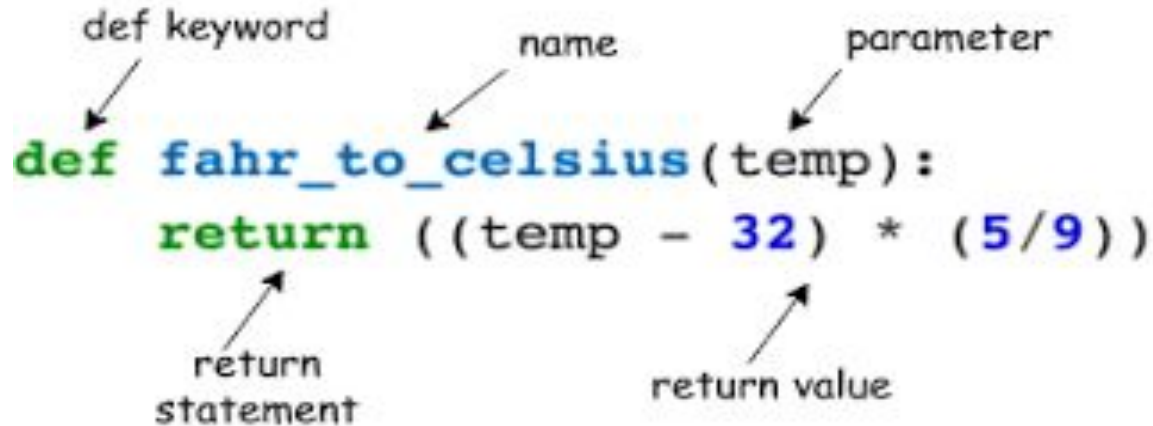

Python Function

— Odin Outsourcing —

How does function work-1?



The diagram illustrates the components of a Python function definition. It shows the code `def fahr_to_celsius(temp):` on the first line and `return ((temp - 32) * (5/9))` on the second line. Annotations with arrows point to specific parts: 'def keyword' points to `def`, 'name' points to `fahr_to_celsius`, 'parameter' points to `temp`, 'return statement' points to `return`, and 'return value' points to the expression `((temp - 32) * (5/9))`.

```
def fahr_to_celsius(temp):  
    return ((temp - 32) * (5/9))
```

