Welcome to

The Complete pytest Course

by Brian Okken

pytest is Awesome!

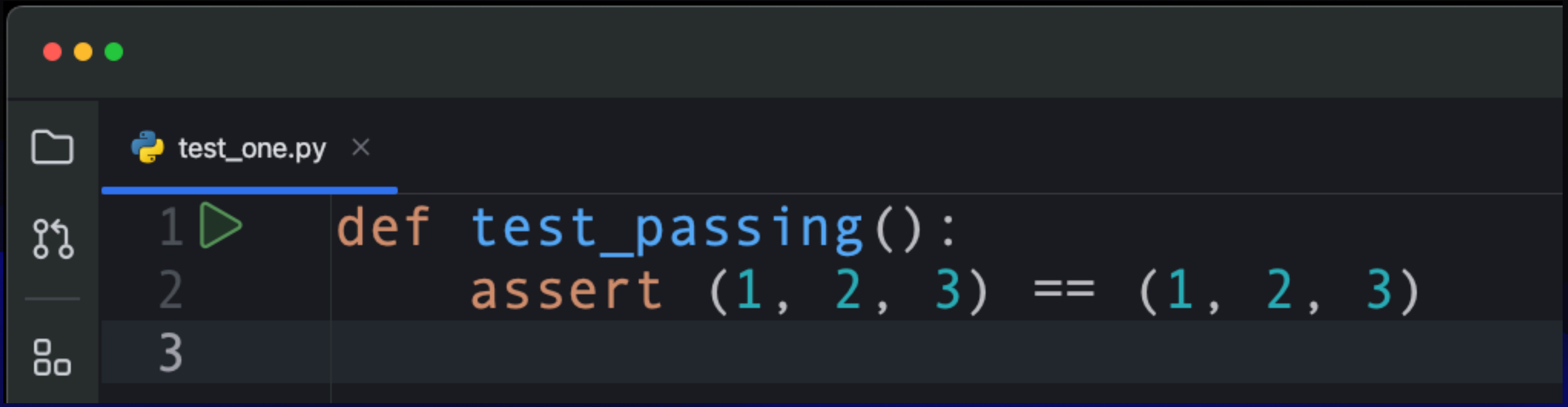
Lots of reasons to love pytest

- No classes required
- Simple assert statements
- Fixtures rock
- Parametrization is awesome
- Plugins extend features

More reasons to love pytest

- Simple tests are simple to write
- Complex tests are still simple to write
- Tests are easy to read
- You can use pytest to run unittest tests
- You can get started in seconds

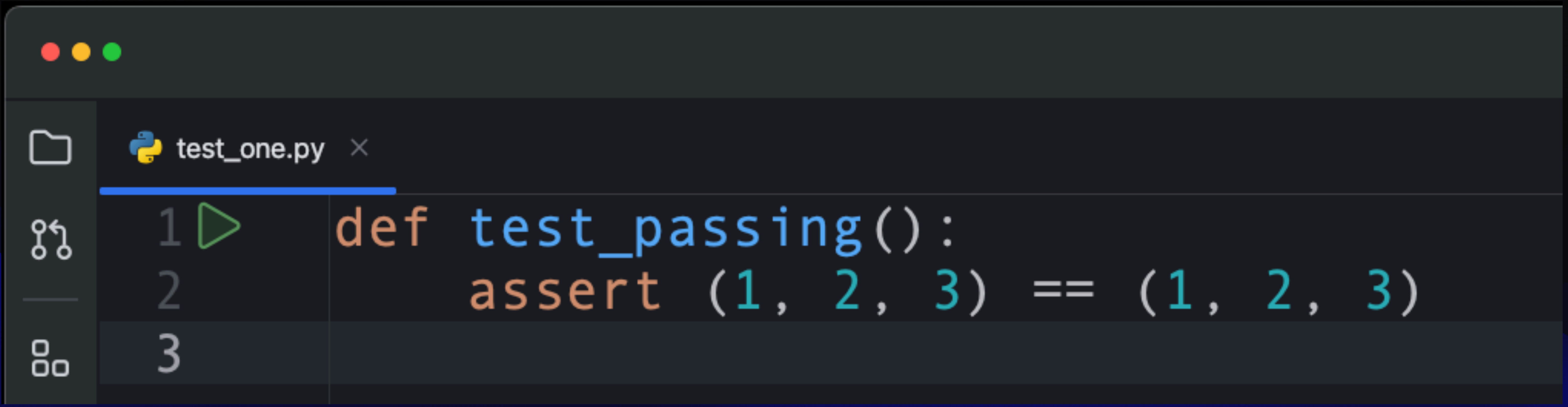
You can get started in seconds



```python
def test_passing():
    assert (1, 2, 3) == (1, 2, 3)

