

## **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**

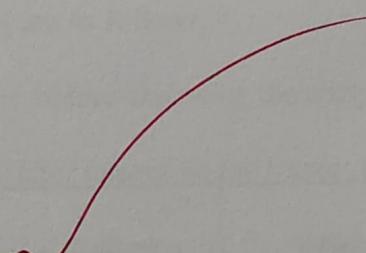
```
create or replace function <function name> (argument in datatype,.....) return datatype {is,as}
variable declaration;
```

Program 1

FACTORIAL OF A NUMBER USING FUNCTION

CREATE OR REPLACE FUNCTION fact(n NUMBER)  
RETURN NUMBER IS  
  f NUMBER := 1  
BEGIN  
  FOR i IN 1..n LOOP  
    f := f \* i;  
  END LOOP;  
  RETURN f;  
END;

/



Program 2

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

CREATE OR REPLACE PROCEDURE  
get\_book(id IN NUMBER, price OUT NUMBER, ordid IN OUT NUMBER)  
IS  
BEGIN  
SELECT actualprice, ordid  
INTO price, ordid  
FROM items WHERE itemid = id;  
END;  
/



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