def keyword

name

parameter

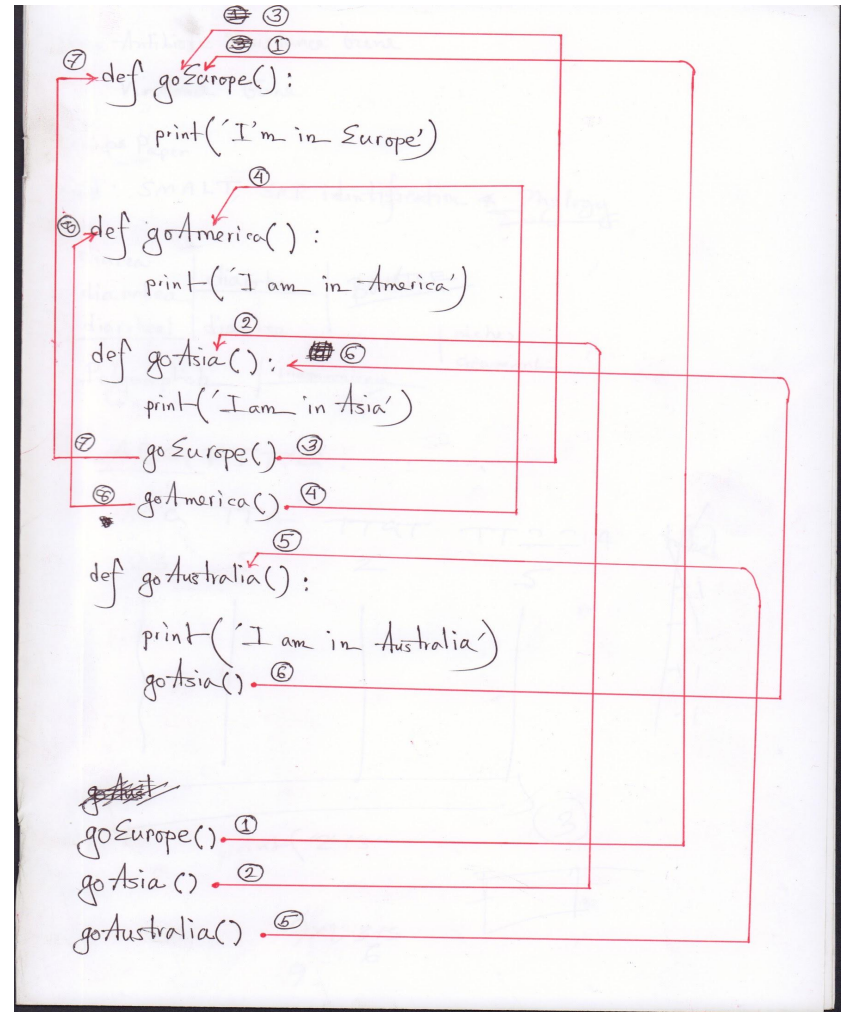
return statement

return value

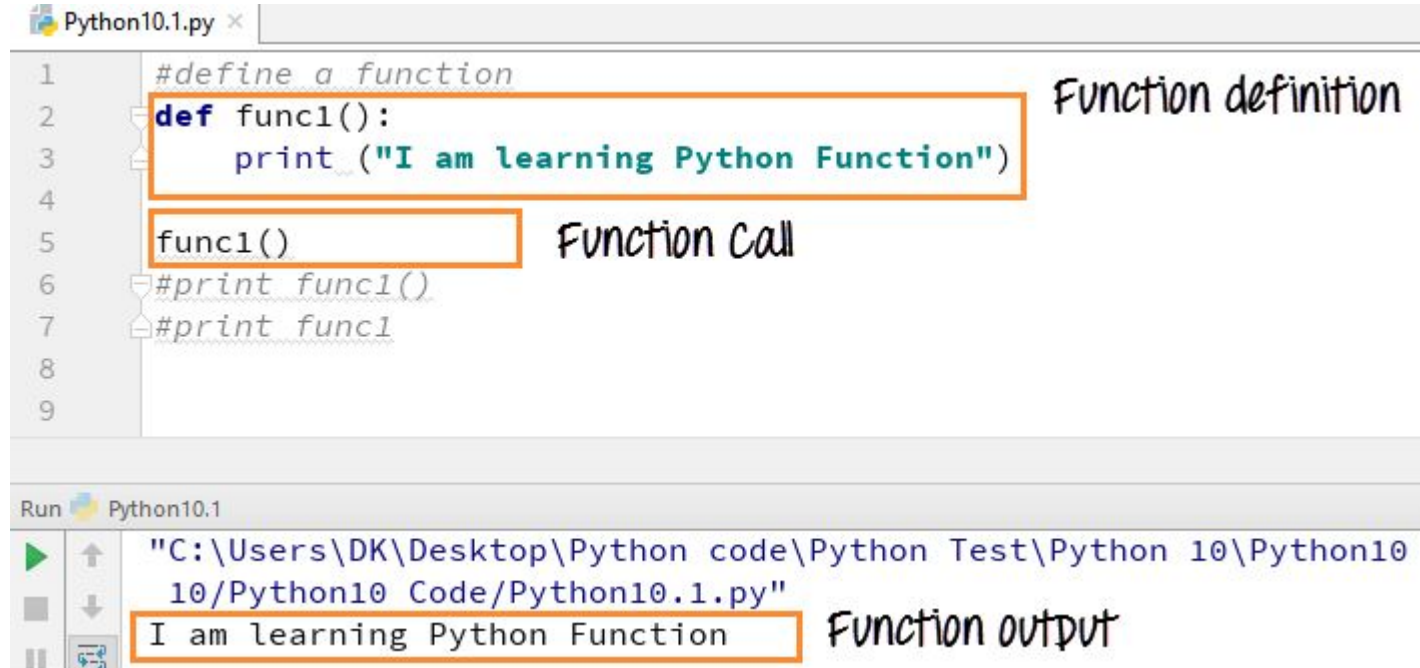
How does function work-2?

