What are Data Types and Variables?

In this section, we'll learn about the different data types in Python.

> **We'll cover the following**   ∧
>
> - Definition
> - Python's Data Types
> - Variables
> - Naming Convention

Definition

> The **data type** of an item defines the type and range of values that
> item can have.

The concept of data types can be found in the real world. There are
numbers, alphabets, characters, etc., that all have unique properties due
to their classification.

Such a classification is also made in many programming languages,
including Python.

Python's Data Types

Unlike many other languages, Python does not place a strong emphasis on
defining the data type of an object, which makes coding much simpler.
We'll learn more about this in the near future.

The language provides three main data types:

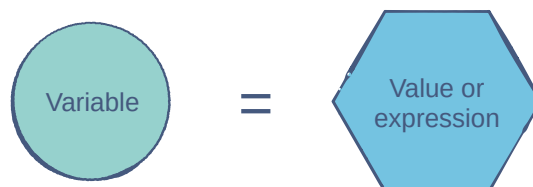- **Numbers**

- **Strings**

- **Booleans**

In the following lessons, we'll cover all of these and more in detail.

Variables

> A variable is simply a name to which a value can be *assigned*.

Variables allow us to give meaningful names to data.

The simplest way to assign a value to a variable is through the `=` operator.

A big advantage of variables is that they allow us to store data so that we can use it later to perform operations in the code.

Variables are **mutable**. Hence, the value of a variable can always be updated or replaced.

Naming Convention

There are certain rules we have to follow when picking the name for a variable:

- The name can start with an upper or lower case alphabet.

- A number can appear in the name, but not at the beginning.

- The _ character can appear anywhere in the name.

- Spaces are not allowed. Instead, we must use snake_case (https://en.wikipedia.org/wiki/Snake_case) to make variable names readable.

- The name of the variable should be something meaningful that describes the value it holds, instead of being random characters.

In the next lesson, we'll explore the different types of numbers in Python.

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Quiz

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Numbers

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