```

You can get started in seconds



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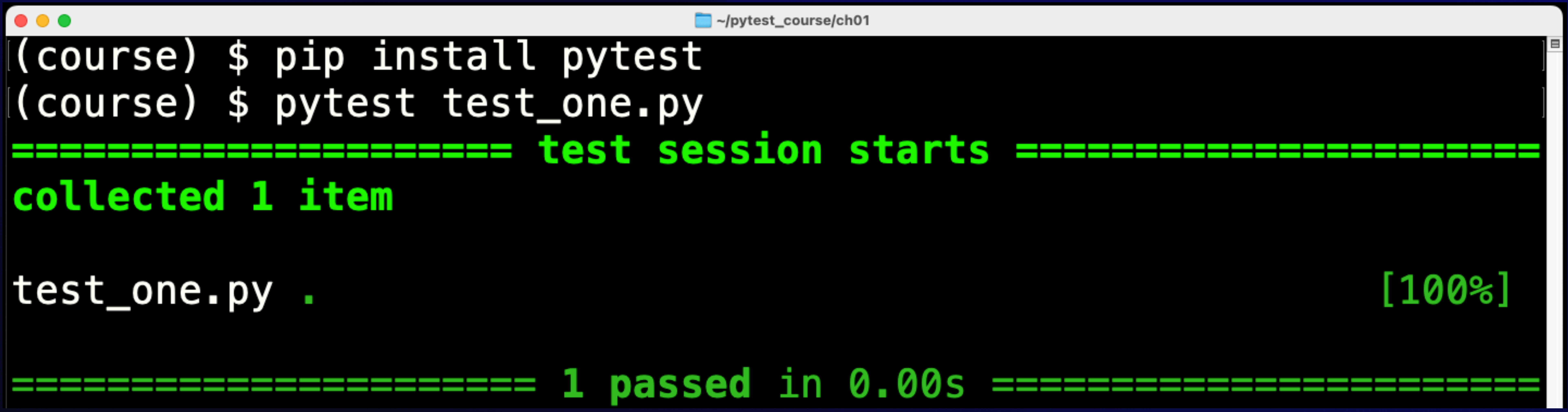


```
(course) $ pip install pytest
(course) $ pytest test_one.py
======================== test session starts =========================
collected 1 item

test_one.py .                                                   [100%]

========================= 1 passed in 0.00s ==========================
```

