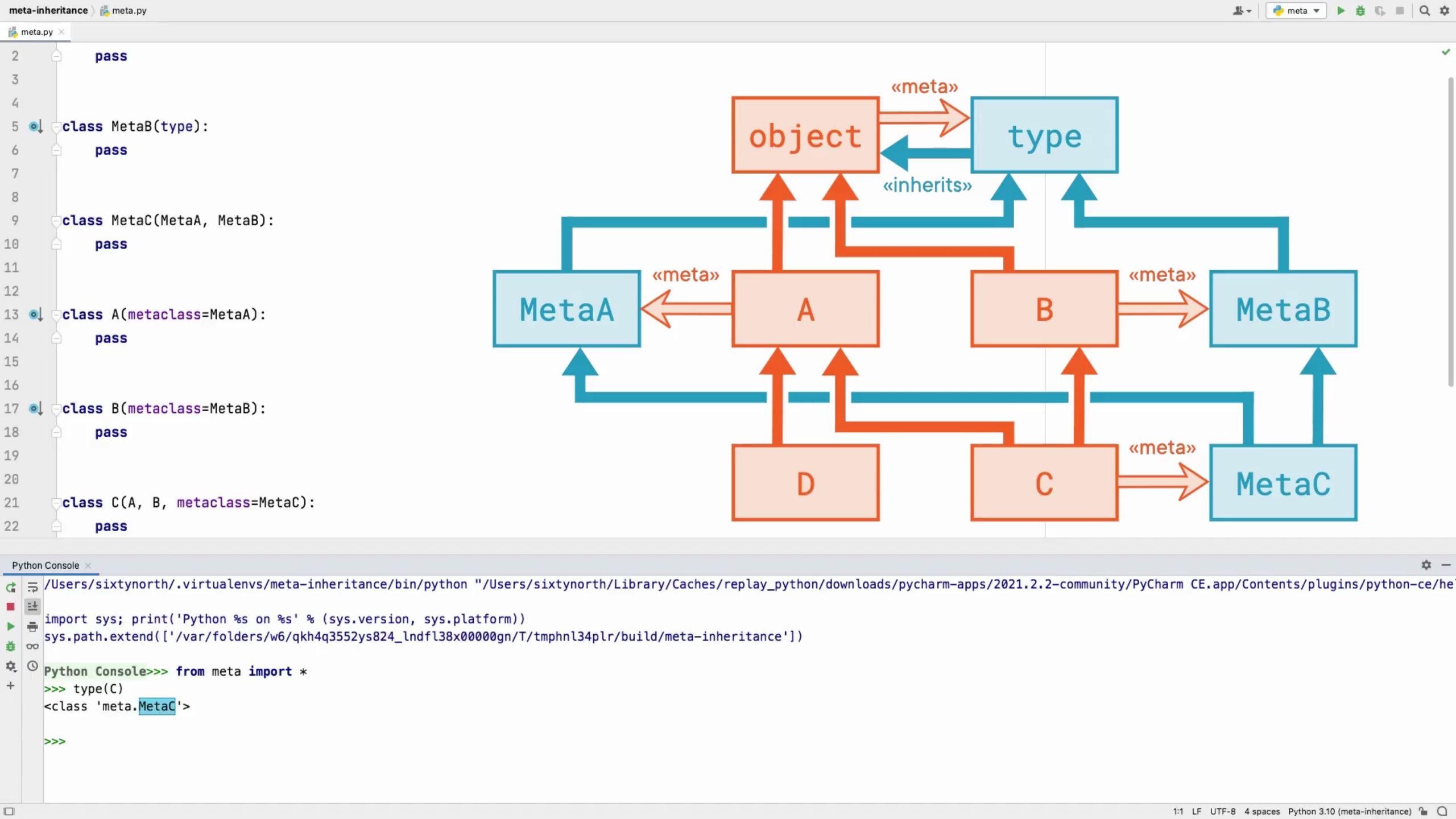
#### Metaclasses and Inheritance

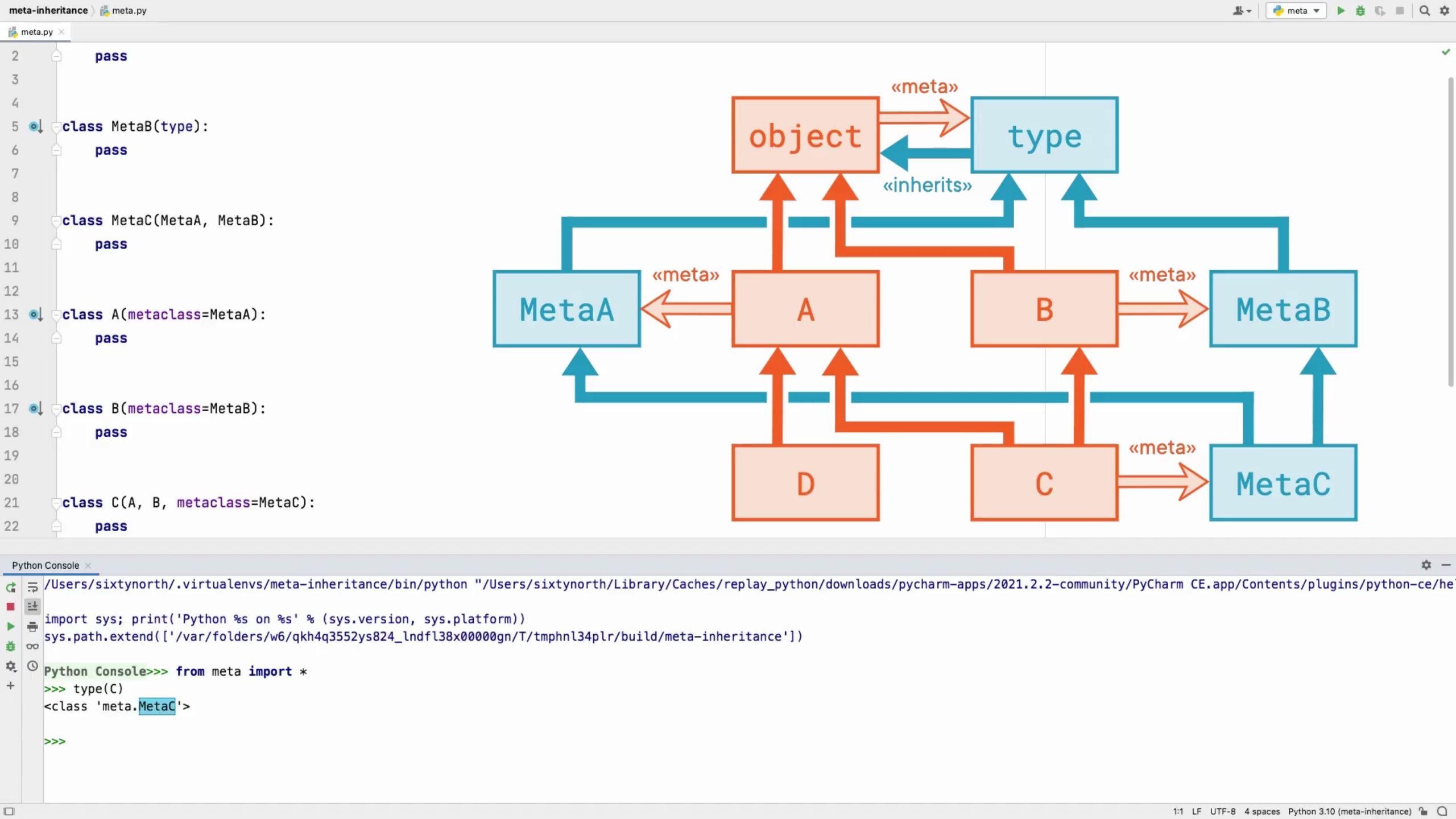


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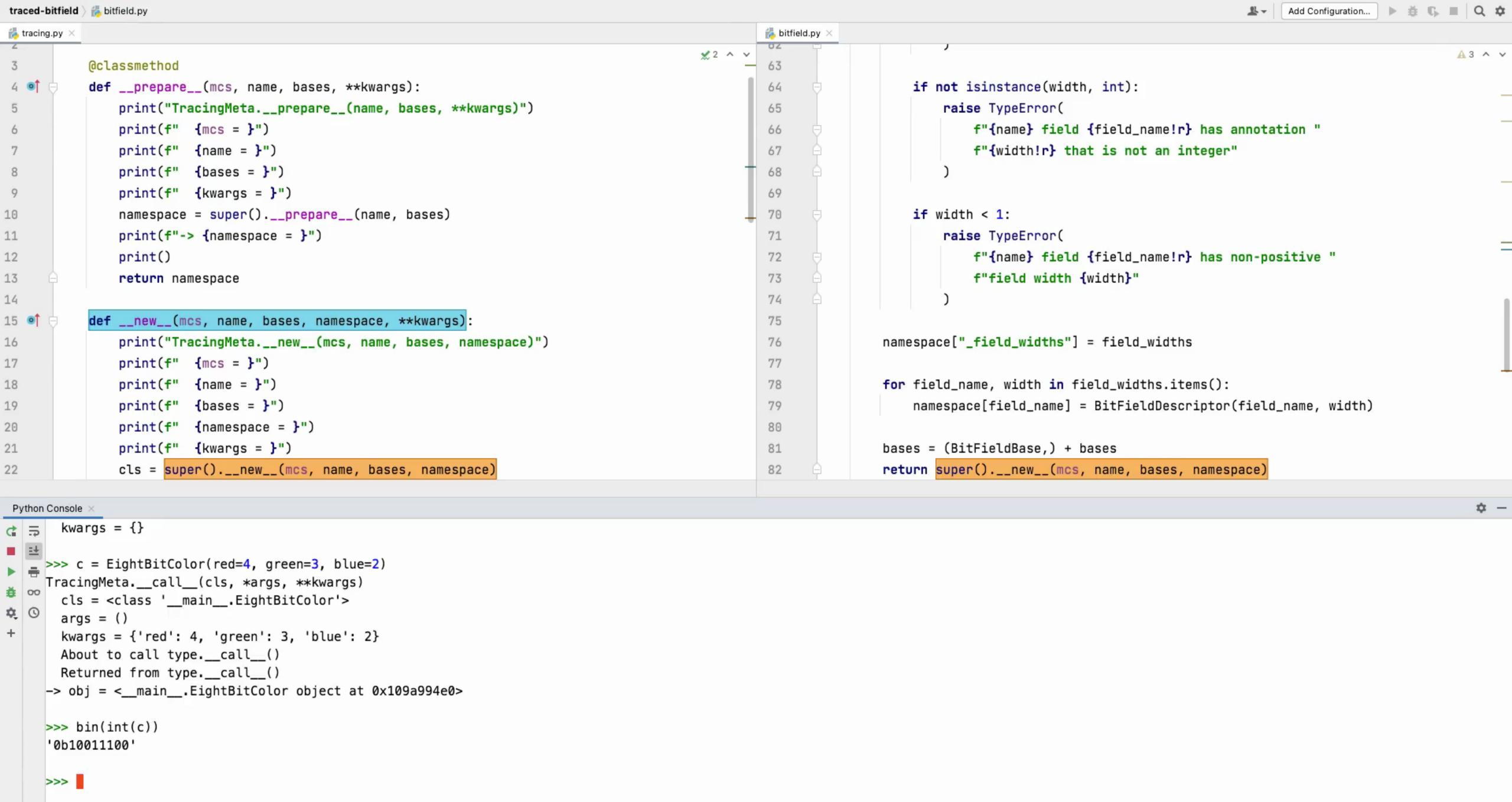


#### Composable Metaclasses

```
class ProhibitDuplicatesMeta(type):
    @classmethod
    def __prepare__(mcs, name, bases):
        return OneShotNamespace(name)
class PhasedMeta(type):
    def __call__(cls, *args, **kwargs):
        obj = cls.__new__(cls, *args, **kwargs)
        obj._pre_init(*args, **kwargs)
        obj.__init__(*args, **kwargs)
        obj._post_init(*args, **kwargs)
        return obj
```

