

Oracle Cursor

A cursor is a pointer to a private SQL area that stores information about the processing of a SELECT or DML statements like INSERT, UPDATE, DELETE or MERGE.

Cursor is a mechanism which facilitates you to assign a name to a SELECT statement and manipulate the information within that SQL statement.

There are two types of cursors –

- Implicit cursors
- Explicit cursors

Implicit Cursors

Implicit cursors are automatically created by Oracle whenever an SQL statement is executed, when there is no explicit cursor for the statement. Programmers cannot control the implicit cursors and the information in it.

S.No	Attribute & Description
1	%FOUND Returns TRUE if an INSERT, UPDATE, or DELETE statement affected one or more rows or a SELECT INTO statement returned one or more rows. Otherwise, it returns FALSE.
2	%NOTFOUND The logical opposite of %FOUND. It returns TRUE if an INSERT, UPDATE, or DELETE statement affected no rows, or a SELECT INTO statement returned no rows. Otherwise, it returns FALSE.
3	%ISOPEN Always returns FALSE for implicit cursors, because Oracle closes the SQL cursor automatically after executing its associated SQL statement.
4	%ROWCOUNT Returns the number of rows affected by an INSERT, UPDATE, or DELETE statement, or returned by a SELECT INTO statement.

Create Cursor

```
set serverout on;
```

```

declare
    v_name varchar(100);
    CURSOR cur_emp is
        select name from employee where id<1000;
begin
    open cur_emp;
    loop
        fetch cur_emp into v_name;
        dbms_output.put_line(v_name);
        exit when cur_emp%notfound;
    end loop;
    close cur_emp;
end;

```

```

CURSOR e_Employee IS
    SELECT id, name, salary FROM Employee;

```

```

DECLARE
    total_rows number(2);
BEGIN
    UPDATE employee
    SET salary = salary + 500;
    IF sql%notfound THEN
        dbms_output.put_line('no employee selected');
    ELSIF sql%found THEN
        total_rows := sql%rowcount;
        dbms_output.put_line( total_rows || ' employee selected ');
    END IF;
END;
/

```

Explicit Cursors

Explicit cursors are programmer-defined cursors for gaining more control over the **context area**.

An explicit cursor should be defined in the declaration section of the PL/SQL Block. It is created on a SELECT Statement which returns more than one row.

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

```

DECLARE
    c_id employee.id%type;
    c_name employee.name%type;
    CURSOR c_employee is
        SELECT id, name FROM employee;
BEGIN
    OPEN c_employee;
    LOOP
        FETCH c_employee into c_id, c_name;
        EXIT WHEN c_employee%notfound;
        dbms_output.put_line(c_id || ' ' || c_name);
    END LOOP;
    CLOSE c_employee;
END;
/

```