But to use pytest effectively …

Test Functions

Test Fixtures

Command line flags

assert helper functions

Parametrized Tests

Parametrized Fixtures

GitHub Actions

Reporting

Testing Applications

pytest.ini

conftest.py

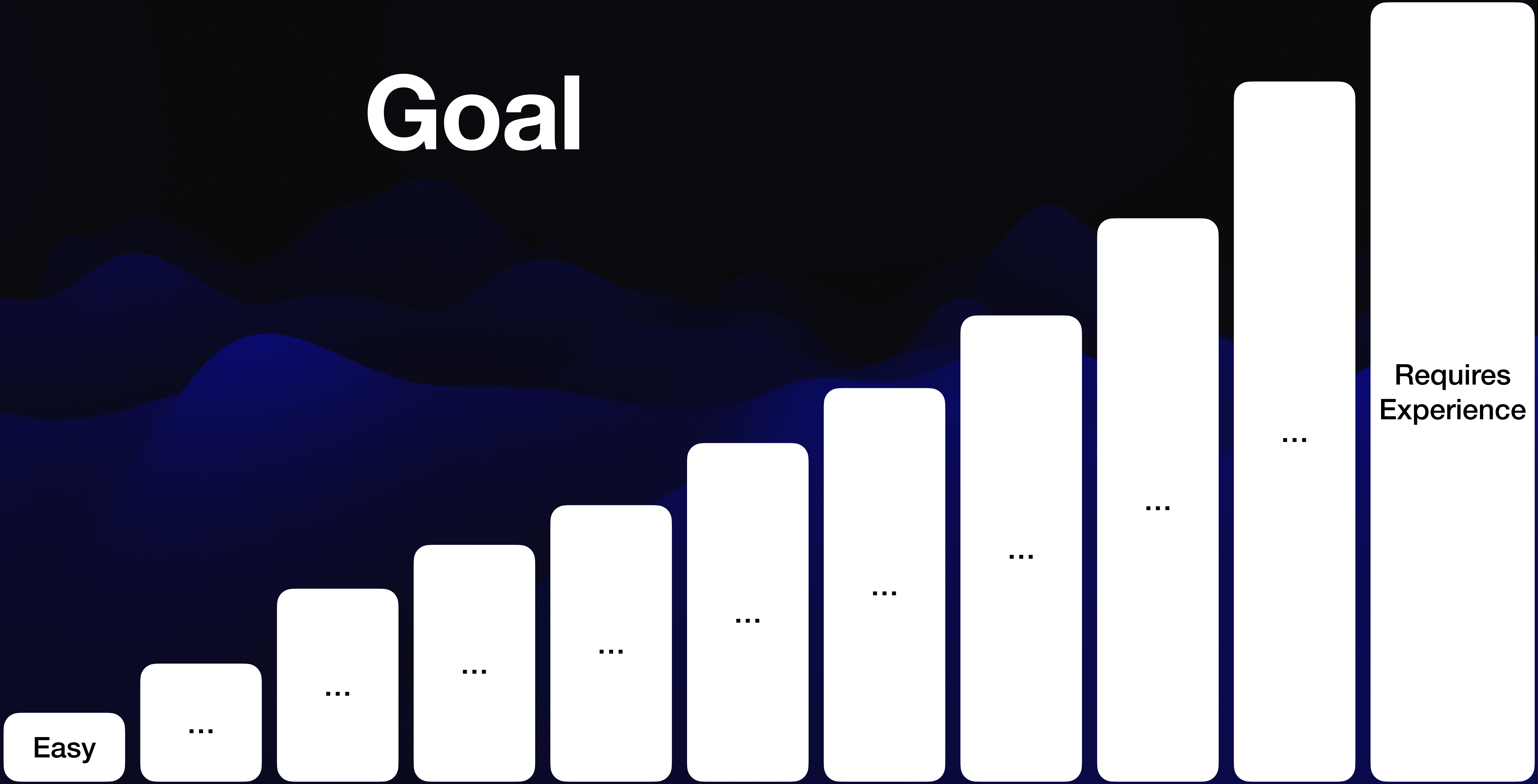
tox

PYTHONPATH

Using Plugins

Building Plugins

Goal



Easy

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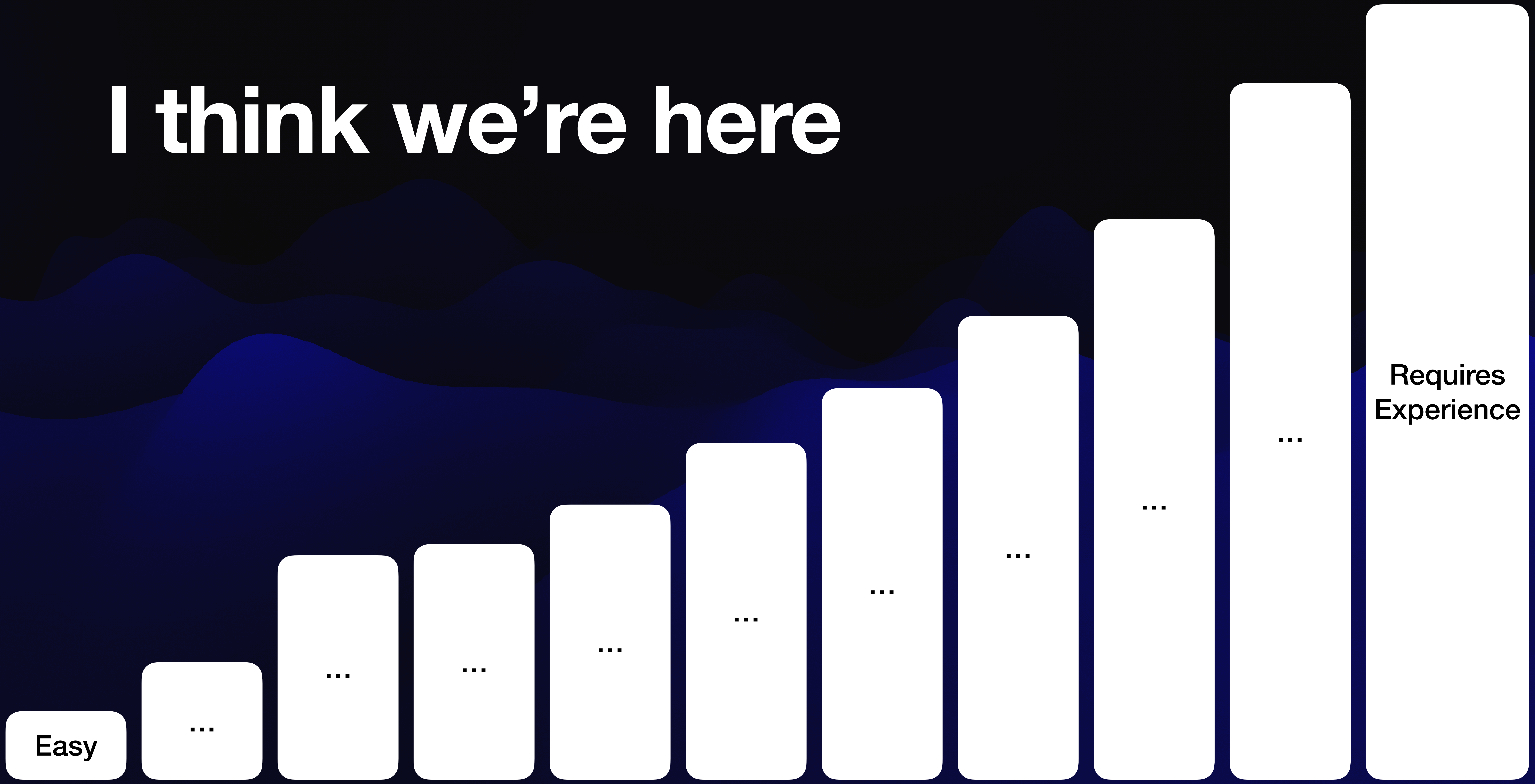
Requires Experience

