

# Mastering Machine Learning with Python

(27th Aug 2024 - 18th Oct 2024)

iHUB DivyaSampark, IIT Roorkee  
Ritvij Bharat Private Limited

## Functions

Led by : Shreyas Shukla

# Mastering Machine Learning with Python

(27th Aug 2024 - 18th Oct 2024)

**Functions** allow us to create blocks of code that can be easily executed many times, without having to constantly rewrite the entire block of code.

Led by : Shreyas Shukla

Mastering Machine Learning with Python  
(27th Aug 2024 - 18th Oct 2024)

Functions will be a huge leap forward in your capabilities as a Python programmer.

Problems you are able to solve can also be a lot harder!

Combine everything you've learned so far (control flow, loops, etc.) with functions to become an effective programmer.

Led by : Shreyas Shukla

# Mastering Machine Learning with Python

(27th Aug 2024 - 18th Oct 2024)

- Discouraged or Frustrated?  
Do not worry, this is completely normal and very common!
- Be patient with yourself.

Led by : Shreyas Shukla

# Mastering Machine Learning with Python

(27th Aug 2024 - 18th Oct 2024)

iHUB DivyaSampark, IIT Roorkee

Let's see how to create functions with Python!

Ritvij Bharat Private Limited

Led by : Shreyas Shukla

# Mastering Machine Learning with Python

(27th Aug 2024 - 18th Oct 2024)

iHUB DivyaSampark, IIT Roorkee  
**def Keyword**  
Ritvij Bharat Private Limited

Led by : Shreyas Shukla

# Mastering Machine Learning with Python

(27th Aug 2024 - 18th Oct 2024)

Creating a function with **def** keyword, correct indentation, and proper structure.

Ritvij Bharat Private Limited

Led by : Shreyas Shukla

# Mastering Machine Learning with Python

(27th Aug 2024 - 18th Oct 2024)

**def function\_name():**

Keyword telling  
Python this is a  
function.

AI HUB DivyaSampark, IIT Roorkee  
and  
Ritvij Bharat Private Limited

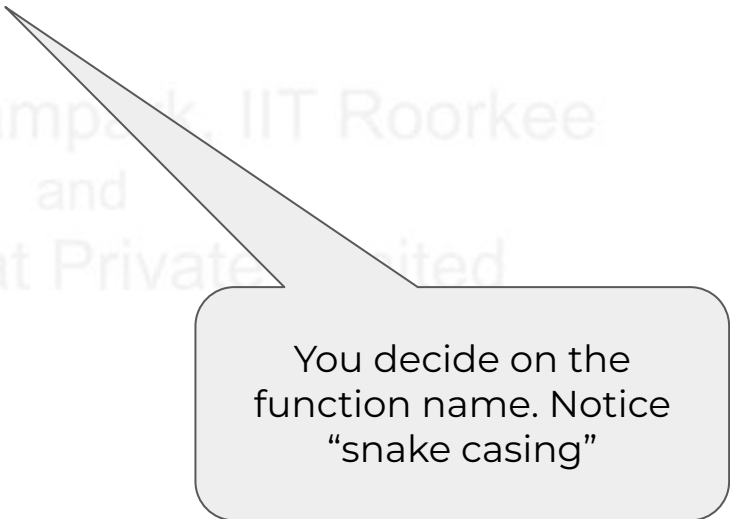
Led by : Shreyas Shukla



# Mastering Machine Learning with Python

(27th Aug 2024 - 18th Oct 2024)

