Welcome to the
Web Application Development with Python L-4
Training Program

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Web Application Development with Python

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Lecture

1-2

- ✓ Introduction to Python
- ✓ Python Variables

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Python Start

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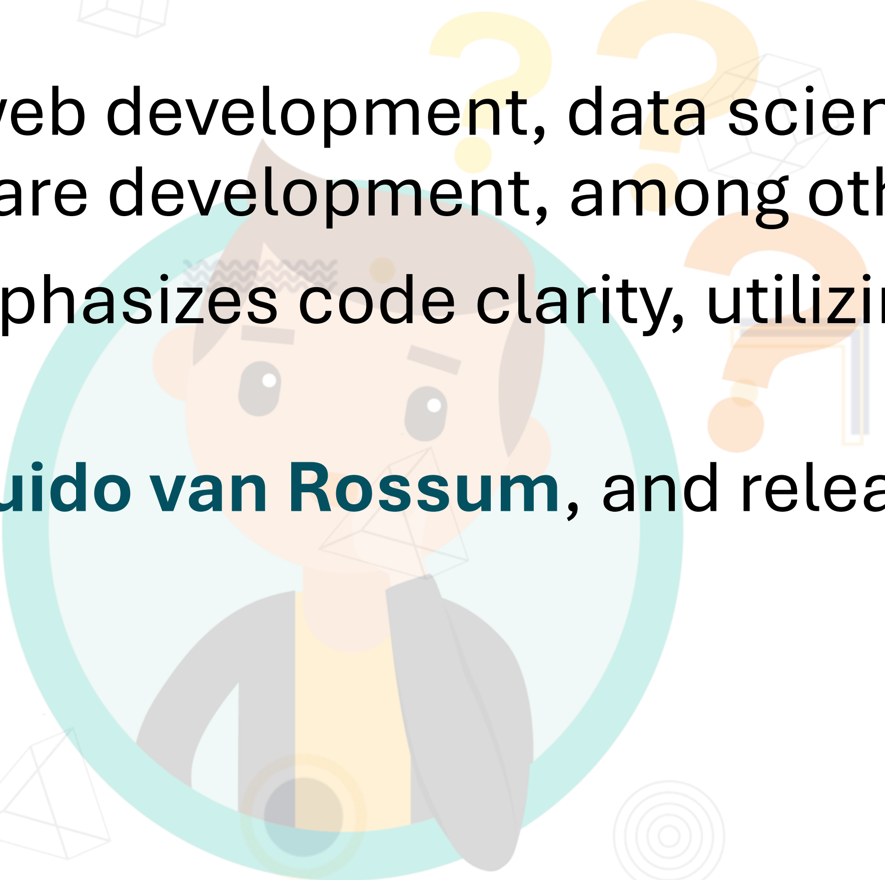
What is Python?

- Python is an interpreted, object-oriented, high-level programming language.
- It's widely used in web development, data science, machine learning, and software development, among other applications.
- Python's design emphasizes code clarity, utilizing significant indentation.
- It was created by **Guido van Rossum**, and released in **1991**.



Why Python?

- Simple and Easy to Learn
- Versatility
- Free & Open Sources
- Portable: Works on Linux/Windows/Mac
- Strong Community
- Career Opportunities

Is it worth learning Python in this time?

Career Opportunities of Python

- Web Development
- Game Development
- Data Science & Analytics
- Machine Learning & AI
- Automation
- IOT & Robotic
- Cybersecurity
- Scientific Computing
- Cloud Computing
- Research & Development
- Software Development

