PYTHON TUTORIAL FOR BEGINNERS

Source: www.youtube.com/@RishabhMishraOfficial

Chapter - 10

Functions in Python

- Functions definition
- Types of Functions
- Function examples

Functions in Python

A function is a block of code that **performs a specific task**. You can use it whenever you want by calling its name, which saves you from writing the same code multiple times.

Benefits of Using Function**:** Increases code **Readability** & **Reusability**.

Basic Concepts:

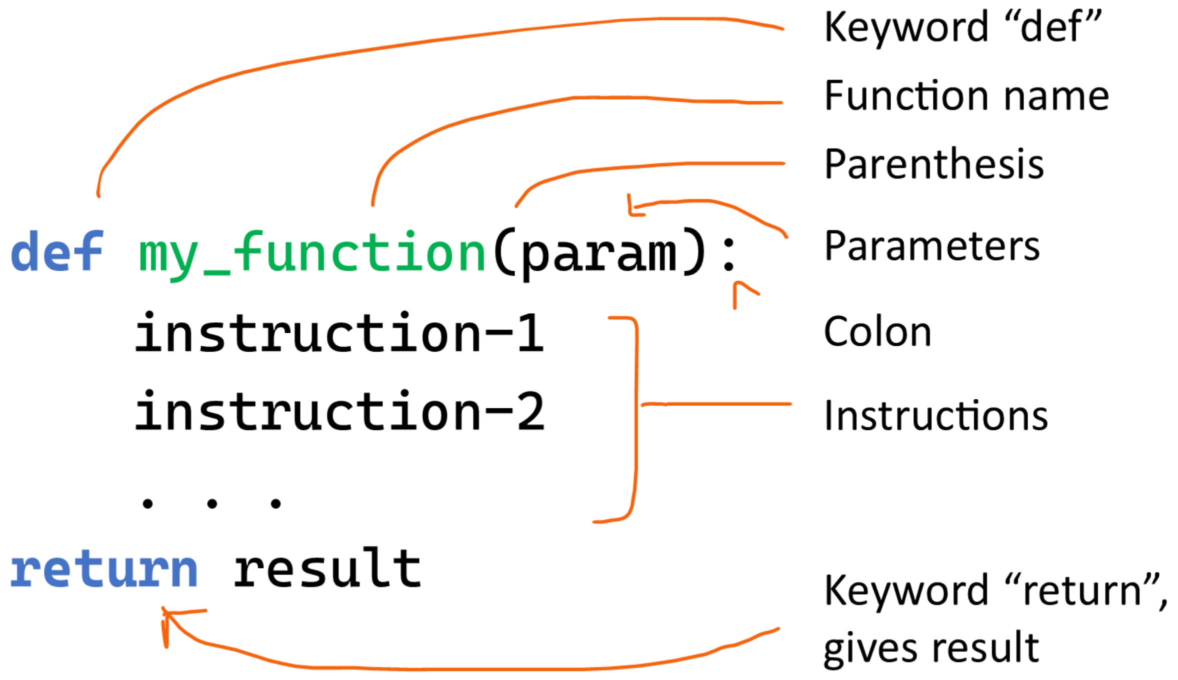
- **Create** function: Use the def keyword to define a function.
- **Call** function: Use the function's name followed by () to run it.
- **Parameter**: The variable listed inside parentheses in function definition.
- **Argument**: The actual value you pass to function when you call it.

Types of Functions

Below are the two types of functions in Python:

1. Built-in library function:
   - These are Standard functions in Python that are available to use.
   - Examples: print(), input(), type(), sum(), max(), etc
2. User-defined function:
   - We can create our own functions based on our requirements.
   - Examples: create your own function :)

Syntax:



```
def my_function(param):
    instruction-1
    instruction-2
    . . .
return result
```

*# **return** result is optional, Use if you want the function to give back a value*

Function without Parameters

Example:1

```
# Create or Define Function
def greetings():
  print("Welcome to Python tutorial by Rishabh")

# Use or call this Function
greetings()

# Output: Welcome to Python tutorial by Rishabh
```

Function with Parameters

Example:2

```
# function to adds two numbers & print result.
def add2numbers(a, b):
    result = a + b
    print("The sum is:", result)

# Calling this function with arguments
add2numbers(5, 3)

# Output: The sum is: 8
```

Function with two arguments

The `return` Statement

The return statement is used in a function to **send a result back** to the place where the function was called. When return is executed, the function **stops running** and immediately returns the specified value.

Example:

```
def add(a, b):
    return a + b  # This line sends back sum of a and b
result = add(3, 5)
print(result)

# Output: 8
```

Function with a Return value

Example:3

```
# function to convert Celsius to Fahrenheit
def celsius_to_fahrenheit(celsius):
    fahrenheit = (celsius * 9/5) + 32
    return Fahrenheit

# Calling this function to return a value
temp_f = celsius_to_fahrenheit(25)
print("Temperature in Fahrenheit:", temp_f)

# Output: Temperature in Fahrenheit: 77.0
```

Function with one argument

The pass Statement

The pass statement is a placeholder in a function or loop. It **does nothing** and is used when you need to write code that will be added **later** or to define an **empty** function.

Example:

```
def myfunction():
    pass    # This does nothing for now
```

Functions – HW

Write a Python program to create a **calculator** that can perform at least **five** different mathematical operations such as addition, subtraction, multiplication, division and average. Ensure that the program is user-friendly, prompting for input and displaying the results clearly.

Python Tutorial Playlist: [Click Here](https://www.youtube.com/playlist?list=PLdOKnrf8EcP384Ilxra4UlK9BDJGwawg9)

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