**def function\_name():**



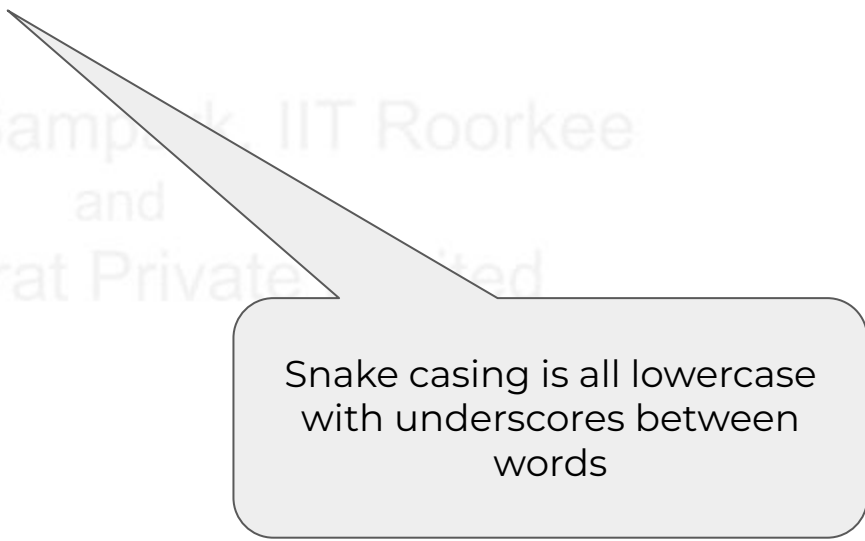
You decide on the  
function name. Notice  
“snake casing”

Led by : Shreyas Shukla

# Mastering Machine Learning with Python

(27th Aug 2024 - 18th Oct 2024)

**def function\_name():**



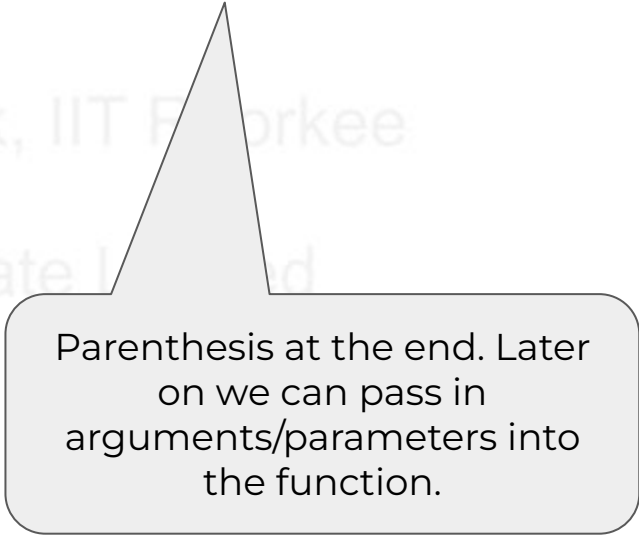
Snake casing is all lowercase  
with underscores between  
words

Led by : Shreyas Shukla

# Mastering Machine Learning with Python

(27th Aug 2024 - 18th Oct 2024)

**def function\_name():**



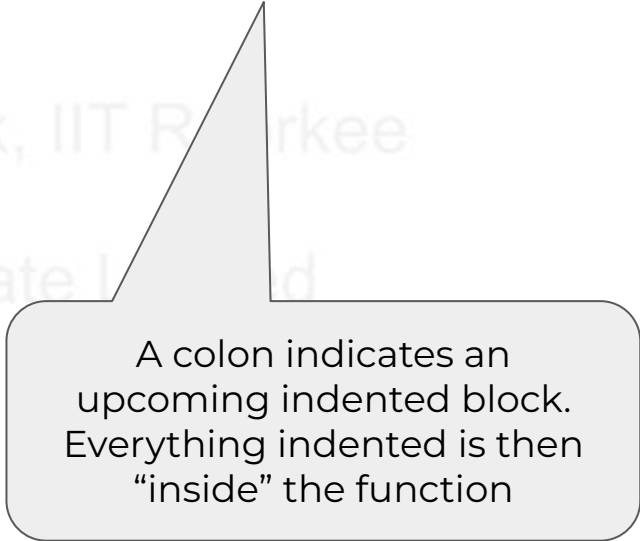
Parenthesis at the end. Later  
on we can pass in  
arguments/parameters into  
the function.

