## Assignment No: -6

**Title:-**

To create cursors: Implicit, Explicit Parameterized Cursor, Cursor FOR Loop.

**Problem Definition:-**

Write a PL/SQL block of code using parameterized Cursor, that willmerge the data available in the newly created table N_RollCall with the data available in the table O_RollCall. If the data in the first table already exist in the second table then that data should be skipped.

**Learning Objectives:-**

To create implicit and explicit cursor.

**Learning Outcomes:-**

The ability to work with cursors to operate relational database.

**Software and Hardware Requirement**

1. OS-Linux
2. Mysql
3. 64 bit machine

**Theory:-**

**Cursors:-**

To handle a result set inside a stored procedure, you use a cursor. A cursor allows youto iterate a set of rows returned by a query and process each row accordingly.

Working with MySQL cursor.

1. **Declaration of Curso**r : To declare a cursor you must use the DECLARE statement.

   **Syntax :** DECLARE *cursor_name* CURSOR FOR *select_statement;*

2. **Open a cursor statement :** For open a cursor we must use the open statement. If wewant to fetch rows from it you must open the cursor.

   **Syntax :** OPEN cursor_name;

3. **Cursor fetch statement :** When we have to retrieve the next row from the cursor andmove the cursor to next row then you need to fetch the cursor.

**Syntax :** FETCH cursor_name INTO var_name;

4. Cursor close statement : By this statement closed the open cursor.

**Syntax:** CLOSE_name;

By this statement we can close the previously opened cursor. If it is not closed explicitlythen a cursor is closed at the end of compound statement in which that was declared.

**Implicit Cursors:**

Implicit cursors are automatically created by Oracle whenever an SQL statement isexecuted, when there is no explicit cursor for the statement. Programmers cannot control the implicit cursors and the information in it. Whenever a DML statement (INSERT, UPDATE and DELETE) is issued, an implicit cursor is associated with this statement. For INSERT operations, the cursor holds the data that needs to be inserted. For UPDATE and DELETE operations, the cursor identifies the rows that would be affected.

**Explicit Cursors:**

Explicit cursors are programmer-defined cursors for gaining more control overthe context area. An explicit cursor should be defined in the declaration section of the PL/SQLBlock. It is created on a SELECT Statement which returns more than one row.

The syntax for creating an explicit cursor is −

CURSOR cursor_name IS select_statement;

Working with an explicit cursor includes the following steps −

- Declaring the cursor for initializing the memory
- Opening the cursor for allocating the memory
- Fetching the cursor for retrieving the data
- Closing the cursor to release the allocated memory

**Example :**

```
delimiter //
CREATE PROCEDURE firstCurs()
BEGIN
DECLARE d INT DEFAULT 0;
DECLARE c_id INT;
```

```
DECLARE c_name,c_address VARCHAR(20);

DECLARE cur CURSOR FOR SELECT * FROM company;

DECLARE CONTINUE HANDLER FOR SQLSTATE '02000' SET d=1;
DECLARE CONTINUE HANDLER FOR SQLSTATE '23000' SET d=1;
OPEN cur;
lbl: LOOP
IF d=1 THEN

LEAVE lbl;
END IF;


 IF NOT d=1 THEN

FETCH cur INTO c_id,c_name,c_address;

INSERT INTO products VALUES(c_id,c_name,c_address);
END IF;
END LOOP;

CLOSE cur;

END;//

 Query OK, 0 rows affected (0.00 sec)

  mysql> delimiter ;

mysql> CALL DemoCurs1();

 Query OK, 1 row affected (0.12 sec)

 mysql> drop procedure
DemoCurs1;
```

**Conclusion:**Thus we have studied all types of cursors in pl/sql.

**Questions:**

1) What is cursor?
2) Explain the FOR loop of Cursor.