

MES College of Engineering Pune-01
Department of Computer Engineering

Name of Student:	Class:
Semester/Year:	Roll No:
Date of Performance:	Date of Submission:
Examined By:	Experiment No: Part A-06

PART: A) ASSIGNMENT NO: 06

AIM: Named PL/SQL Block: PL/SQL Stored Procedure and Stored Function.

OBJECTIVES:

- To develop basic, intermediate and advanced Database programming skills.
- To learn the concept of procedural language.
- To learn stored procedure and stored function in PL/SQL.

APPARATUS:

- Operating System recommended: 64-bit Open source Linux or its derivative
- Database: MySQL/ Oracle 11g Database.

THEORY:

A. PL/SQL Stored 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.
- A procedure may or may not return any value
- 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.
- **Procedures: Passing Parameters**
 - ❖ **IN parameters:**
 - ✓ The IN parameter can be referenced by the procedure or function.
 - ✓ This parameter is used for giving input to the subprograms.

- ✓ It is a read-only variable inside the subprograms, their values cannot be changed inside the subprogram
- ❖ **OUT parameters:**
 - ✓ The OUT parameter cannot be referenced by the procedure or function.
 - ✓ This parameter is used for getting output from the subprograms.
 - ✓ It is a read-write variable inside the subprograms, their values can be changed inside the subprograms.
- ❖ **INOUT parameters:**
 - ✓ The INOUT parameter can be referenced by the procedure or function.
 - ✓ This parameter is used for both giving input and for getting output from the subprograms.
 - ✓ It is a read-write variable inside the subprograms, their values can be changed inside the subprograms.

- **PL/SQL Create Procedure**

Syntax for creating procedure:

```

CREATE [OR REPLACE] PROCEDURE procedure_name [ (parameter [,parameter]) ]
IS
    [Declaration_section]
BEGIN
    Executable_section
    [EXCEPTION
        Exception_section]
END [procedure_name];
/

```

Syntax for drop procedure

```
DROP PROCEDURE procedure_name
```

B. 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.
- Except this, all the other things of PL/SQL procedure are true for PL/SQL function too.

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];
/
```

Syntax for removing your created function:

```
DROP FUNCTION function_name;
```

IMPLEMENTATION:

Write a Stored Procedure namely proc_Grade for the categorization of student. If marks scored by students in examination is ≤ 1500 and ≥ 990 then student will be placed in distinction category if marks scored are between 989 and 900 category is first class, if marks 899 and 825 category is Higher Second Class.

Write a PL/SQL block to use procedure created with above requirement.

Stud_Marks(name, total_marks)

Result(Roll,Name, Class)

Note: Instructor will frame the problem statement for writing stored procedure and function in line with above statement.

CONCLUSION:

QUESTIONS:

1. What is a Stored Procedure?
2. Describe the use of %ROWTYPE and %TYPE in SQL?
3. Explain IN, OUT, IN-OUT mode in stored procedure.
4. What is a Stored Function?
5. What is difference between stored functions and stored procedures?