

## **Variables and Data Types**

### **Variables**

Variables are like containers for storing values.

Values in the variables can be changed.

### **Values**

Consider that variables are like containers for storing information.

In context of programming, this information is often referred to as value.

### **Data Type**

In programming languages, every value or data has an associated type to it known as data type.

Some commonly used data types

String

Integer

Float

Boolean

This data type determines how the value or data can be used in the program. For example, mathematical operations can be done on Integer and Float types of data.

### **String**

A String is a stream of characters enclosed within quotes.

### **Stream of Characters**

Capital Letters ( A – Z )

Small Letters ( a – z )

Digits ( 0 – 9 )

Special Characters ( ~ ! @ # \$ % ^ . ? , )

Space

Some Examples

"Hello World!"

"some@example.com"

"1234"

Integer

All whole numbers (positive, negative and zero) without any fractional part come under Integers.

Examples

...-3, -2, -1, 0, 1, 2, 3,...

## **Float**

Any number with a decimal point

24.3, 345.210, -321.86

## **Boolean**

In a general sense, anything that can take one of two possible values is considered a Boolean. Examples include the data that can take values like

True or False

Yes or No

0 or 1

On or Off, etc.

As per the Python Syntax, True and False are considered as Boolean values.

Notice that both start with a capital letter.

Assigning Value to Variable

The following is the syntax for assigning an integer value 10 to a variable

```
age = 10
```

Here the equals to = sign is called as Assignment Operator as it is used to assign values to variables.