EX NO.: 06 CURSOR PROCEDURE FUNCTIONS

AIM:

To write a SQL program to work with cursor, procedure and functions.

PROCEDURE:

Step 1: Open Run SQL on Command line and connect to SQL

Step 2: Then work with database using SQL queries.

PL/SQL PROCEDURE:

The PL/SQL stored procedure or simply a procedure is a PL/SQL block which performs one or more specific tasks. It is just like procedures in other programming languages.

The procedure contains a header and a body.

- **Header:** The header contains the name of the procedure and the parameters or variables passed to the procedure.
- **Body:** The body contains a declaration section, execution section and exception section similar to a general PL/SQL block.

Syntax for creating procedure:

```
CREATE [OR REPLACE] PROCEDURE procedure_name

   [ (parameter [,parameter]) ]

IS

   [declaration_section]

BEGIN

   executable_section

[EXCEPTION

   exception_section]

END [procedure_name];
```

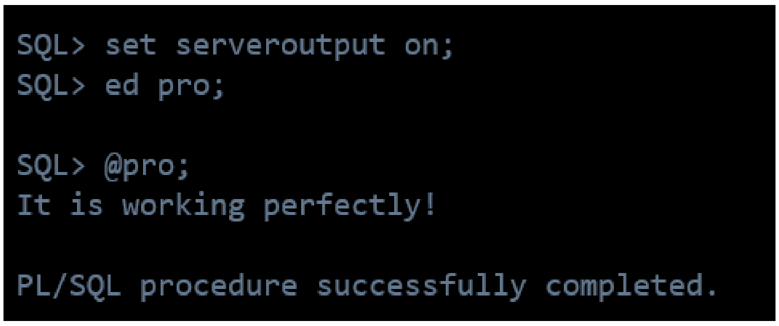
TABLE QUERY:

```
create table employee(emp_id number(5)primary key, emp_name varchar2(20), city varchar2(20), salary number(7), age number(5));

 insert into employee values (1, 'Raju', 'Pdy', 800000, 20);

 insert into employee values (2, 'Niteesh', 'Pdy', 790000, 21);

 insert into employee values (3, 'Punith', 'AP', 750000, 20);

 insert into employee values (4, 'Sidharth', 'MP', 650000, 21);

 insert into employee values (5, 'Mantu', 'Delhi', 900000, 22);
```

PROGRAM CODE:

```
DECLARE

PROCEDURE pro

AS

BEGIN

   dbms_output.put_line('It is working perfectly!');

END;

BEGIN

pro();

END;

/
```

OUTPUT:



```
SQL> set serveroutput on;
SQL> ed pro;

SQL> @pro;
It is working perfectly!

PL/SQL procedure successfully completed.
```

PL/SQL – CURSORS:

A cursor is used to referred to a program to fetch and process the rows returned by the SQL statement, one at a time. There are two types of cursors:

- Implicit Cursors
- Explicit Cursors

IMPLICIT CURSOR:

Implicit cursors are automatically created by Oracle whenever an SQL statement is executed, when there is no explicit cursor for the statement.

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.

EXPLICIT CURSOR:

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

The syntax for creating an explicit cursor is −

```
CURSOR cursor_name IS select_statement;
```

Working with an explicit cursor includes the following steps −

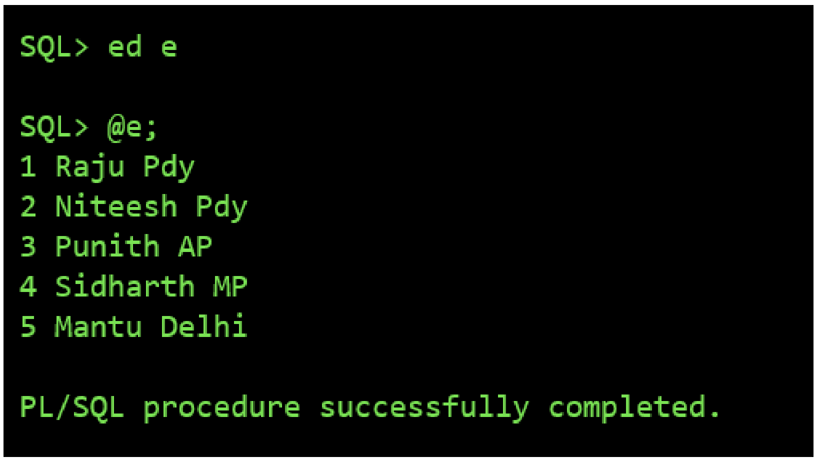
- Declaring the cursor for initializing the memory
- Opening the cursor for allocating the memory
- Fetching the cursor for retrieving the data
- Closing the cursor to release the allocated memory

PROGRAM CODE:

```
DECLARE

   e_id employee.emp_id%type;

   e_name employee.emp_name%type;

   e_city employee.city%type;

   cursor e_employee is

   select emp_id, emp_name, city from employee;

begin

   open e_employee;

   loop
```

```
  fetch e_employee into e_id, e_name, e_city;

  exit when e_employee%notfound;

  dbms_output.put_line(e_id || ' ' || e_name || ' ' || e_city);

  end loop;

  close e_employee;

end;

/
```

OUTPUT:



```
SQL> ed e

SQL> @e;
1 Raju Pdy
2 Niteesh Pdy
3 Punith AP
4 Sidharth MP
5 Mantu Delhi

PL/SQL procedure successfully completed.
```

PL/SQL FUNCTION:

The PL/SQL Function is very similar to PL/SQL Procedure. The main difference between procedure and a function is, a function must always return a value, and on the other hand a procedure may or may not return a value.

Syntax to create a function:

```
CREATE [OR REPLACE] FUNCTION function_name [parameters]

[(parameter_name [IN | OUT | IN OUT] type [, ...])]
```

```
RETURN return_datatype
{IS | AS}
BEGIN
   < function_body >
END [function_name];
```

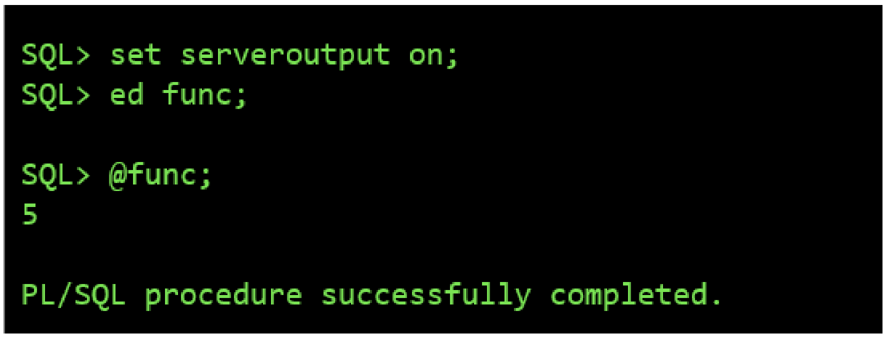
PROGRAM CODE:

```
DECLARE
n number;
t number;
FUNCTION func
RETURN number IS
   total number(2) := 0;
BEGIN
   SELECT count(*) into total
   FROM employee;
    RETURN total;
END;
BEGIN
n:=2;
        t:=func();
        dbms_output.put_line(t);
```

END;

/

OUTPUT:



```
SQL> set serveroutput on;
SQL> ed func;

SQL> @func;
5

PL/SQL procedure successfully completed.
```

RESULT:

The queries for Procedure, Cursors and Functions were successfully executed and the output is noted.