Requirements for Python

Install

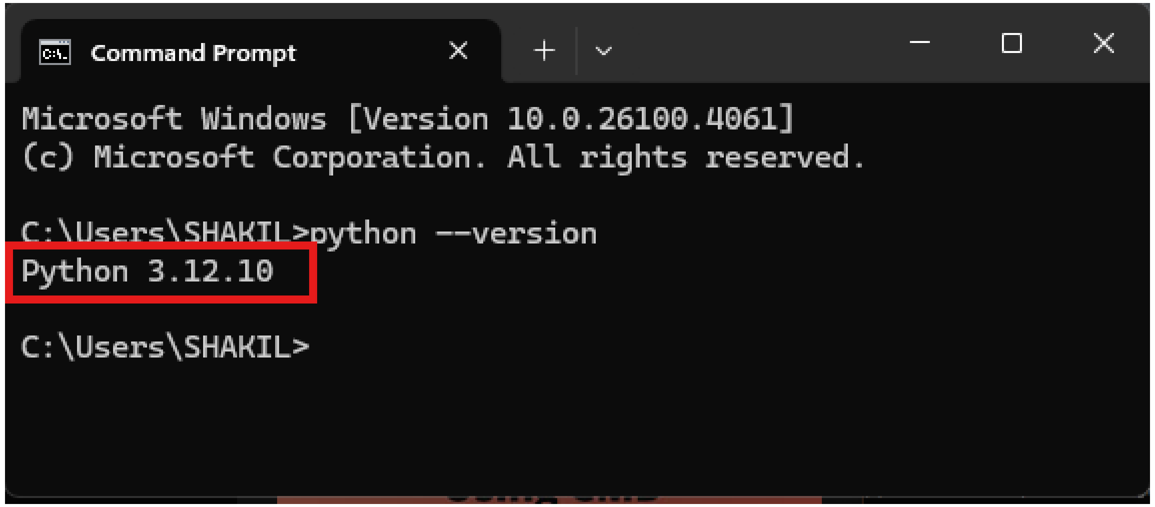
- ✓Python

Code Editor

- ✓VS Code

How to Check Python Install or Not?

- Open Command Prompt (CMD)
- Type: **python --version**

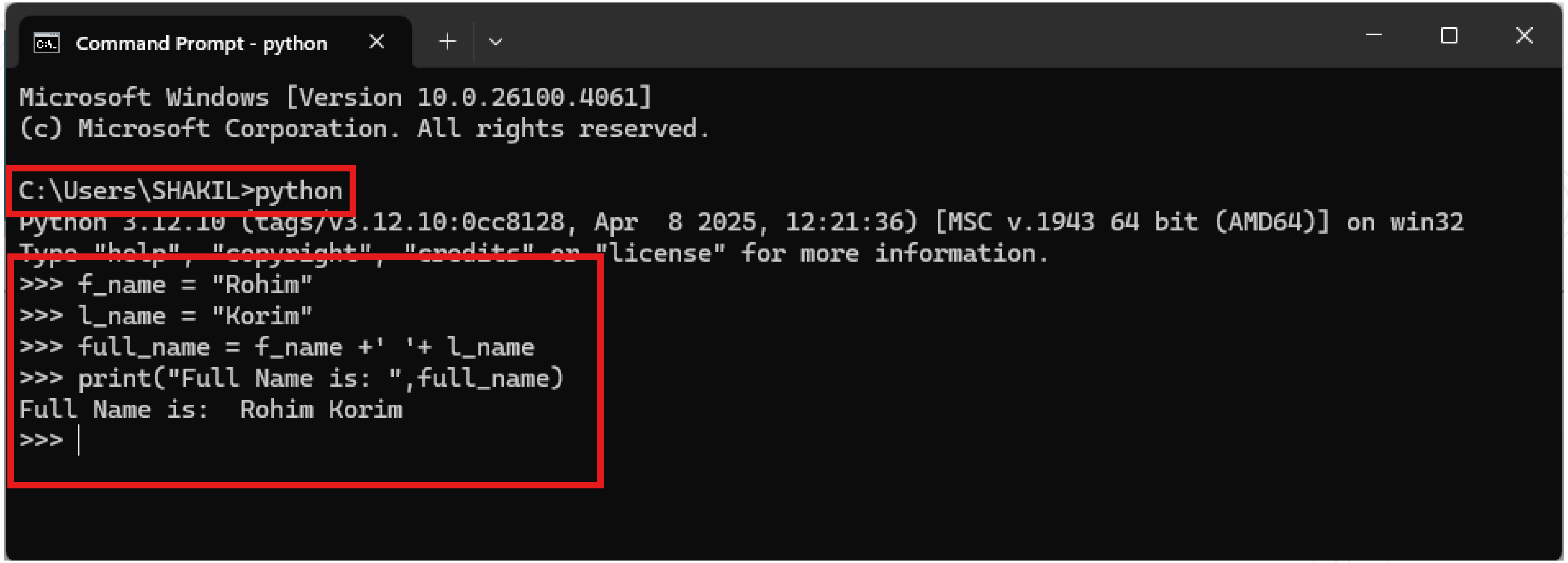


```
Microsoft Windows [Version 10.0.26100.4061]
(c) Microsoft Corporation. All rights reserved.

C:\Users\SHAKIL>python --version
Python 3.12.10

C:\Users\SHAKIL>
```