class PhasedProhibitDuplicatesMeta(ProhibitDuplicatesMeta, PhasedMeta):
 pass

Use super () diligently for composable metaclasses





# Our Core Python Courses on Pluralsight

**Getting Started** 

**Organizing Larger Programs** 

Functions and Functional Programming

Classes and Object-orientation

**Robust Resource and Error Handling** 

Introspection

**Numeric Types, Dates, and Times** 

Implementing Iterators, Iterables and Collections

**Advanced Flow Control** 

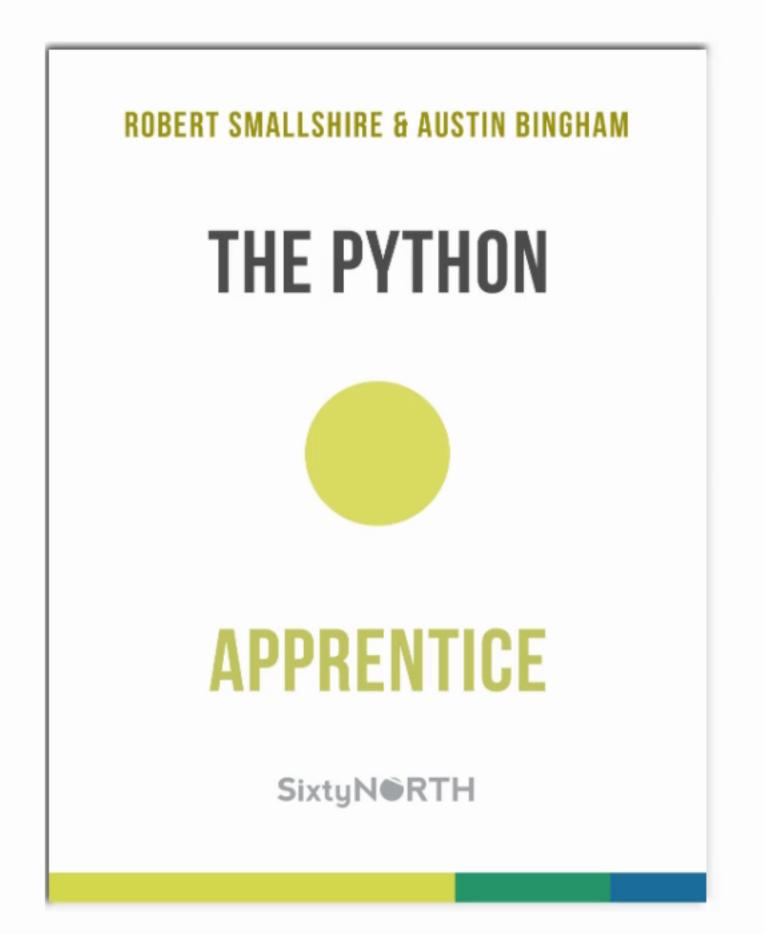
**Byte-oriented Programming** 

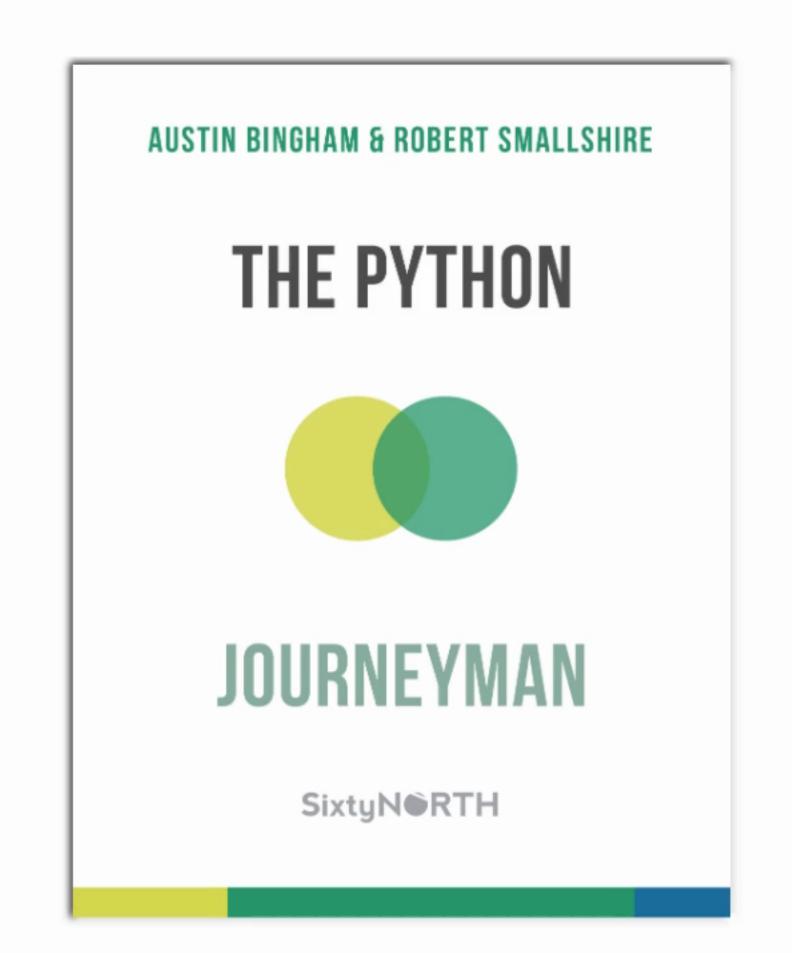
**Custom Attributes and Descriptors** 

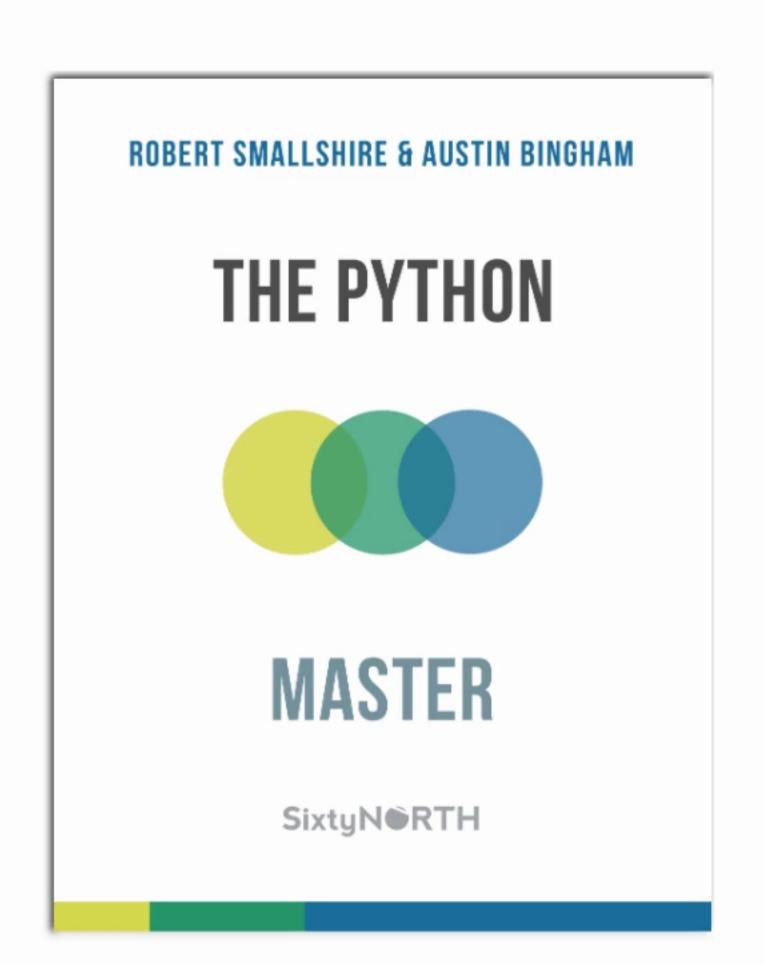
**Abstract Base Classes** 

by Austin Bingham & Robert Smallshire

### The Python Craftsman







leanpub.com/b/python-craftsman

#### Summary



All classes have a metaclass which is the type of the class object.

The default type of class objects is type.

The metaclass processes the class definition into a class object.

The \_\_prepare\_\_ method must return a namespace mapping.

The \_\_new\_\_ method must allocate and return a class object.

The \_\_init\_\_ method can be used to configure a class object.

The \_\_call\_\_ method is the constructor for instances.

#### Summary



Use \_\_init\_subclass\_\_ to register subclasses.

Metaclasses are inherited.

Only one metaclass per class.

Strict rules control how multiple metaclasses interact.

Use super() to build cooperative metaclasses.

Well done!

## Happy Programming!

