Function – Defining Rules

- Function defined as: def function_name():

- Any input parameters or arguments should be placed within these parentheses.

- You also can define parameters inside these parentheses.

- The code block within every function starts with a colon (:) and is indented.

- The statement return [expression] exits a function.

- A return statement with no arguments is the same as return None.

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Defining & Calling Function

```python
# define function
def test():
    print "hii"
    return;
# Call function
test()
```

Pass by Reference or Value

```python
def myFun(x):
    x[0] = 20

lst = [10, 11, 12, 13, 14, 15]
print(lst)

#pass reference
myFun(lst);
print(lst)
```

```
[10, 11, 12, 13, 14, 15]

[20, 11, 12, 13, 14, 15]
```

```python
def swap(x, y):
    temp = x;
    x = y;
    y = temp;

x = 2
y = 3
swap(x, y)
print(x)
print(y)
```

```
2
3
```

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Function – Default Argument

- A default argument is a parameter.

- This parameter assumes a default value if a value is not provided in the function call for that argument.

```python
# default arguments
def myFun(x, y=50):
    print("x: ", x)
    print("y: ", y)


# argument
myFun(10)
```

```
('x: ', 10)
('y: ', 50)
```

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Function – Keyword Argument

```python
# Python program to demonstrate Keyword Arguments
def student(firstname, lastname):

    print(firstname, lastname)


# Keyword arguments
student(firstname ='Zooming', lastname ='Practice')
student(lastname ='Practice', firstname ='Zooming')
```

```
('Zooming', 'Practice')

('Zooming', 'Practice')
```

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Function – Variable Length Argument

```python
def myFun(*argv):
    for arg in argv:
        print (arg)

myFun('Hello', 'Welcome', 'to', 'ZoomingforZooming')
```

```
Hello
Welcome
to
ZoomingforZooming
```

```python
def myFun(**kwargs):
    for key, value in kwargs.items():
        print ("%s == %s" %(key, value))

# Driver code
myFun(first ='Zooming', mid ='for', last='Zooming')
```

```
last == Zooming
mid == for
first == Zooming
```

```python
# * means list
# ** means dictionary
```

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Anonymous Function

- In Python, anonymous function means that a function is without a name.

- The lambda keyword is used to create anonymous functions.

```python
# using labmda function

cube = lambda x: x*x*x
print(cube(7))
mult = lambda x,y: x*y
print(mult(7,8))
```
```
343
56
```

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