Code: <https://paste.ubuntu.com/>

p/PKt8dnXCZq



How does function work-3?



The screenshot shows a Python IDE with a file named 'Python10.1.py'. The code is as follows:

```
1 #define a function
2 def func1():
3     print("I am learning Python Function")
4
5 func1()
6 #print func1()
7 #print func1
8
9
```

Annotations on the code:

- Function definition:** Points to the `def func1():` line.
- Function call:** Points to the `func1()` line.

The output console shows the following:

```
Run Python10.1
"C:\Users\DK\Desktop\Python code\Python Test\Python 10\Python10
10\Python10 Code\Python10.1.py"
I am learning Python Function
```

Annotations on the output:

- Function output:** Points to the output text `I am learning Python Function`.

How does function work-4?

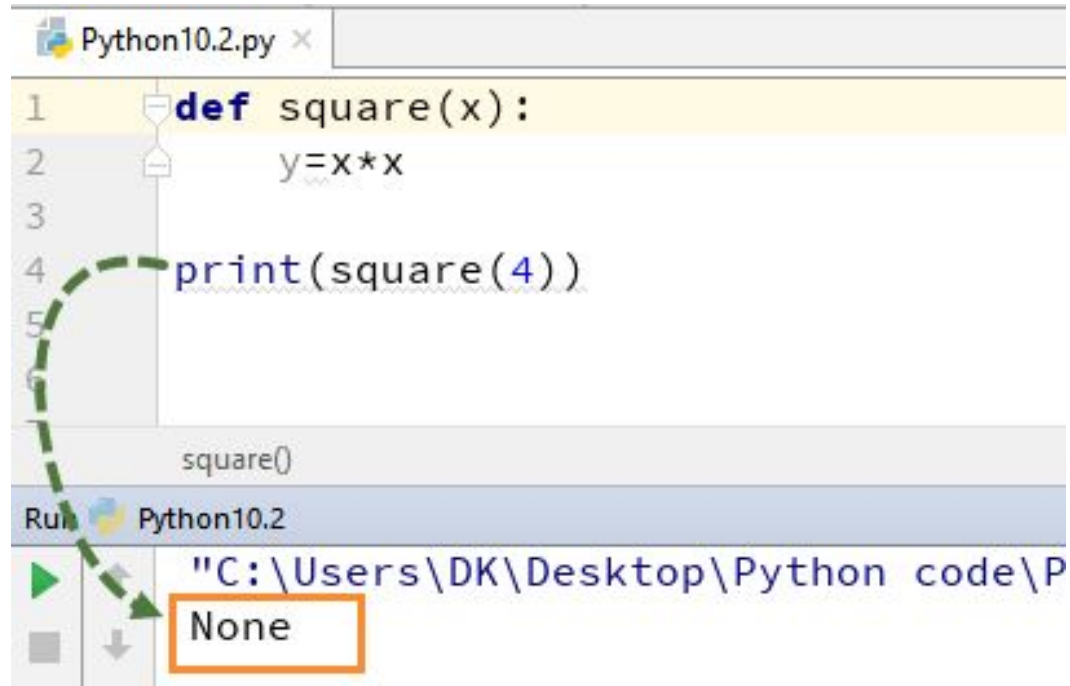
```
Python10.2.py x
1  #define return function
2  def square(x):
3      print(x*x)
4
5  print(square(4))
6
7
```

Run Python10.2

"C:\Users\DK\Desktop\Python 10.2.py" 16
None

The function does not return anything. Hence output is None

How does function work-5?



```
Python10.2.py x
1 def square(x):
2     y=x*x
3
4 print(square(4))
5
6
7 square()
Run Python10.2
"C:\Users\DK\Desktop\Python code\P
None
```

The screenshot shows a Python IDE window titled 'Python10.2.py'. The code contains a function definition `def square(x):` on line 1, followed by `y=x*x` on line 2, and `print(square(4))` on line 4. A green dashed arrow originates from the `square(4)` argument in the `print` statement and points to the output 'None' in the console. The console also shows the file path `"C:\Users\DK\Desktop\Python code\P`.

