

# PYTHON PROGRAMMING

## Variables Types

```
a = "Hello"      # character string : str
b = 5            # real number : int
c = 1.5          # floating number : float
d = True         # True or False : bool
```

## Print and Input

```
name = input("What is your name? ")
print("Your name is " + name)      # string concatenation
print(f"Your name is {name}")      # formatted string
print("Your name is %s" % name)    # formatted string (old format)
```

## Comments

```
# One-line comment
""" Multiple
    lines
    comment """
```

## Conversions

```
age = 30
print("Your age is: " + str(age))    # conversion from int to str, and concatenation

age_str = "30"
age_int = int(age_str)               # conversion from str to int.
                                     # Use a try/except bloc to manage the error
```

## While Loop

Loops while the condition is True

```
name = ""
while name == "":
    name = input("What is your name? ")
```

## For Loop

Loops a number of times

```
for i in range(0, 4):      # de 0 (included) à 4 (excluded) : 0, 1, 2, 3
    print(i)
```

## Functions

```
# Definition (height is an optional parameter)
def display_person_info(name, age, height = 0):
    print("Your name is " + name + ", your age is: " + str(age))

# Call
display_person_info("Brian", 25)

# Return : Returns a value or exits the function
```

## Conditions

```
==      # equal
<=      # less or equal
<       # less
>=      # greater or equal
>       # greater
not      # opposite

if age == 17:
    print("You are almost an adult")
elif 10 <= age < 18:
    print("You are a teenager")
elif age >= 18:
    print("You are an adult")
else:
    print("You are a minor")
```

## Exception

```
try:
    age_int = int(age_str)
except:
    print("ERROR: Age must be a number")
```