I think we’re here



Easy

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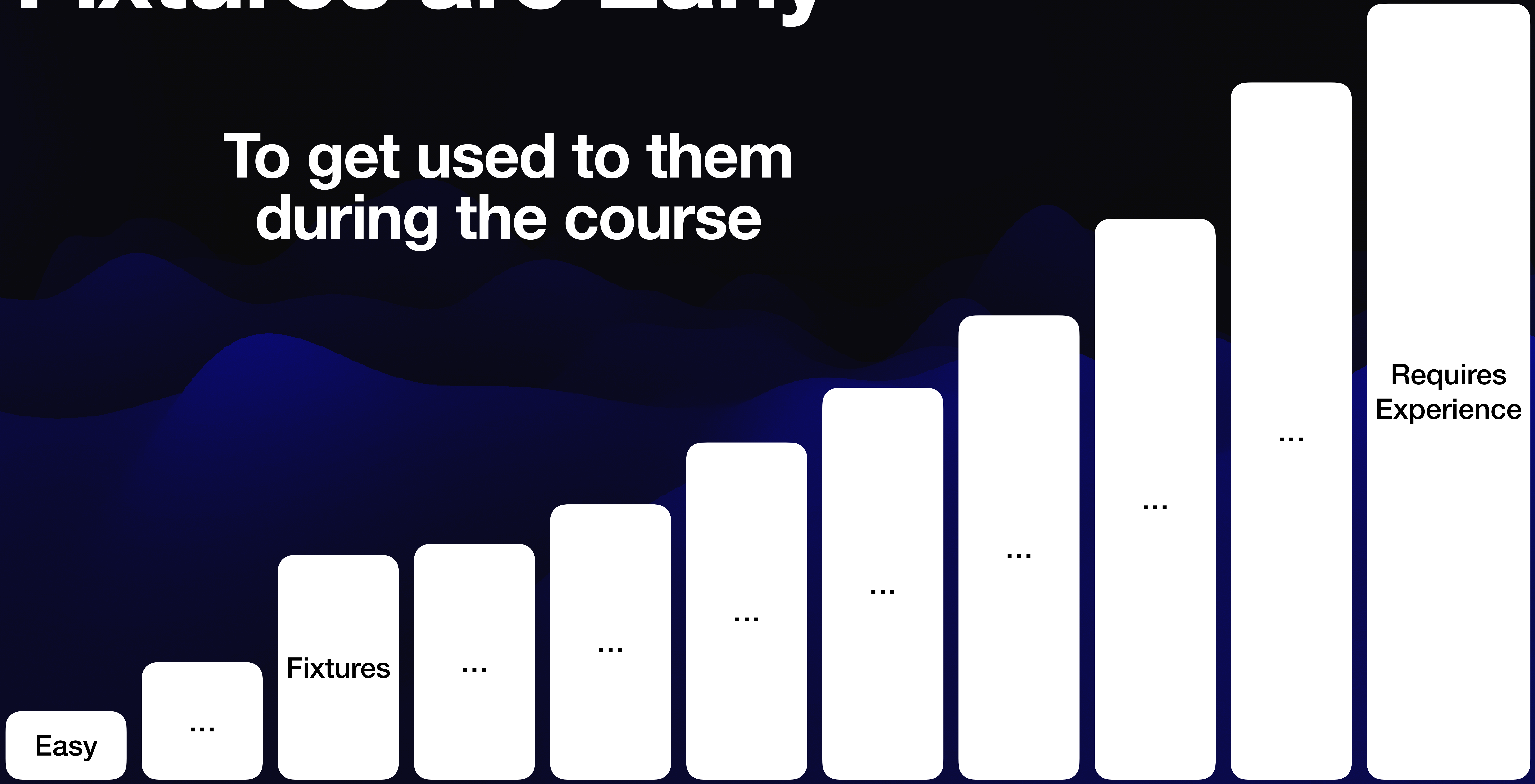
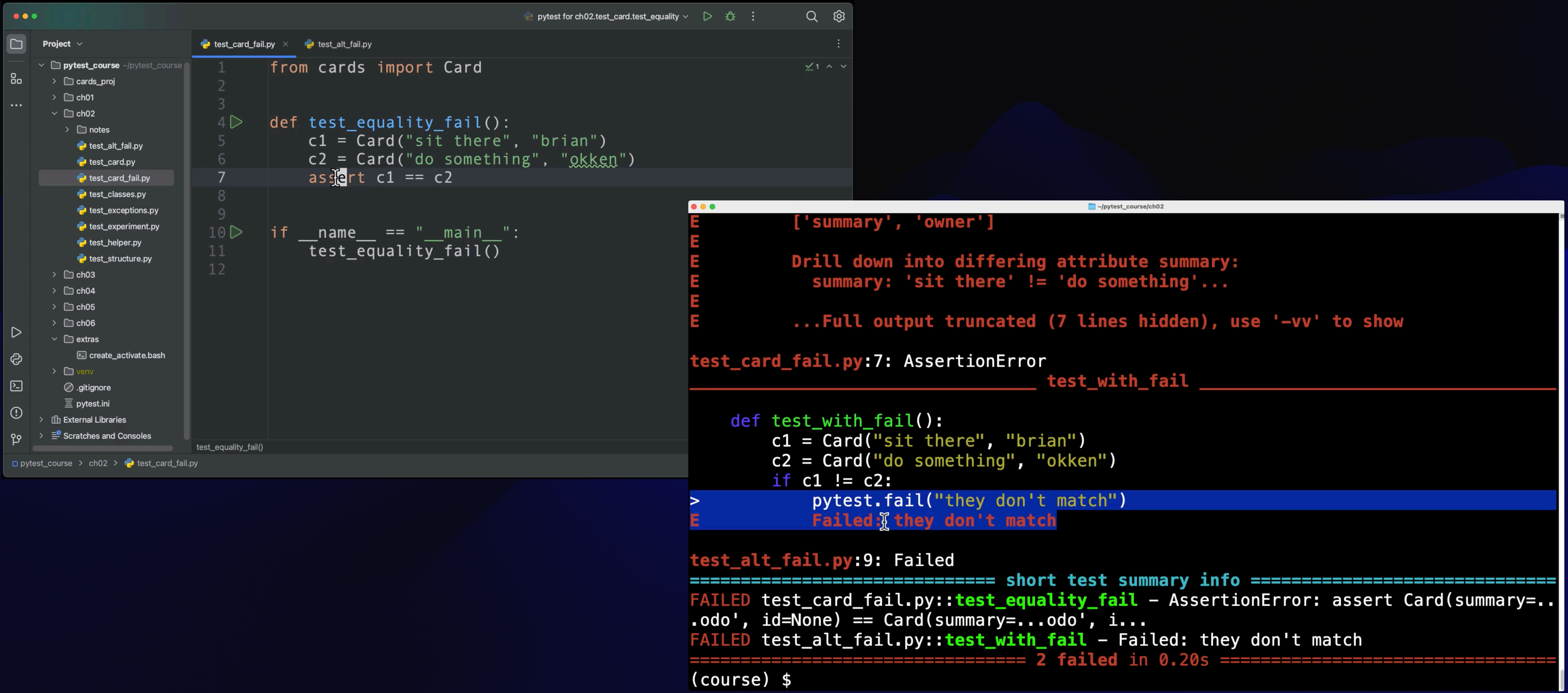
Requires Experience