How does function work-6?

```
1 def square(x):  
2     return x*x  
3  
4 print(square(4))  
5  
6
```

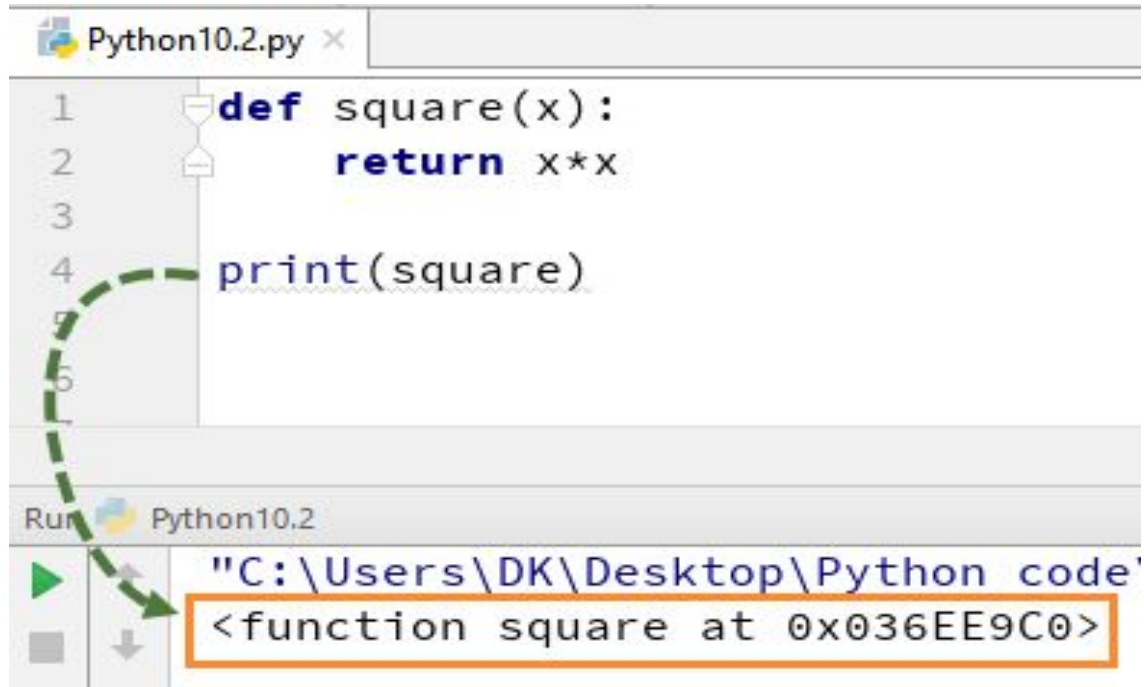
Run Python10.2

"C:\Users\DK\Desktop\Pyth... \P

16

Here we have used "return command" to return the value of function, which is square of (4) i.e 16

How does function work-7?



The screenshot shows a Python IDE window titled "Python10.2.py". The code editor contains the following Python code:

```
1 def square(x):  
2     return x*x  
3  
4 print(square)
```

A green dashed arrow originates from the `print(square)` statement on line 4 and points to the output window. The output window, titled "Run Python10.2", displays the following output:

```
"C:\Users\DK\Desktop\Python code"  
<function square at 0x036EE9C0>
```

The output `<function square at 0x036EE9C0>` is highlighted with an orange rectangular box.