Write and Execute Python on CMD



```
Microsoft Windows [Version 10.0.26100.4061]
(c) Microsoft Corporation. All rights reserved.

C:\Users\SHAKIL>python
Python 3.12.10 (tags/v3.12.10:0cc8128, Apr  8 2025, 12:21:36) [MSC v.1943 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>> f_name = "Rohim"
>>> l_name = "Korim"
>>> full_name = f_name +' '+ l_name
>>> print("Full Name is: ",full_name)
Full Name is:  Rohim Korim
>>>
```

Python Variables

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Python Variables

❑ **Variables are containers for storing data values.**

❑ **Mutable**

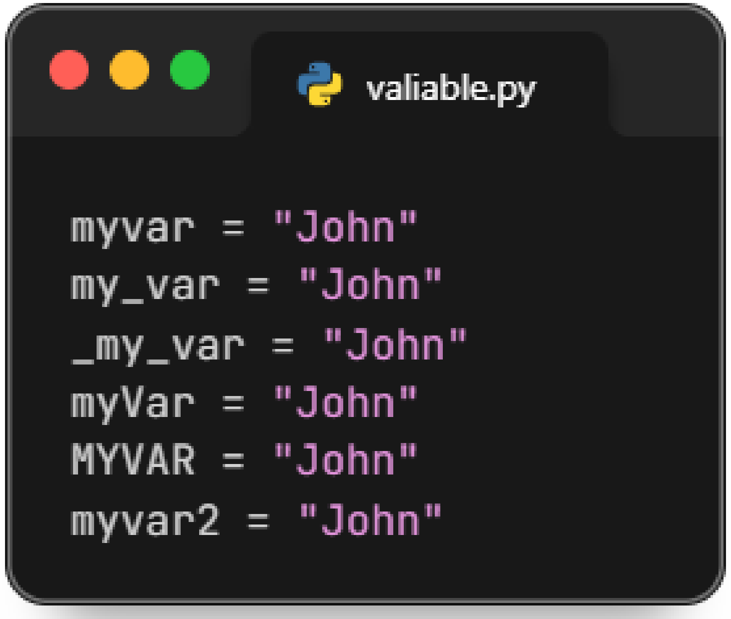
❑ **Volatile**

```
name = “Rohim”  # Assigning a String value
age = 25        # Assigning an Integer value
grade = 89.3    # Assigning a Float value
is_married = True # Assigning a Boolean value
```

