INT,  
    LoanInterestRate DECIMAL(5,2)  
);  
  
INSERT INTO Customers (Name, Age, LoanInterestRate) VALUES  
('Alice', 65, 6.5),  
('Bob', 45, 7.2),  
('Charlie', 70, 6.8),  
('David', 55, 7.0),  
('Eve', 61, 6.9);  
  
DO $$  
  
DECLARE  
    customer_rec RECORD;  
  
BEGIN  
  
    FOR customer_rec IN (SELECT CustomerID, Age, LoanInterestRate FROM Customers) LOOP  
        IF customer_rec.Age > 60 THEN  
            UPDATE Customers  
            SET LoanInterestRate = LoanInterestRate - 1  
            WHERE CustomerID = customer_rec.CustomerID;  
        END IF;  
    END LOOP;END $$;  
  
SELECT * FROM Customers;
```

Output

Data Output Messages Notifications				
         SQL				
	customerid [PK] integer 	name character varying (100) 	age integer 	loaninterestrate numeric (5,2) 
1	2	Bob	45	7.20
2	4	David	55	7.00
3	1	Alice	65	5.50
4	3	Charlie	70	5.80
5	5	Eve	61	5.90

SCENARIO 2









```
CREATE TABLE Customers (  
    CustomerID SERIAL PRIMARY KEY,  
    Name VARCHAR(100),  
    Age INT,  
    Balance DECIMAL(10,2),  
    IsVIP BOOLEAN DEFAULT FALSE  
);
```

```
INSERT INTO Customers (Name, Age, Balance) VALUES
('Alice', 65, 15000.00),
('Bob', 45, 9000.00),
('Charlie', 70, 11000.00),
('David', 55, 7500.00),
('Eve', 35, 12000.00);

DO $$
DECLARE
    customer_rec RECORD;
BEGIN
    FOR customer_rec IN (SELECT CustomerID, Balance FROM Customers) LOOP
        IF customer_rec.Balance > 10000 THEN
            UPDATE Customers
            SET IsVIP = TRUE
            WHERE CustomerID = customer_rec.CustomerID;
        END IF;
    END LOOP;
END $$;

SELECT * FROM Customers;
```

Output

Data Output Messages Notifications					
        SQL					
	customerid [PK] integer	name character varying (100)	age integer	balance numeric (10,2)	isvip boolean
1	2	Bob	45	9000.00	false
2	4	David	55	7500.00	false
3	1	Alice	65	15000.00	true
4	3	Charlie	70	11000.00	true
5	5	Eve	35	12000.00	true

SCENARIO 3

CREATE TABLE Loans (

 LoanID SERIAL PRIMARY KEY,

 CustomerName VARCHAR(100),

 DueDate DATE

);

INSERT INTO Loans (CustomerName, DueDate) VALUES

('Alice', CURRENT_DATE + INTERVAL '10 days'),

('Bob', CURRENT_DATE + INTERVAL '35 days'),

('Charlie', CURRENT_DATE + INTERVAL '5 days'),

('David', CURRENT_DATE - INTERVAL '2 days'),

```
('Eve', CURRENT_DATE + INTERVAL '25 days');
```

```
DO $$
```

```
DECLARE
```

```
    loan_rec RECORD;
```

```
BEGIN
```

```
    FOR loan_rec IN (
```

```
        SELECT CustomerName, DueDate
```

```
        FROM Loans
```

```
        WHERE DueDate BETWEEN CURRENT_DATE AND CURRENT_DATE + INTERVAL '30 days'
```

```
    ) LOOP
```

```
        RAISE NOTICE 'Reminder: % has a loan due on %', loan_rec.CustomerName,  
loan_rec.DueDate;
```

```
    END LOOP;
```













```
END $$;
```

```
SELECT * FROM Loans
```

```
WHERE DueDate BETWEEN CURRENT_DATE AND CURRENT_DATE + INTERVAL '30 days';
```

Ouput

24 FOR loan_rec IN (

Data Output Messages Notifications			
         SQL			
	loanid [PK] integer 	customername character varying (100) 	duedate date 
1	1	Alice	2025-07-06
2	3	Charlie	2025-07-01
3	5	Eve	2025-07-21