

# 7. PYTHON FUNCTIONS

## Learning Objectives

After studying this chapter, students will be able to:

- Understand the concept of function and their types.
- Know the difference between User defined and Built in functions.
- Know how to call a function.
- Understand the function arguments.
- Know Anonymous functions.
- Know Mathematical and some String functions.

## Important Points and Notes

- ❖ It avoids repetition and makes high degree of code reusing.
- ❖ It provides better modularity for your application.
- ❖ Functions are nothing but a group of related statements that perform a specific task.
- ❖ Python keywords should not be used as function name.
- ❖ In the above Syntax, the Text which is given in square bracket [] is optional.
- ❖ A block is *one or more lines of code*, grouped together so that they are treated as one big sequence of statements while execution. In Python, statements in a block are written with *indentation*. Usually, a block begins when a line is indented (by four spaces) and all the statements of the block should be at same indent level.

- ❖ A block within a block is called nested block. When the first block statement is indented by a single tab space, the second block of statement is indented by double tab spaces.
- ❖ We often use the terms parameters and arguments interchangeably. However, there is a slight difference between them. Parameters are the variables used in the function definition whereas arguments are the values we pass to the function parameters.
- ❖ Keyword variable arguments are beyond the scope of this book.
- ❖ The Python's print() function is itself an example of such a function which supports variable length arguments.
- ❖ filter(), map() and reduce() functions are beyond the scope of this book.
- ❖ Lambda function can take any number of arguments and must return one value in the form of an expression. Lambda function can only access global variables and variables in its parameter list.
- ❖ The return statement causes your function to exit and returns a value to its caller. The point of functions in general is to take inputs and return something.
- ❖ The return statement is used when a function is ready to return a value to its caller. So, only one return statement is executed at run time even though the function contains multiple return statements.
- ❖ Any number of 'return' statements are allowed in a function definition but only one of them is executed at run time.
- ❖ Without using the global keyword we cannot modify the global variable inside the function but we can only access the global variable.
- ❖ Import math module for all mathematical functions