Python Variables

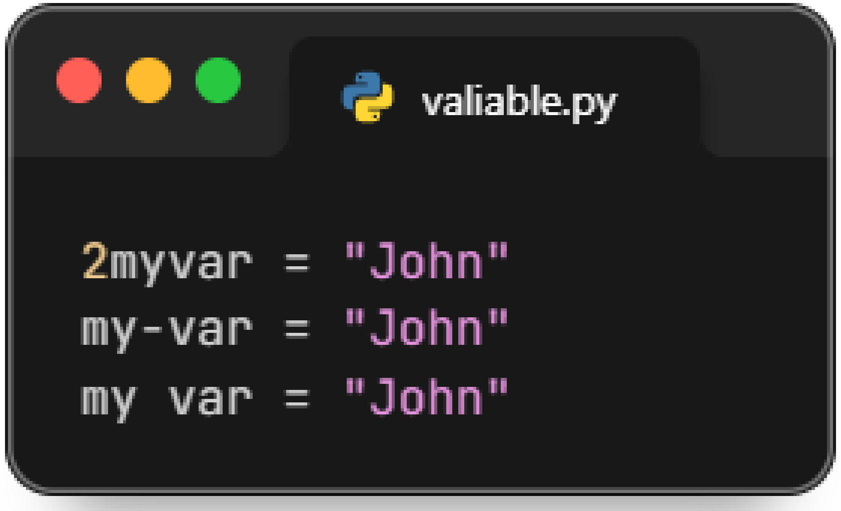
- An identifier can only contain alphanumeric characters (a-z, A-Z, 0-9) and underscores (_). It cannot start with a digit.
- Python is case-sensitive, so myVar and myvar are different identifiers.
- Identifiers cannot be a reserved keyword.
- There is no limit on the length of an identifier, but it's recommended to keep it concise and meaningful.

Example of Valid Variables



```
myvar = "John"
my_var = "John"
_my_var = "John"
myVar = "John"
MYVAR = "John"
myvar2 = "John"
```

Example of Invalid Variables

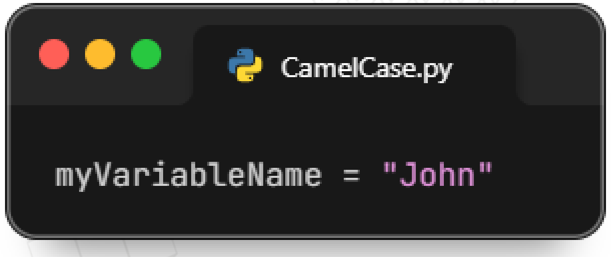


```
2myvar = "John"
my-var = "John"
my var = "John"
```

Multi Word Variable Names

Camel Case:

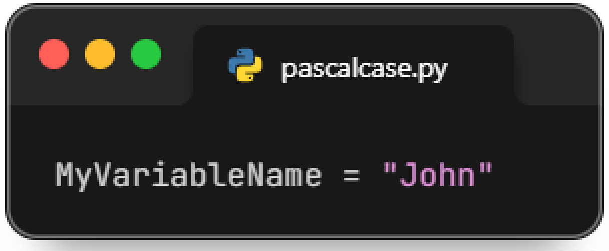
- Each word, except the first, starts with a capital letter:



```
myVariableName = "John"
```

Pascal Case:

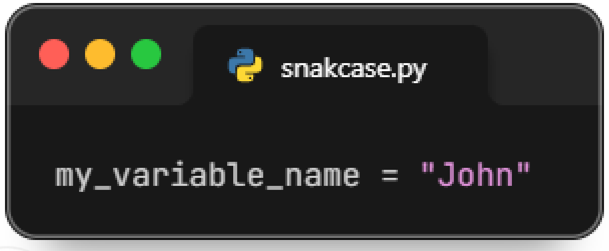
- Each word starts with a capital letter:



```
MyVariableName = "John"
```

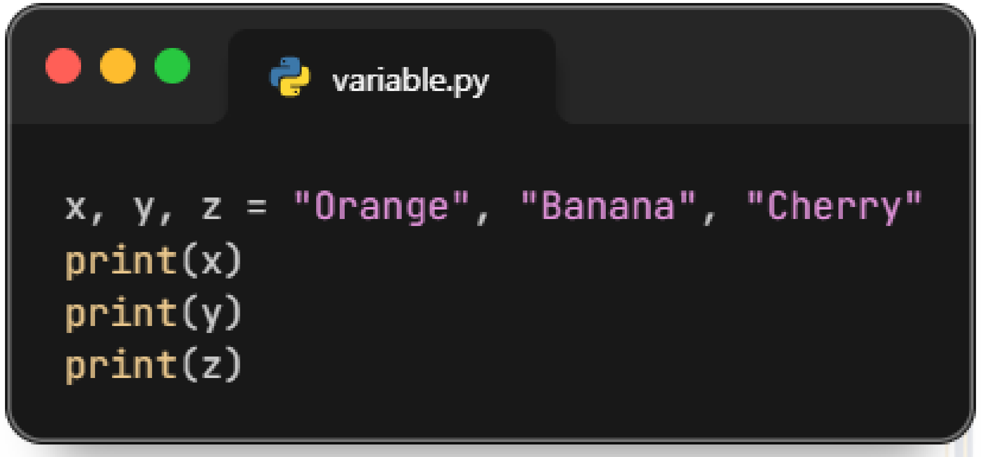
Snake Case

- Each word is separated by an underscore character:



```
my_variable_name = "John"
```

