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**ASSIGNMENT NO. 6**

**Title :** to perform operations using Procedure and Function PL/SQL code block

**Problem Statement :** Write and execute PL/SQL stored procedure and function to perform a suitable task on a database . Demonstrate its use.

**Requirements :** MySQL 8.0

**Prerequisites :** Basic Knowledge of MySQL.

**THEORY :**

**What PL/SQL? :**

* PL/SQL stands for “Procedural Language extensions to the Structured Query Language”.
* SQL is a popular language for both querying and updating data in the relational database management systems (RDBMS).
* PL/SQL adds many procedural constructs to SQL language to overcome some limitations of SQL.

**How it is more advantageous than SL? :**

* The PL/SQL compiler translated your code to machine code without applying many changes for performance.
* Now, PL/SQL uses an optimizing compiler that can rearrange code for better performance.

**PROCEDURE :**

* Code block that we can save, so the code can be reused over again.
* Procedure does not return any value.
* Procedure has a name, a parameter list and statements
* **PARAMETER :**
* IN : Default mode, parameters can be passed.
* OUT : Result back to calling process
* INOUT : IN+OUT
* **SYNTAX :**
* Delimiter //
* Create procedure proceure\_name(parameter list)
* Begin
* SQL statements
* End; //
* **Delimiter // :** Convert single statement into multiple line statement.
* **Delimiter ; :** Convert Multiple line statement into single line statement.
* **EXAMPLES :**
* **EXAMPLE WITHOUT PARAMETER :** Create procedure to select all records from student.
* **Creation of procedure :**
* Delemiter //
* Create procedure p1()
* Begin
* Select \* from student;
* End; //
* **How to execute :**

Call p1(); //

* **Output :**

|  |  |  |
| --- | --- | --- |
| Sid | Sname | Tot\_cred |
| S1 | Aashish | 8 |
| S2 | Rakesh | 9 |
| S3 | Chetan | 9 |

* **EXAMPLE WITH PARAMETER :** Perform addition using if else statement
* **Creation of procedure :**
* Delimiter //
* Create procedure p2(a int , b int, out c int)
* Begin
* Select a+b into c;
* End; //
* **How to execute :**

Call p2(2,3,@c) ; //

Select @c;//

* **Output :**

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**FUNCTION :**

* A function and procedure is a named PL/SQL block which is similar.
* The major difference between a procedure and function is , a function always returns value but procedure does not return any value.
* **SYNTAX :**
* CREATE [OR REPLACE] FUNCTION function\_name [parameters]
* RETURN return\_datatype; {IS, AS}

Declaration\_section <variable,constant> ;

BEGIN

Execution\_section

Return return\_variable;

EXCEPTION

exception section

Return return\_variable;

* END;
* **EXAMPLE :**
* Addition of two numbers using function
* **Creation of function :**
* Delimiter //
* Create function f1(a int , bint)
* Returns int
* Deterministic
* Begin
* Declare c int;
* Select a+b into c
* Return c;
* End; //
* **How to execute :**

Select f1(6,5)

* **Output :**

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**CONCLUSION :** By this assignment we studied PL/SQL code block which is procedure and function. The creation of function and procedure and implementation of different queries we learned from this assignment.