Python 3 – Variables

Python is a powerful programming language ideal for scripting and rapid application development. It is used in web development (like: Django and Bottle), scientific and mathematical computing (Orange, SymPy, NumPy) to desktop graphical user Interfaces (Pygame, Panda3D)

Python Variables

A variable is a named location used to store data in the memory. It is helpful to think of variables as a container that holds data which can be changed later throughout programming. For example,

```
number = 10
```

Here, we have created a named `number`. We have assigned value 10 to the variable.

You can think variable as a bag to store books in it and those books can be replaced at any time.

```
number = 10
number = 1.1
```

Initially, the value of `number` was 10. Later it's changed to 1.1.

Note: In Python, we don't assign values to the variables, whereas Python gives the reference of the object (value) to the variable.

Assigning a value to a Variable in Python

As you can see from the above example, you can use the assignment operator `=` to assign a value to a variable.

Example 1: Declaring and assigning a value to a variable

```
name = "modcom"
age = 30
print(name)
```

```
print(age)
```

Concatenation – combining strings with variables

```
name = "modcom"
age = 30
print('My name is ', name)
print('My age is ', age)
```

When you run the program, the output will be:

Modcom
30

Rules and Naming variables and constants

1. Create a name that makes sense. Suppose, `vowel` makes more sense than `v`.

```
myName

myAge

myAddress
```

2. Use capital letters where possible to declare a constant. For example:

```
3. PI

4. G

5. MASS
```

```
TEMP
```

6. Never use special symbols like !, @, #, $, %, etc.
7. Don't start name with a digit.
8. Variable names should have combination of letters in lowercase (a to z) or uppercase (A to Z) or digits (0 to 9) or an underscore (_). For example:

```
# Store input numbers
num1 = int(input('Enter first number: '))
num2 = int(input('Enter second number: '))

# Add two numbers
sum = num1 + num2

# Display the sum
print('The num1 is', num1)
print('The num2 is', num1)
print('The sum is', sum)
```