Python __str__

Summary: in this tutorial, you'll learn how to use the Python `__str__` method to make a string representation of a class.

Introduction to the Python __str__ method

Let's start with the `Person` class (https://www.pythontutorial.net/python-oop/python-class/) :

```
class Person:
    def __init__(self, first_name, last_name, age):
        self.first_name = first_name
        self.last_name = last_name
        self.age = age
```

The `Person` class has three instance attributes (https://www.pythontutorial.net/python-oop/python-instance-variables/) including `first_name` , `last_name` , and `age` .

The following creates a new instance of the `Person` class and display it:

```
person = Person('John', 'Doe', 25)
print(person)
```

Output:

```
<__main__.Person object at 0x0000023CA16D13A0>
```

When you use the `print()` function to display the instance of the `Person` class, the `print()` function shows the memory address of that instance.

Sometimes, it's useful to have a string representation of an instance of a class. To customize the string representation of a class instance, the class needs to implement the `__str__` magic method.

Internally, Python will call the `__str__` method automatically when an instance calls the `str()` method.

Note that the `print()` function converts all non-keyword arguments to strings by passing them to the `str()` before displaying the string values.

The following illustrates how to implement the `__str__` method in the `Person` class:

```
class Person:
    def __init__(self, first_name, last_name, age):
        self.first_name = first_name
        self.last_name = last_name
        self.age = age

    def __str__(self):
        return f'Person({self.first_name},{self.last_name},{self.age})'
```

And when you use the `print()` function to print out an instance of the `Person` class, Python calls the `__str__` method defined in the `Person` class. For example:

```
person = Person('John', 'Doe', 25)
print(person)
```

Output:

```
Person(John,Doe,25)
```

Summary

- Implement the `__str__` method to customize the string representation of an instance of a class.