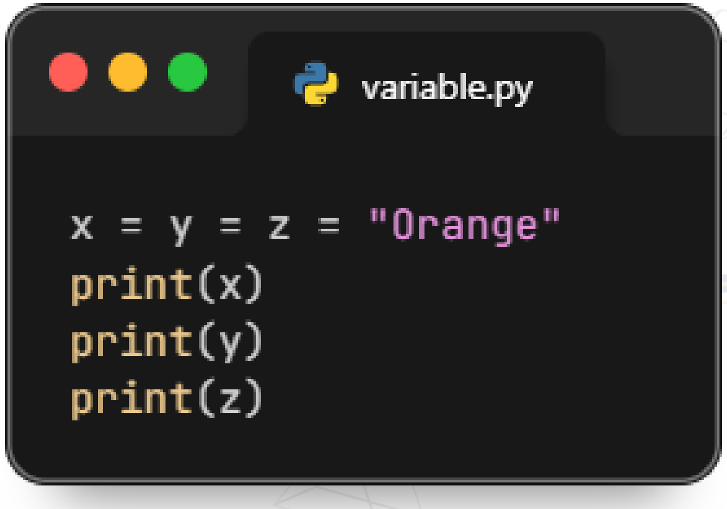
Many Value to Multiple Variables



```python
x, y, z = "Orange", "Banana", "Cherry"
print(x)
print(y)
print(z)
```

Note: Make sure the number of variables matches the number of values, or else you will get an error.

