

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;

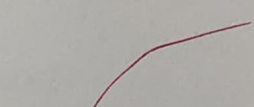
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Program 2

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 ititems WHERE itemid = id;  
END;  
/
```



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