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# PL/SQL Tutorial

By *(Procedural - Structured Query Language)*

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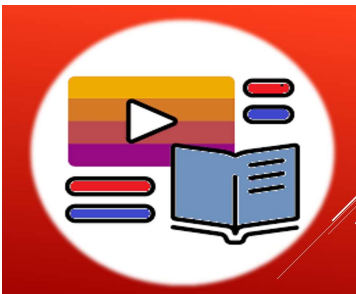
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# Chapter 3

## PL/SQL Tutorial

### Functions

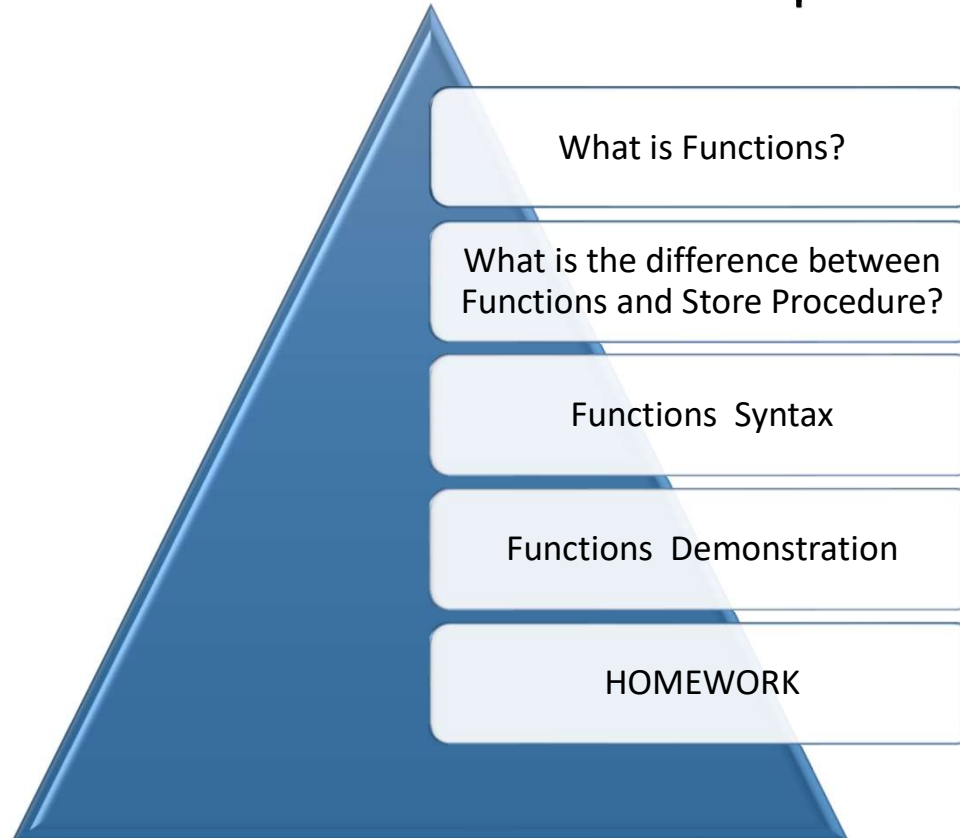
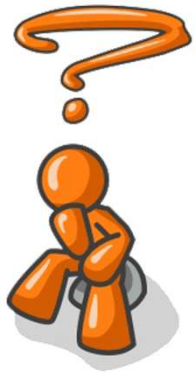


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# What do we learn in this Chapter?