One Value to Multiple Variables

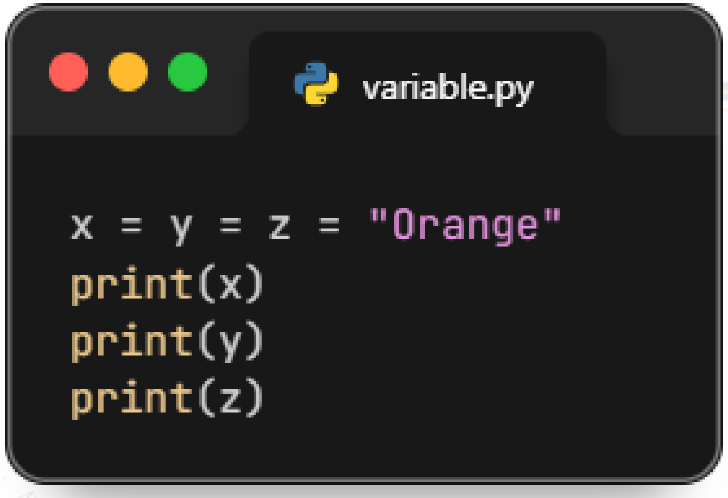


variable.py

```
x = y = z = "Orange"
print(x)
print(y)
print(z)
```

Global Variables

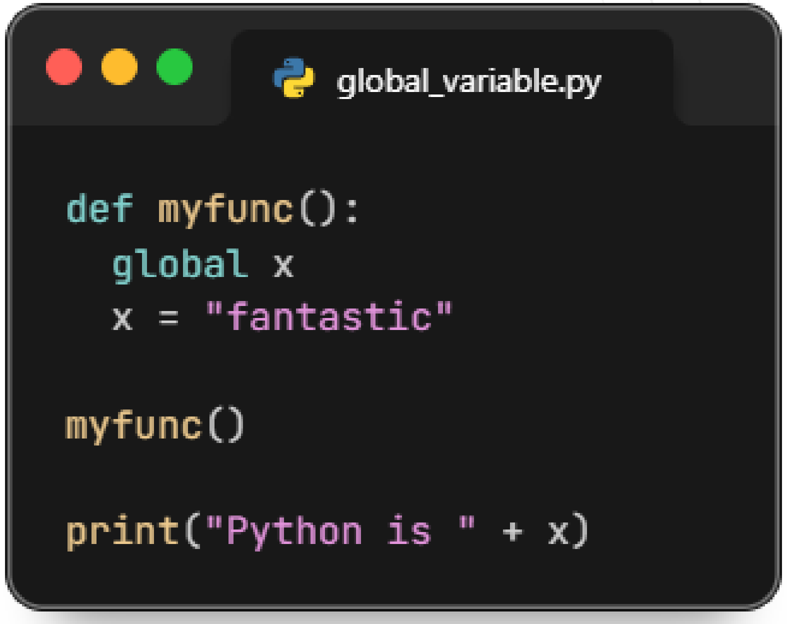
- Global variables can be used by everyone, both inside of functions and outside.
- Variables that are created outside of a function are known as global variables.



```
x = y = z = "Orange"
print(x)
print(y)
print(z)
```

Global Variables by Global Keyword

- If you use the global keyword, the variable belongs to the global scope:



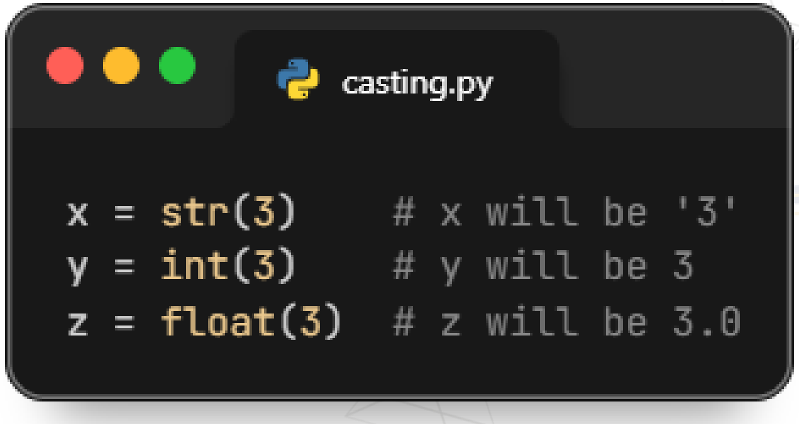
```
def myfunc():
  global x
  x = "fantastic"

myfunc()

print("Python is " + x)
```

Variable Casting

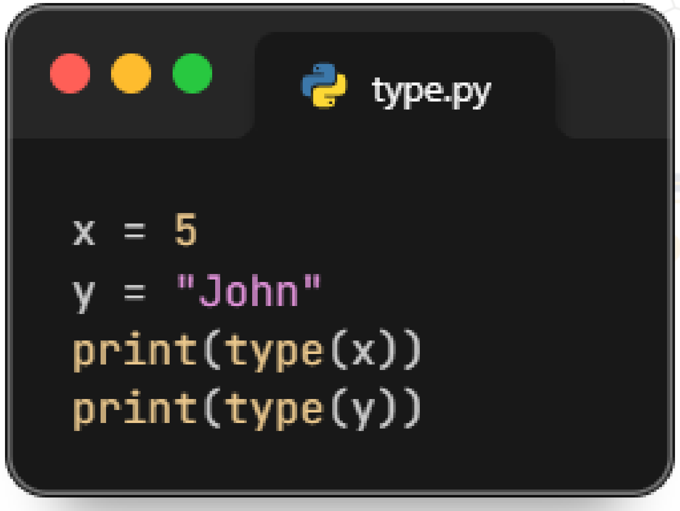
- If you want to specify the data type of a variable, this can be done with casting.



```
x = str(3)    # x will be '3'
y = int(3)    # y will be 3
z = float(3)  # z will be 3.0
```

Variable Type

- If you want to specify the data type of a variable, this can be done with casting.



```python
x = 5
y = "John"
print(type(x))
print(type(y))
```

Thanks All

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