

High School Students Mentorship

AN INTRODUCTION TO PYTHON

What is Python ?

Python is an open source programming language that was made to be easy to read and powerful.

It is the most widely used programming language in the world today.

The easier a programming language is to manipulate, the higher level it is said to be.

Hello world...

This is the common way to start with a programming language, depending on the programming language. For instance, for an Arduino board, this "Hello world.." is equivalent to turning on a led.

Small exercise

Display "Hello world..." on your programming interface. To do it, you will need the command line :

```
print(".")
```

Solution :

```
print("Hello World...")
```

ARITHMETIC

Arithmetic in python is easy and simple to handle.

Practice :

- » $2 + 7$ will return 9
- » $7 - 2$ will return 5
- » $7 * 2$ will return 14
- » $7 / 2$ will return 3.5
- » $7 \% 2$ will return 1

Entering numerical values

In order to enter numerical values, the command line :

```
input(".")
```

Practice :

```
a = input("Enter the value of a = ")
```

PRACTICAL EXERCISE

Let be the following second order equation :

$$ax^2 + bx + c = 0$$

Write a program that asks you to enter the values of a, b and c in this order.

Solution

```
a = input("Enter the value of a = ")
```

```
b = input("Enter the value of b = ")
```

```
c = input("Enter the value of c = ")
```


Conditions in python

```
a = input('Enter the value of a')
```

```
if a > 0 :
```

```
    print('You are negative, you have to be optimistic')
```

```
Else :
```

```
    print('Good you are positive, you will succeed')
```

PRACTICAL EXERCISE

Let us go back to our equation of second order.

$$ax^2 + bx + c = 0$$

Write down a program which solves this equation after asking to enter in order the values a, b and c and print the solution in the best way.

Exercises

Write a program which computes :

- The perimeter of a rectangle
- The volume of a sphere by taking $\pi = 3.14$

Write a program that displays a menu of food and asks the customer to make a choice and displays the customer's choice.

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THANK YOU FOR YOUR KIND
ATTENTION !!!!!!!.....