Led by : Shreyas Shukla

# Mastering Machine Learning with Python

(27th Aug 2024 - 18th Oct 2024)

**def function\_name():**



A colon indicates an upcoming indented block. Everything indented is then “inside” the function

Led by : Shreyas Shukla

# Mastering Machine Learning with Python

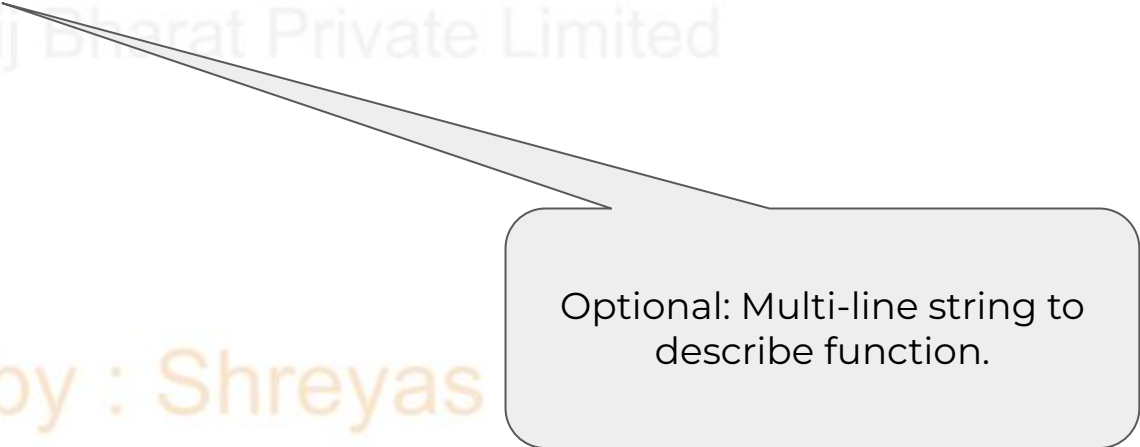
(27th Aug 2024 - 18th Oct 2024)

```
def function_name():
```

```
    """
```

```
        Docstring explaining function.
```

```
    """
```



Optional: Multi-line string to describe function.

Led by : Shreyas

# Mastering Machine Learning with Python

(27th Aug 2024 - 18th Oct 2024)

```
def function_name():
```

```
    """
```

```
        Docstring explaining function.
```

```
    """
```

```
    print("Hello")
```

Code then goes  
inside the function.

Led by : Shreyas Shukla

# Mastering Machine Learning with Python

(27th Aug 2024 - 18th Oct 2024)

```
def function_name():  
    """
```

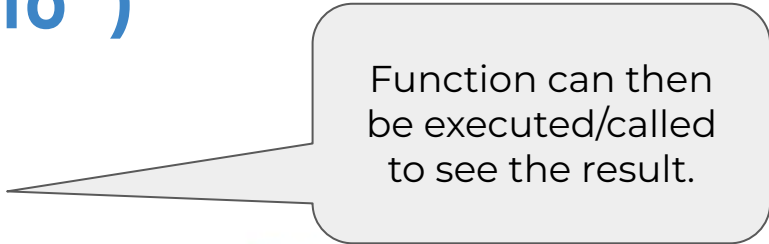
Docstring explaining function.

```
    """
```

```
    print("Hello")
```

```
>> function_name():
```

```
>> Hello
```



Function can then  
be executed/called  
to see the result.

