

# User Defined Function with return

# Using **return** keyword in a Function

- **return** keyword
  - **returns information from the function**
  - and **breaks** out of the function

use **return** keyword to return something from the function

```
def square(num):
```

```
    return num*num
```

```
print(square(4))
```



**#calls** the function,

**#passes 4** (argument) to the function

**#returns** breaks out of the function

**#goes back** to location it was called

**#What will be printed?**

# Another Example

```
def square(num):  
    return num*num
```

```
result = square(4)
```

```
print(result)
```

#**return** keyword will **break** out of the  
#function

#calls the function

#passes 4 (argument) to the function

#What will be printed?

**\*no\*** **return** keyword

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

```
    print(x * y)
```

```
multiply(2, 8)
```

**#calls** the function,

**#passes** (2, 8 arguments) to the function

**#calculates, then prints**

**#goes back** to location it was called

**#What will be printed?**

use **return** keyword to return something from the function

```
def add_numbers(num1, num2):
```

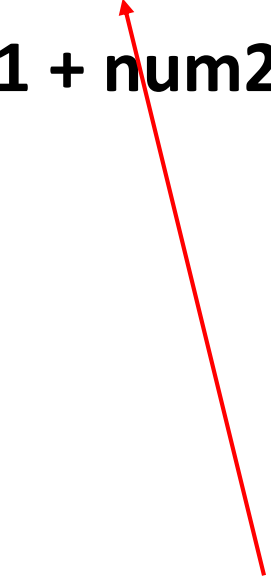
```
    sum = num1 + num2
```

```
    return sum
```

```
num1 = 5
```

```
num2 = 6
```

```
print("The sum is ", add_numbers(num1, num2))
```



**#calls** the function,

**#passes 5, 6** (arguments)

**#to** the function

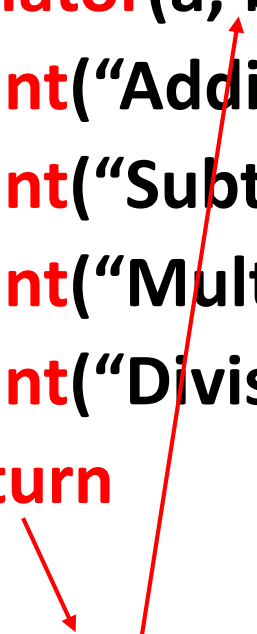
**#returns** breaks out of the function

**#goes back** to where the function was

**#called**

use **return** keyword to return something from the function

```
def calculator(a, b):  
    print("Addition:", a + b)  
    print("Subtraction:", a - b)  
    print("Multiplication:", a * b)  
    print("Division:", a / b)  
    return
```

A red arrow originates from the **return** statement in the function definition and points to the function call **calculator(25, 5)**. Another red arrow originates from the **calculator(25, 5)** call and points to the **calculator** parameter in the function definition.

**calculator(25, 5)**

**#calls** the function,

**#passes 25, 5** (arguments)

**#to the function**

**#returns** breaks out of the function

**#goes back** to where the function was called

```
# Python Functions Example
```

```
def sumAndAverage(x, y, z):
```

```
    Sum = x + y + z
```

```
    Average = Sum/3
```

```
    print("\n %d is the Total Sum of three Numbers." %Sum)
```

```
    print("\n %d is the Average of three Numbers.\n" %Average)
```

```
# Allows User to enter three values
```

```
a = int(input("\nPlease Enter the First Value. a = "))
```

```
b = int(input("\nPlease Enter the Second Value. b = "))
```

```
c = int(input("\nPlease Enter the Third Value. c = "))
```

```
# Calling the Function
```

```
sumAndAverage(a, b, c) ← #Calls the function 1st time
```

```
sumAndAverage(10, 20, 30) ← #Calls the function 2nd time
```



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Examples**