

## \* Types of Functions :-

Basically, there are three types of functions in python :-

1. Built-in-functions
2. User defined functions
3. Anonymous function

### 1. Built-in-functions :-

- The built in functions are those functions that are pre-defined in Python.
- Such as `help()` to ask for help, `min()` to get the minimum value, `print()` to print an object.
- Built-in-functions are already present in our Python, and we just have to call them whenever we need them to execute.



## List of built-in-functions :-

|               |                                                               |
|---------------|---------------------------------------------------------------|
| abs()         | Returns absolute value of number.                             |
| all()         | Returns true when all elements in iterable is true.           |
| any()         | Check if any element of an iterable is True.                  |
| ascii()       | Return String Containing Printable Representation.            |
| bin()         | Converts decimal number to binary.                            |
| bool()        | Converts a value to Boolean.                                  |
| bytearray()   | returns array of give byte size.                              |
| bytes()       | returns immutable bytes object.                               |
| callable()    | checks if the object is callable.                             |
| chr()         | Returns a character from an integer.                          |
| classmethod() | Returns class method for given function.                      |
| compile()     | Returns a Python code object.                                 |
| complex()     | Create a Complex Number.                                      |
| delattr()     | deletes the specified attribute from the specified object.    |
| dict()        | Returns a dictionary (create)                                 |
| dir()         | Tries to Returns Attributes of Object.                        |
| divmod()      | Returns a Tuple of Quotient and Remainder.                    |
| enumerate()   | Returns an Enumerate Object.                                  |
| eval()        | Runs Python Code within Program.                              |
| exec()        | Executes Dynamically created Program.                         |
| filter()      | Use a Filter function to exclude items in an iterable object. |



|             |                                                                   |
|-------------|-------------------------------------------------------------------|
| float()     | Returns a floating point number.                                  |
| format()    | formats a specified value.                                        |
| frozenset() | Returns a frozenset object.                                       |
| getattr()   | Returns the value of specified attribute.                         |
| globals()   | Returns the current global symbol table as a dictionary.          |
| hasattr()   | Returns True if the specified object has the specified attribute. |
| hash()      | Returns the hash value of a specified object.                     |
| help()      | Executes the built-in help system.                                |
| hex()       | Converts a number into a hexadecimal value.                       |
| id()        | Returns the id of an object.                                      |
| input()     | Allowing user input.                                              |
| int()       | Returns an integer input.                                         |

|           |              |            |           |
|-----------|--------------|------------|-----------|
| others) - | instance()   | object()   | set()     |
|           | issubclass() | oct()      | setattr() |
|           | iter()       | open()     | slice()   |
|           | len()        | ord()      | str()     |
|           | list()       | pow()      | sum()     |
|           | locals()     | print()    | super()   |
|           | map()        | property() | tuple()   |
|           | max()        | range()    | type()    |
|           | memoryview() | repr()     | vars()    |
|           | min()        | reversed() | zip()     |
|           | next()       | round()    |           |



## 2. User defined functions

- The user defined functions are those define by the user to perform the specific task.
- A function that you define yourself in a program is known as User defined function.
- you can give any name to a user defined function, however you cannot use the Python Keyword as function name.
- def keyword is used to user defined function, followed by the function name.
  - function name is followed by the parameters in parenthesis (), followed by colon.

```
def function_name (parameter 1, parameter 2)  
    statements  
    . . .
```

Example of a user defined function:-

#Program to use the user defined function.

```
def addnum(x,y):
```

```
    sum = x+y
```

```
    return sum
```

```
n1 = 5
```

```
n2 = 6
```

```
print("The sum is ", addnum(n1, n2))
```

⊛ Calling a user defined function

```
def fun():
```

```
    print("Inside function")
```

```
fun()
```

# calling a function.

Output:

Inside function



## Python Anonymous Function :-

- Anonymous function is also known as lambda function.
- In Python, an anonymous function is a function that is defined without a name.
- anonymous functions are defined using `lambda` keyword.

### Syntax of lambda function in Python:-

`lambda arguments : expression`

A lambda function is a small anonymous function, which can take any number of arguments, but can have only one expression.

Example:

`lambda x : print(x)`

`lambda x,y : x+y`





## \* Lambda function contain multiple parameters :-

Example:-

```
sum = lambda x, y, z: x + y + z
```

```
sum(5, 10, 15)
```

```
30
```

## \* parameterless Lambda function :-

Example:-

```
(lambda x: x * x)(5)
```

```
25
```

Above, `lambda x: x * x` defines an anonymous function and call it once by passing arguments in the parenthesis `(lambda x: x * x)(5)`.

**Notes by jpwebdevelopers.in**