Led by : Shreyas Shukla

# Mastering Machine Learning with Python

(27th Aug 2024 - 18th Oct 2024)

```
def function_name():  
    """
```

Docstring explaining function.

```
    """
```

```
    print("Hello")
```

```
>> function_name():
```

```
>> Hello
```

Resulting Output



# Mastering Machine Learning with Python

(27th Aug 2024 - 18th Oct 2024)

```
def function_name():  
    """
```

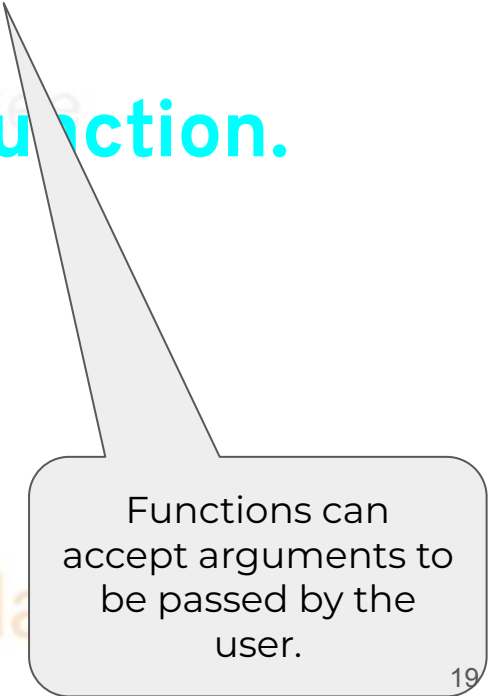
**Docstring explaining function.**

```
    """
```

```
    print("Hello "+name)
```

```
>> function_name():
```

```
>> Hello
```



Functions can accept arguments to be passed by the user.

# Mastering Machine Learning with Python

(27th Aug 2024 - 18th Oct 2024)

```
def function_name(name):  
    """
```

Docstring explaining function.

```
    """
```

```
    print("Hello "+name)
```

```
>> function_name("Shreyas"):
```

```
>> Hello Shreyas
```

Functions can accept arguments to be passed by the user.

Typically we use the **return** keyword to send back the result of the function, instead of just printing it out.

**return** allows us to assign the output of the function to a new variable.

We will have a deeper discussion of the **return** keyword later on in the notebook.

# Mastering Machine Learning with Python

(27th Aug 2024 - 18th Oct 2024)

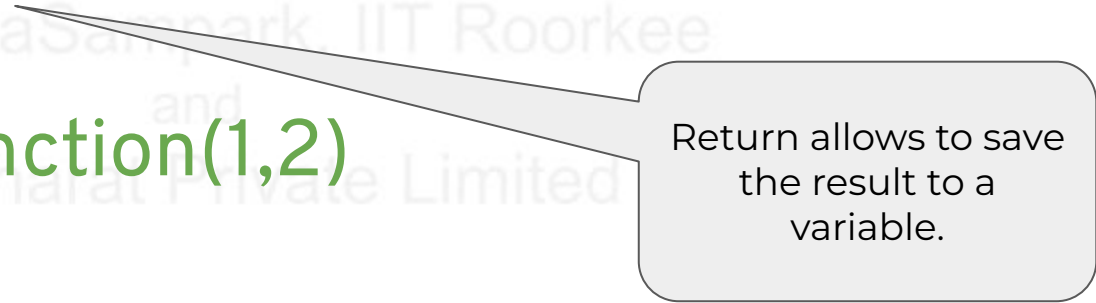
```
def add_function(num1,num2):  
    return num1+num2
```

```
>> result = add_function(1,2)
```

```
>>
```

```
>> print(result)
```

```
>> 3
```



Return allows to save the result to a variable.

Led by : Shreyas Shukla

# Mastering Machine Learning with Python

(27th Aug 2024 - 18th Oct 2024)

```
def add_function(num1,num2)::  
    return num1+num2
```

```
>> result = add_function(1,2)
```

```
>>
```

```
>> print(result)
```

```
>> 3
```

Most functions will use return. Rarely will a function only print()

Led by : Shreyas Shukla

# Mastering Machine Learning with Python

(27th Aug 2024 - 18th Oct 2024)

iHUB DivyaSampark, IIT Roorkee

Let's start creating functions with Python.

Ritvij Bharat Private Limited

Led by : Shreyas Shukla