

Learn Python Variables Step-By-Step



Python Video https://www.youtube.com/watch?v=O5suwYtago8&list=PLfp-cl6BH8u8iMtCoea_mWkGesJGQG-vZ&index=4

Variables

A variable is like a container in the computer's memory that allows us to store a value. We store that value with an assignment statement. The complete assignment statement consists of a name, equal sign, and a value we plan to store.

Naming & Creating Variables

Here are some rules for naming a variable. Variables can include letters. Variables can include an underscore. Variables can include numbers but variables cannot start with a number. Also variables cannot contain spaces or special characters.

Naming A Variable

- ▶ Variables can include letters
- ▶ Variables can include an underscore
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- ▶ Variables cannot start with a number
- ▶ Variables cannot contain spaces or special characters

Let's go to PyCharm and create a module. Right click pythonProject, select New, and Python File. A Python file is called a module and the purpose is to organize our Python code. The convention for modules and variables are the same. It contains all lowercase letters. The name will be name_create_variables then Enter. A good variable name is descriptive so it should describe the value. Our first variable is name. The variables are case-sensitive so agE with a capital 'E' is different from age with a lowercase 'e'. There are 2 ways to write a variable that has more than 1 word. Some people use camelCase by writing a lowercase letter like 'is' followed by a capital letter for every subsequent word like 'Male'. This variable has 2 words called isMale.

The second way is separating all words with an underscore full_name. I use both ways but most of the times I use an underscore to separate the words. Personally, I believe an underscore improves readability. Another word to write for a variable is a constant. A constant has all capital letters like PI. That's an indicator that the constant has a value that will not change. We also separate constants with an underscore if it has 2 words.

I like Math. Math was favorite subject in school. PI is a constant that has a value equal to 3.14. The equal sign is an assignment operator and 3.14 is the value. A variable is initialized when a value is stored in it the first time. Let's create some more variables. full_name = "Rex Allen Jones II", isMale = True, age = 34, and name = 'Rex'. Did you notice how the quotes for name and full_name are different? name is located inside single quotes and full_name is located inside double quotes. Either way is okay. Let's print the values:

`print(name), print(age), print(isMale), print(full_name), print(PI).`

```
name = 'Rex'
age = 34
isMale = True
full_name = "Rex Allen Jones II"
PI = 3.14

print(name)
print(age)
print(isMale)
print(full_name)
print(PI)
```

Let's hover print and the description states "Prints the value to a stream". In other words, the value will show up in the Console. Let's Run. The Console shows each value for name, age, isMale, full_name, and PI.

- name shows Rex
- age is 34
- isMale True
- full_name Rex Allen Jones II and
- PI is 3.14

If you want to, you can combine the variables. For example, age can be combined to name by adding a comma after the variable name and age. Then the value get placed after adding a comma 34. Now, let's change the previous value to 43. Do you have any idea what value will show up for age? Will it be 34 or 43. Let's Run. The value that shows up for age is 43. 43 is the value because Age it was initialized to 34 but assigned a new value of 43. This is what we call overwriting the variable. The old value is gone and forgotten. That's it for naming and creating variables.

```
Rex  
43  
True  
Rex Allen Jones II  
3.14
```

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