

# Functions

# Function

A function is a block of code.

It runs when it is called with pair of parenthesis at the end.

There are some functions which are built-in like: `print()`, `input()`, `type()`, `len()`, `list()`, etc.

There are also functions which are user defined.

We can pass data to function through parameter. Parameters are separated by commas.

We can pass any number of arguments into a function.

And a function can return data as result.

Parameters or Arguments ?

Both term's are used for the Information passed into a function

# First Function

A function is defined using the “def” keyword.  
A function has a name and a body.  
It may or may not have parameters (or arguments).

```
def my_function():  
    print("Hello from a function")
```

Name: my\_function  
Arguments: no args  
Body: print()

# Problem

Create a function that takes an integer as input and tells whether it is divisible by 7.

```
def div_by_7(x):  
    if x % 7 == 0:  
        print("yes, it is divisible by ")  
    else:  
        print("no, not divisible by 7")  
  
x = int(input("Enter a natural number: "))  
  
div_by_7(x)
```

# Problem: Passing of Arguments (With Name and Without Name)

# Passing arguments with keywords i.e ( bind arguments with parameters name )

# Ordering of parameter has no mean in this case

# define a function with three parameter

```
def get_youngest_child(child3, child2, child1):  
    print("The youngest child is " + child3)
```

# What will be output?

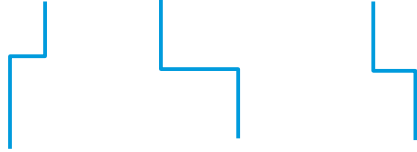
```
get_youngest_child("Emil", "Tobias", "Linus")
```

# Calling of function by passing key value pairs, order does not matter

```
get_youngest_child(child1 = "Emil", child2 = "Tobias", child3 = "Linus")
```

# Argument Passing With / Without Names

```
def get_youngest_child(child3, child2, child1):
```

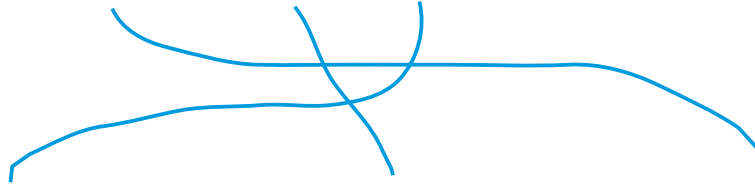


```
get_youngest_child("Emil", "Tobias", "Linus")
```

**Argument passing by positions:**

First argument goes to the first variable, second argument goes to the second variable, so on, so forth.

```
def get_youngest_child(child3, child2, child1):
```



```
get_youngest_child(child1 = "Emil", child2 = "Tobias", child3 = "Linus")
```

**Argument  
passing by  
name**