in programming, a variable is a container (storage area) to hold data. For example,

```
number = 10
```

Here, the **number** is the variable storing the value **10**.

Assigning values to Variables in Python

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

```
site_name = "Power Learn Project"
print(site_name)
```

In the above example, we assigned the value 'Power Learn Project' to the site_name variable. Then, we printed out the value assigned to site_name.

Note: Python is a type-inferred language, so you don't have to explicitly define the variable type. It automatically knows that Power Learn Projects is a string and declares the site_name variable as a string.

Changing the Value of a Variable in Python

```
site_name = "Power Learn Project"
print(site_name)

# Assigning new value to site_name
site_name = "I love coding 😊"
print(site_name)

# The output will be
Power Learn Project
I love coding 😊
```

Here, the value of site_name is changed from 'Power Learn Project' to 'I love coding 😊'.

Example: Assigning multiple values to multiple variables

```
a,b,c = 5, 7, "Hello world"
print(a) # prints 5
print(b) # prints 5
print(c) # prints Hello World
```

Rules for Naming Python Variables

- Constant and variable names should have a combination of letters in lowercase (a to z) or uppercase (**A to Z**) or digits (**0 to 9**) or an underscore (_). For example:

- snake_case
- MACRO_CASE
- camelCase
- CapsWords

- Python is case-sensitive. So num and Num are different variables. For example,

```
num = 55
Num = 510
print(num) #5
print(Num) #510
```

- Avoid using keywords like if, True, class, etc. as variable names.

More Resources:

1. https://realpython.com/python-variables/
2. https://www.simplilearn.com/tutorials/python-tutorial/python-variables
3. https://www.guru99.com/variables-in-python.html
4. https://www.tutorialspoint.com/python/python_variables.htm