

# Python functions

# What is a function

A function in python is a group of related statements that perform a specific task.

Functions help break our code into smaller chunks . Thus making it more organized and more manageable.

Also, it help you avoid repetition and makes your code reusable.

# Defining a function

Basic Syntax:

```
def function_name(parameters...):  
    statement(s)
```

# Defining a function with parameters

Syntax:

```
def function_name(param1, param2, param3):  
    statement(s)
```

# Defining a function with return

Syntax:

```
def function_name(param1, param2, param3):  
    statement(s)  
    return param1*param2
```

# Documenting your function

To document your function , we use triple quotation mark right after the definition of the function . example :

```
def greetMe(name:str, city:str):
```

```
    ''' This function greets you with your name and city '''
```

To get the doc string , we use `__doc__` . example :

```
greetMe.__doc__
```

# Scope and lifetime of variables

Scope of a variable is the portion of a program where it is recognized . In function it is only visible to that function , thus it is called local to the function. And is not visible or recognized anywhere else.

Lifetime of a variable is the period in which it exists in the memory . As for variables in functions , they are deleted once the function returns .

Variables outside the functions or classes have global scope . They can be read inside a function. But to change the value we need to mark it as **global**

# String Format

To format a string we use the following syntax:

1) Example:

```
"Hi there {} from {}, how are you ?".format(name, city)
```

1) Example:

```
f"Hi there {var1} from {var2}, how are you ?"
```