

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?