



Python Variables, Constants and Literals

In this article, you will learn about Python variables, constants, literals and their use cases.

Table of Contents

- [Variable](#)
 - [Declaring Variables in Python](#)
 - [Assigning value to a Variable in Python](#)
- [Constants](#)
 - [Assigning value to a constant in Python](#)
- [Rules and Naming convention of Variables and Constants](#)
- [Literals](#)
 - [Numeric Literals](#)
 - [String Literals](#)
 - [Boolean Literals](#)

RECOMMENDED READINGS

[Python Program to Print Hello world!](#)

[Python Program to Print all Prime Numbers in an Interval](#)

[Python Program to Print the Fibonacci sequence](#)



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

```
script.py  IPython Shell
1 website = "apple.com"
2 print(website)
```

Run

RECOMMENDED READINGS

[Python Program to Print Hello world!](#)

[Python Program to Print all Prime Numbers in an Interval](#)

[Python Program to Print the Fibonacci sequence](#)

[TUTORIAL](#) [EXAMPLES](#) [BUILT-IN FUNCTIONS](#)

```
0 print(website)
7
```

RunPowered by [DataCamp](#)

When you run the program, the output will be:

```
apple.com
programiz.com
```

In the above program, we have assigned `apple.com` to the `website` variable initially. Then, its value is changed to `programiz.com`.

Example 3: Assigning multiple values to multiple variables

[script.py](#) [IPython Shell](#)

RECOMMENDED READINGS

[Python Program to Print Hello world!](#)[Python Program to Print all Prime Numbers in an Interval](#)[Python Program to Print the Fibonacci sequence](#)



Run



Powered by DataCamp

The second program assigns the same string to all the three variables `x`, `y` and `z`.

Constants

A constant is a type of variable whose value cannot be changed. It is helpful to think of constants as containers that hold information which cannot be changed later.

Non technically, you can think of constant as a bag to store some books and those books cannot be replaced once placed inside the bag.

Assigning value to a constant in Python

In Python constants are usually declared and assigned on a module. Here the module

RECOMMENDED READINGS

[Python Program to Print Hello world!](#)

[Python Program to Print all Prime Numbers in an Interval](#)

[Python Program to Print the Fibonacci sequence](#)



In the above program, we create a `constant.py` module file. Then, we assign the constant value to `PI` and `GRAVITY`. After that, we create a `main.py` file and import the constant module. Finally, we print the constant value.

Note: In reality, we don't use constants in Python. The `globals` or `constants` module is used throughout the Python programs.

Rules and Naming convention for variables and constants

1. Create a name that makes sense. Suppose, `vowel` makes more sense than `v`.
2. Use camelCase notation to declare a variable. It starts with lowercase letter. For example:

```
myName  
myAge  
myAddress
```

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

RECOMMENDED READINGS

[Python Program to Print Hello world!](#)

[Python Program to Print all Prime Numbers in an Interval](#)

[Python Program to Print the Fibonacci sequence](#)



Literal is a raw data given in a variable or constant. In Python, there are various types of literals they are as follows:

Numeric Literals

Numeric Literals are immutable (unchangeable). Numeric literals can belong to 3 different numerical types Integer, Float and Complex.

Example 4: How to use Numeric literals in Python?

```
script.py  IPython Shell
1  a = 0b1010 #Binary Literals
2  b = 100 #Decimal Literal
3  c = 0o310 #Octal Literal
4  d = 0x12c #Hexadecimal Literal
5
6  #Float Literal
7  float_1 = 10.5
8  float_2 = 1.5e2
9
10 #Complex Literal
11 x = 3.14j
12
13 print(a, b, c, d)
14 print(float_1, float_2)
15 print(x, x.imag, x.real)
```

Run

RECOMMENDED READINGS

[Python Program to Print Hello world!](#)

[Python Program to Print all Prime Numbers in an Interval](#)

[Python Program to Print the Fibonacci sequence](#)



String literals

A string literal is a sequence of characters surrounded by quotes. We can use both single, double or triple quotes for a string. And, a character literal is a single character surrounded by single or double quotes.

Example 7: How to use string literals in Python?

```
script.py  IPython Shell
1  strings = "This is Python"
2  char = "C"
3  multiline_str = """This is a multiline string with more than one line code."""
4  unicode = u"\u00dcnic\u00f6de"
5  raw_str = r"raw \n string"
6
7  print(strings)
8  print(char)
9  print(multiline_str)
10 print(unicode)
11 print(raw_str)
```

Run

Powered by DataCamp

RECOMMENDED READINGS

[Python Program to Print Hello world!](#)

[Python Program to Print all Prime Numbers in an Interval](#)

[Python Program to Print the Fibonacci sequence](#)

[TUTORIAL](#) [EXAMPLES](#) [BUILT-IN FUNCTIONS](#)

```
3 x = True
4 b = False + 10
5
6 print("x is", x)
7 print("y is", y)
8 print("a:", a)
9 print("b:", b)
```

Run

Powered by DataCamp

When you run the program, the output will be:

```
x is True
y is False
a: 5
b: 10
```

In the above program, we use boolean literal `True` and `False`. In Python, `True` represents the value as `1` and `False` as `0`. The value of `x` is `True` because `1` is equal to `True`. And the value of `y` is `False` because `1` is not equal to `False`.

RECOMMENDED READINGS

[Python Program to Print Hello world!](#)[Python Program to Print all Prime Numbers in an Interval](#)[Python Program to Print the Fibonacci sequence](#)

**Run**

Powered by DataCamp

When you run the program, the output will be:

```
Available  
None
```

In the above program, we define a `menu` function. Inside `menu`, when we set parameter as `drink` then, it displays `Available`. And, when the parameter is `food`, it displays `None`.

Literal Collections

There are four different literal collections List literals, Tuple literals, Dict literals, and Set literals.

Example 10: How to use literals collections in Python?

```
script.py  IPython Shell
```

RECOMMENDED READINGS

[Python Program to Print Hello world!](#)[Python Program to Print all Prime Numbers in an Interval](#)[Python Program to Print the Fibonacci sequence](#)

[TUTORIAL](#) [EXAMPLES](#) [BUILT-IN FUNCTIONS](#)

having values with keys designated to each value and set of vowels .

To learn more about literal collections, refer [Python Data Types](#).

PREVIOUS[PYTHON STATEMENT AND COMMENT](#)**NEXT**[PYTHON DATATYPES](#)

Python Tutorial

[Python Introduction](#)[Getting Started](#)

RECOMMENDED READINGS

[Python Program to Print Hello world!](#)

[Python Program to Print all Prime Numbers in an Interval](#)

[Python Program to Print the Fibonacci sequence](#)



Receive the latest tutorial to improve your programming skills.

Enter Email Address*

Join

Get Latest Updates on Programiz

Enter Your Email

Subscribe

TUTORIALS

[Python Tutorials](#)

[C Tutorials](#)

RECOMMENDED READINGS

[Python Program to Print Hello world!](#)

[Python Program to Print all Prime Numbers in an Interval](#)

[Python Program to Print the Fibonacci sequence](#)

[TUTORIAL](#) [EXAMPLES](#) [BUILT-IN FUNCTIONS](#)[Contact](#)

LEGAL

[Privacy Policy](#)[Terms And Conditions](#)[App's Privacy Policy](#)[App's Terms And Conditions](#)

Copyright © Parewa Labs Pvt. Ltd. All rights reserved.

RECOMMENDED READINGS

[Python Program to Print Hello world!](#)[Python Program to Print all Prime Numbers in an Interval](#)[Python Program to Print the Fibonacci sequence](#)