Types of function

There are two types of function in Python programming:

- **Standard library functions** - These are built-in functions in Python that are available to use.
- **User-defined functions** - We can create our own functions based on our requirements.

Python Function Declaration

The syntax to declare a function is:

```
def function_name(arguments):
    # function body

    return
```

Here,

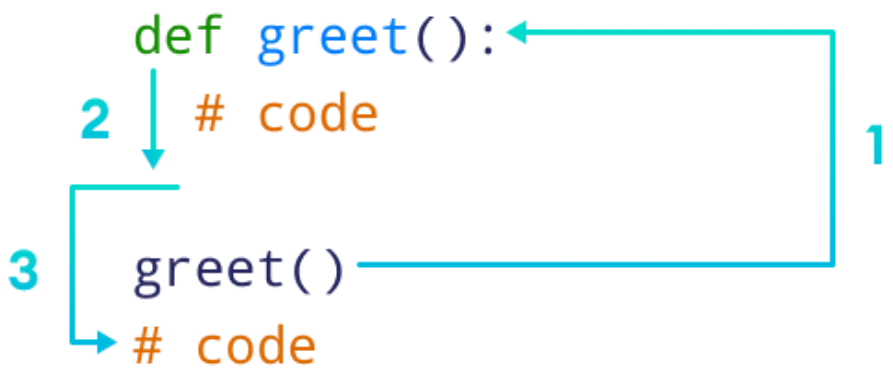
- **def** - keyword used to declare a function
- **function_name** - any name given to the function
- **arguments** - any value passed to function
- **return (optional)** - returns value from a function

Example: Python Function

```
def greet():
    print('Hello World!')

# call the function
greet()

print('Outside function')
```



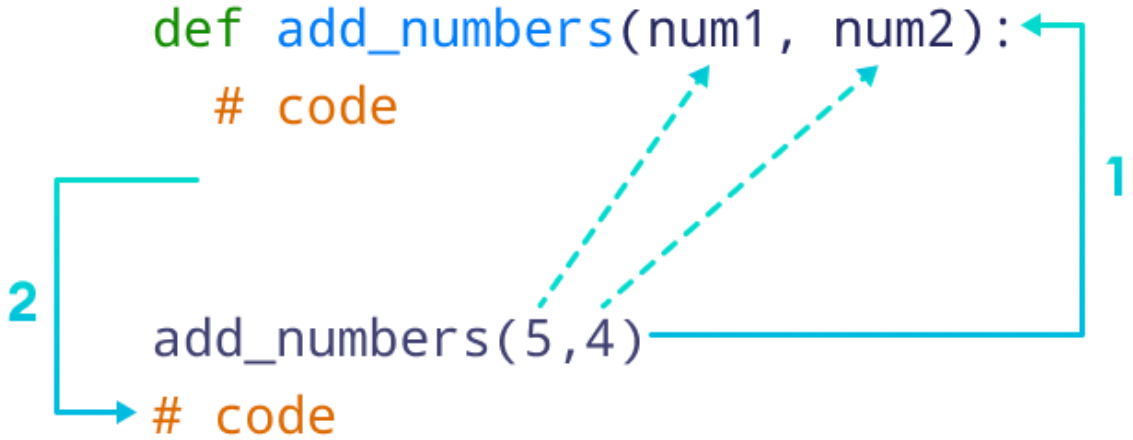
Python Function Arguments

Example 1: Python Function Arguments

```
# function with two arguments
def add_numbers(num1, num2):
    sum = num1 + num2
    print("Sum: ",sum)

# function call with two values
add_numbers(5, 4)

# Output: Sum: 9
```



The return Statement in Python

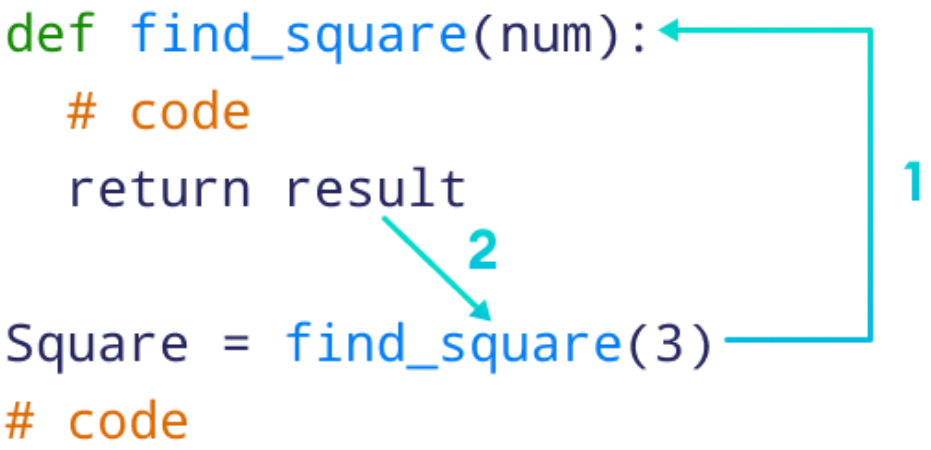
Example 2: Function return Type

```
# function definition
def find_square(num):
    result = num * num
    return result

# function call
square = find_square(3)

print('Square:',square)

# Output: Square: 9
```



Example 3: Add Two Numbers

```
# function that adds two numbers
def add_numbers(num1, num2):
    sum = num1 + num2
    return sum

# calling function with two values
result = add_numbers(5, 4)

print('Sum: ', result)

# Output: Sum: 9
```

Python Library Functions

In Python, standard library functions are the built-in functions that can be used directly in our program. For example,

- **print()** - prints the string inside the quotation marks
- **sqrt()** - returns the square root of a number
- **pow()** - returns the power of a number

Example 4: Python Library Function

```
import math

# sqrt computes the square root
square_root = math.sqrt(4)

print("Square Root of 4 is",square_root)

# pow() comptes the power
power = pow(2, 3)

print("2 to the power 3 is",power)
```

Benefits of Using Functions

1. Code Reusable - We can use the same function multiple times in our program which makes our code reusable.

2. Code Readability - Functions help us break our code into chunks to make our program readable and easy to understand