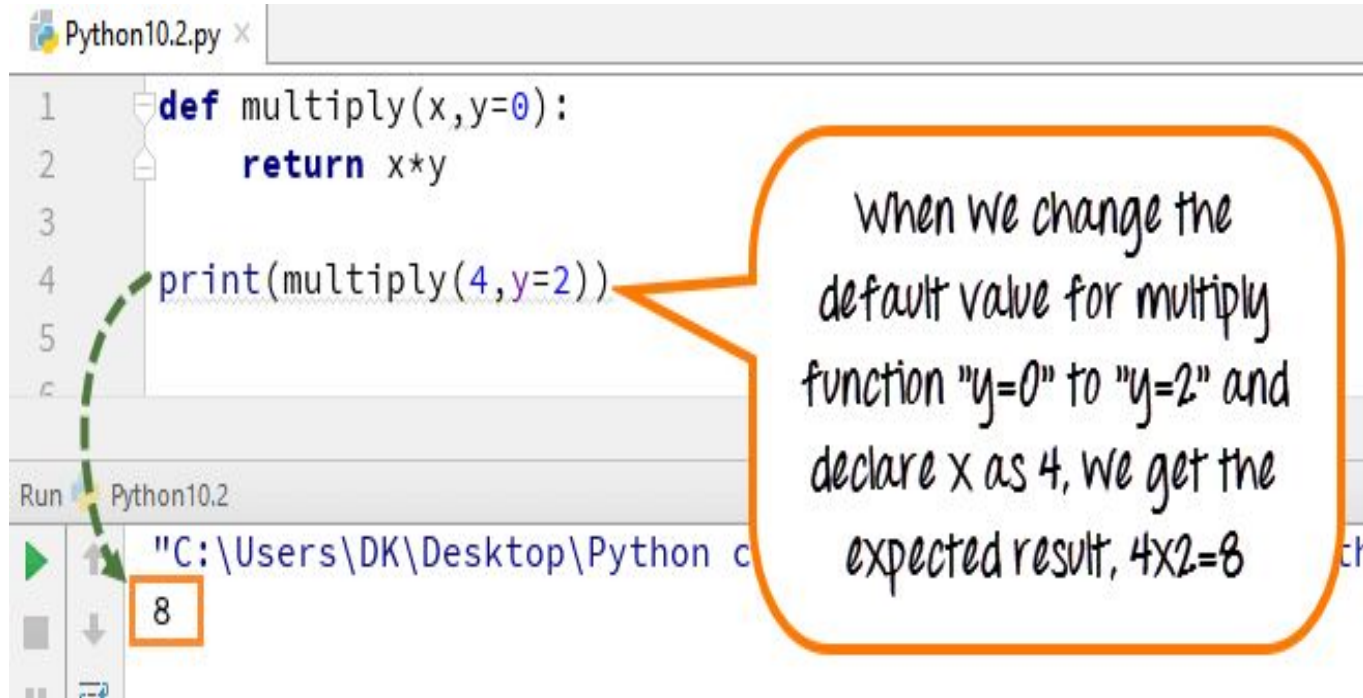
How does function work-8?

The screenshot shows a Python IDE window titled "Python10.2.py". The code is as follows:

```
1 def multiply(x,y=0):  
2     return x*y  
3  
4 print(multiply(4))  
5  
6
```

Below the code editor, the "Run" button is clicked, and the output console shows the command prompt path "C:\Users\DK\Desktop" and the value "0". A callout box points to the "0" in the output, stating: "Default value of argument (y=0), when calling multiply function, in our case (4x0) gives the expected result 0."

How does function work-9?



```
Python10.2.py x
1 def multiply(x,y=0):
2     return x*y
3
4 print(multiply(4,y=2))
5
6
```

Run Python10.2

"C:\Users\DK\Desktop\Python c

8

When we change the default value for multiply function "y=0" to "y=2" and declare x as 4, we get the expected result, $4 \times 2 = 8$

How does function work-10?

