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

PYTHON

```python
1  age = 10
```

Here the equals to

=   sign is called as **Assignment Operator** as it is used to assign values to variables.