



**University Institute of Engineering**  
**Department of Computer Science & Engineering**

**Experiment: 6**

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**Branch: CSE**

**Section/Group: AIT-KRG-GP2**

**Semester: 4th**

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**Subject Name: DBMS**

**1. Aim of the practical:** To understand the concept and working of cursors in PL/SQL for row-by-row data processing, and to analyze how implicit cursors, explicit cursors, and cursor attributes are used to implement business logic on multiple rows in a database table.

**2. Tool Used:**

- **Database Management System:**

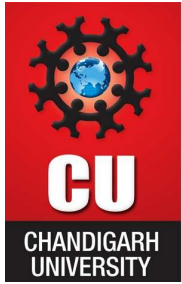
- PostgreSQL

- **Database Administration Tool:**

- pgAdmin

**3. Objective:**

To implement and analyze the use of implicit cursors, explicit cursors, and cursor attributes for processing multiple rows from a database table and applying business logic effectively.



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### 4. Practical / Experimental Steps

Step 1: Create Employees table.

Step 2: Insert records into Employees table.

Step 3: Execute PL/SQL block using implicit cursor.

Step 4: Observe SQL%ROWCOUNT output.

Step 5: Execute PL/SQL block using explicit cursor.

Step 6: Observe row-by-row processing output.

### 5. I / O Analysis

#### A) Implicit Cursor

```
CREATE TABLE Employees (  
    employee_id INT PRIMARY KEY,  
    name VARCHAR(50),  
    salary INT  
);
```

```
INSERT INTO Employees (employee_id, name, salary) VALUES  
(1, 'Amit', 45000),  
(2, 'Riya', 52001),  
(3, 'Karan', 38000),  
(4, 'Neha', 61015),  
(5, 'Rahul', 50000);
```

```
DECLARE  
    v_rows NUMBER;  
BEGIN  
    UPDATE Employees  
    SET salary = salary * 1.10  
    WHERE salary < 50000;
```



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```
v_rows := SQL%ROWCOUNT;  
  
DBMS_OUTPUT.PUT_LINE('Rows Updated: ' || v_rows);  
END;  
/
```

Output:

Rows Updated: 2

### B) Explicit Cursor

```
DECLARE  
CURSOR emp_cursor IS  
SELECT employee_id, name, salary FROM Employees;  
  
v_id Employees.employee_id%TYPE;  
v_name Employees.name%TYPE;  
v_salary Employees.salary%TYPE;  
BEGIN  
OPEN emp_cursor;  
  
LOOP  
FETCH emp_cursor INTO v_id, v_name, v_salary;  
EXIT WHEN emp_cursor%NOTFOUND;  
  
IF MOD(v_salary, 2) = 0 THEN  
DBMS_OUTPUT.PUT_LINE(v_name || ' -> Even Salary');  
ELSE  
DBMS_OUTPUT.PUT_LINE(v_name || ' -> Odd Salary');  
END IF;  
END LOOP;  
  
CLOSE emp_cursor;  
END;  
/
```



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Output:

Amit -> Even Salary  
Riya -> Odd Salary  
Karan -> Even Salary  
Neha -> Odd Salary  
Rahul -> Even Salary

### 6. Learning outcomes (What I have learnt):

- Understood the concept of implicit and explicit cursors in PL/SQL.
- Learned how SQL%ROWCOUNT works with implicit cursors.
- Gained practical knowledge of row-by-row processing using explicit cursors.
- Understood cursor attributes like %FOUND and %NOTFOUND.
- Developed ability to implement business logic on multiple rows.