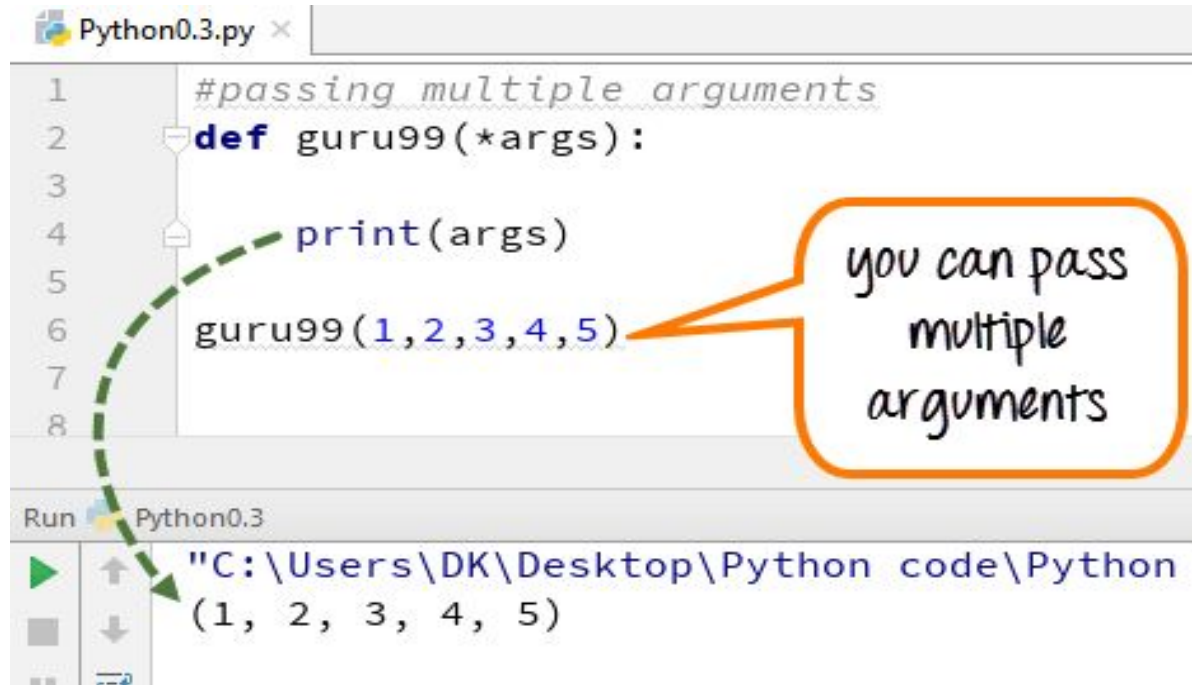
The screenshot shows a Python IDE with a file named 'Python10.2.py'. The code defines a function 'multiply' with two parameters, 'x' and 'y', where 'y' has a default value of 0. The function prints the values of 'x' and 'y' and returns their product. Below the function definition, the function is called with 'y=2' and 'x=4'. A callout bubble points to this call, stating: 'Here we have reversed the order of the value for x and y.' The output window at the bottom shows the execution results: the file path, 'value of x= 4', 'value of y= 2', and the result '8'. Green dashed arrows connect the function call arguments to the corresponding output lines.

```
Python10.2.py x
1 def multiply(x,y=0):
2     print("value of x=",x)
3     print("value of y=",y)
4
5     return x*y
6
7 print(multiply(y=2,x=4))
8
9
```

Run Python10.2

"C:\Users\DK\Desktop\Python code\Python Test\Python 10\Python10.2.py"
value of x= 4
value of y= 2
8

How does function work-11?



```
Python0.3.py x
1  #passing multiple arguments
2  def guru99(*args):
3
4      print(args)
5
6      guru99(1,2,3,4,5)
7
8
Run Python0.3
"C:\Users\DK\Desktop\Python code\Python
(1, 2, 3, 4, 5)
```

you can pass multiple arguments

Learning Resources:

1. Function-1: <https://www.guru99.com/functions-in-python.html> (*****)
2. Function-2: <https://introcs.cs.princeton.edu/python/21function/>
3. Function-3: <https://python.swaroopch.com/functions.html>
4. Inner Function:
<https://realpython.com/inner-functions-what-are-they-good-for/>

Contract your instructor!

Find Me: <http://rafsanjani.pythonanywhere.com/contact>

Course Website: <https://mrzResearchArena.github.io/Big-Data-using-Python>

Thank you!