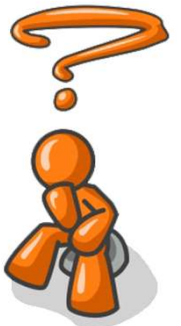


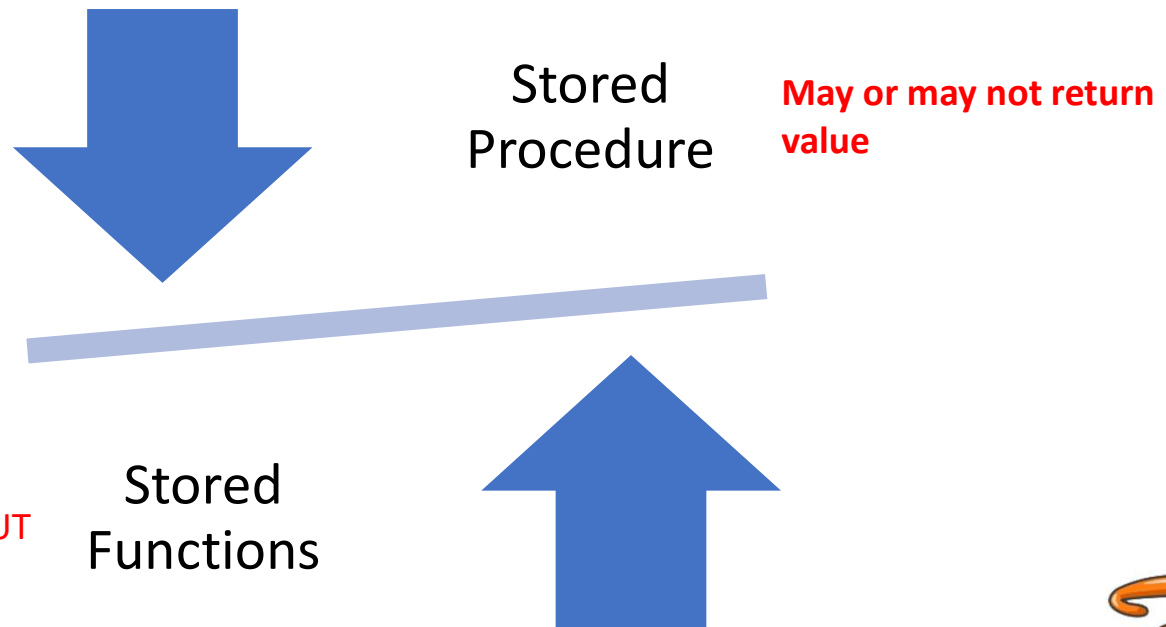


# What is Functions?

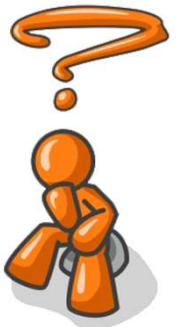


A stored **function** (also called a user **function** or user-defined **function**) is a set of **PL/SQL** statements you can call by name. Stored **functions** are very similar to procedures, except that a **function** returns a value to the environment in which it is called. User **functions** can be used as part of a **SQL** expression.





The **function** must return a value but in **Stored Procedure** it is optional. Even a **procedure** can return zero or n values. **Functions** can have only input parameters for it whereas **Procedures** can have input or output parameters. **Functions** can be called from **Procedure** whereas **Procedures** cannot be called from a **Function**.





# Stored Functions Syntax



CREATE OR REPLACE FUNCTIONS

<function\_name>

(Argument {IN, OUT, IN/OUT }<sup>\*</sup>

<Data type> )Return <var> IS,AS

<variable> declaration;

<constant> declarations;

BEGIN

<PL/SQL subprogram body>;

EXCEPTION PL/SQL BLOCK>;

Return <variable>

END <function\_name>;

**Output parameter** is a **parameter** whose value is passed **out** of the **stored** procedure / **function** module, back to the calling PL/SQL block. An **OUT parameter** must be a variable, not a constant.

It **can** be found only on the left-hand side of an assignment in the module.

**PL/SQL functions** can't able to **return multiple values**, it **can return only one** (single) **values** using OUT parameters in their arguments.

**\***

IN – parameter will accept a value from user

OUT – Parameter will return value to user



# Stored Function Demonstration



Table A

COLA	COLB
ROW11	20
ROW21	12

```
create or replace FUNCTION FUNCTION2(  
    col_a IN tablea.col_a%TYPE)  
    RETURN NUMBER  
IS  
    col_b TABLEA.colb%TYPE := 0;  
BEGIN  
    SELECT colb  
    INTO col_b  
    FROM tablea where cola = 'ROW11';  
    dbms_output.put_line('Function return --> '||col_b);  
  
    RETURN col_b;  
END FUNCTION2;
```





# Practice Project

STUDENT

ID	GRADE	NAME	MARKS
STD1	1	ALEX	56
STD2	5	ROBIN	67
STD3	2	JOHN	78



## HOME WORK!

### Instructions

1. Create a function to find name of students who scored marks more than 70 and count number of students whose marks is more than 50.
2. Create a function to calculate average marks of students.

For more resource , assistance and questions , please contact  
[techranch2019@gmail.com](mailto:techranch2019@gmail.com)

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# Conclusion

PL/SQL

Stored  
Procedure

Functions

Trigger

Cursors

Demonstration

Interview Tips

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# THANK YOU



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