EXERCISE-16

PROCEDURES AND FUNCTIONS

PROCEDURES

DEFINITION

A procedure or function is a logically grouped set of SQL and PL/SQL statements that perform a specific task. They are essentially sub-programs. Procedures and functions are made up of,

- Declarative part
- Executable part
- Optional exception handling part

These procedures and functions do not show the errors.

KEYWORDS AND THEIR PURPOSES

REPLACE: It recreates the procedure if it already exists.

PROCEDURE: It is the name of the procedure to be created.

ARGUMENT: It is the name of the argument to the procedure. Paranthesis can be omitted if no arguments are present.

IN: Specifies that a value for the argument must be specified when calling the procedure ie. used to pass values to a sub-program. This is the default parameter.

OUT: Specifies that the procedure passes a value for this argument back to it's calling environment after execution ie. used to return values to a caller of the sub-program.

- **INOUT:** Specifies that a value for the argument must be specified when calling the procedure and that procedure passes a value for this argument back to it's calling environment after execution.

RETURN: It is the datatype of the function's return value because every function must return a value, this clause is required.

PROCEDURES – SYNTAX

create or replace procedure <procedure name> (argument {in,out,inout} datatype) {is,as}
variable declaration;
constant declaration;
begin
PL/SQL subprogram body;
exception
exception PL/SQL block;
end;

FUNCTIONS – SYNTAX

create or replace function <function name> (argument in datatype,.....) return datatype {is,as}
variable declaration;

Program 1

FACTORIAL OF A NUMBER USING FUNCTION

```
Set server output ON;
Create or replace function factorial (n Number);
  return Number

Is
    fact number := 1;
    Begin
      for i in 1..n loop
          fact := fact * i;
          end loop;
          return fact;

  END;
/
Declare
      num Number := 5
          result number;

   Begin
      result := factorial(num)
      DBMS.OUTPUT_PUT.LINE(result);

   END;
/
```

Program 2

Write a PL/SQL program using Procedures IN,INOUT,OUT parameters to retrieve the corresponding book information in library

```
Set serverout ON ;
create or replace proadure get_book_info( p_bodk_id
in Number , lbook_name out varchar 2, p_authorour
Varchar 2 , price in out number ) IS
BEGIN select book_name, autor price into p_book_no,
P_author , p_price from library where book_id = p_book_id
                                                    ;
  DBMS_OUTPUT. PUT_ LINE ( p_book_name || D_author ||
   P_price ) ;
END ;
```

Evaluation Procedure	Marks awarded
PL/SQL Procedure(5)	
Program/Execution (5)	
Viva(5)	
Total (15)	
Faculty Signature	