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TE IT (A)

**ASSIGNMENT NO. 6**

**Title :** 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 Command Line Client

**Prerequisites :** Basic Knowledge of PL/SQL.

**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; //
* **Examples :**
* **Example without parameter :** Create procedure to select all records from student.
* Creation of procedure :

> delimiter //

> create procedure p8()

-> begin

-> select sum(salary) from instructor;

-> end;

-> //

* **How to execute :**

Call p8(); //

* **Output :**

|  |
| --- |
| Sum(salary) |
| 680000 |

* **Example with parameter :** Perform addition using if else statement
* **Creation of procedure :**

> delimiter //

mysql> create procedure p5(a int, b int)

-> begin

-> if (a>b) then

-> select ('a is grater');

-> else

-> select ('b is greater');

-> end if;

-> end;

->//

* **How to execute :**

> call p5(5,6);

-> //

* **Output :**

b is greater

* **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 f4( d\_name varchar(10))

-> returns int

-> deterministic

-> begin

-> declare total int;

-> select sum(salary) into total from instructor where dept\_name=d\_name;

-> return total;

-> end;

-> //

* **How to execute :**

select f4('Computer');

* **Output :**

|  |
| --- |
| F4(‘Computer**)** |
| 85000 |

**Conclusion :** By this assignment we studied PL/SQL code block which is procedure and function.