Fixtures are Early

To get used to them during the course



pytest in action



```python
from cards import Card


def test_equality_fail():
    c1 = Card("sit there", "brian")
    c2 = Card("do something", "okken")
    assert c1 == c2


if __name__ == "__main__":
    test_equality_fail()
```

```
E         ['summary', 'owner']
E
E         Drill down into differing attribute summary:
E           summary: 'sit there' != 'do something'...
E
E         ...Full output truncated (7 lines hidden), use '-vv' to show

test_card_fail.py:7: AssertionError
__________________________________ test_with_fail __________________________________

    def test_with_fail():
        c1 = Card("sit there", "brian")
        c2 = Card("do something", "okken")
        if c1 != c2:
>           pytest.fail("they don't match")
E           Failed: they don't match

test_alt_fail.py:9: Failed
============================== short test summary info ===============================
FAILED test_card_fail.py::test_equality_fail - AssertionError: assert Card(summary=..
.odo', id=None) == Card(summary=...odo', i...
FAILED test_alt_fail.py::test_with_fail - Failed: they don't match
================================= 2 failed in 0.20s ==================================
(course) $
```

+ Community

- Private GitHub Repo
- Private GH Discussion Forum
- Private Slack Channel

Part 1: Primary Power
Chapters 1-6

- Test Functions
- Test Fixtures
- Builtin Fixtures
- Parametrization
- Markers

Part 2: Working With Projects
Chapters 7-13

- Testing Scripts and Applications
- Debugging
- Testing Strategy
- Test Coverage
- Mocking
- Continuous Integration
- Config Files

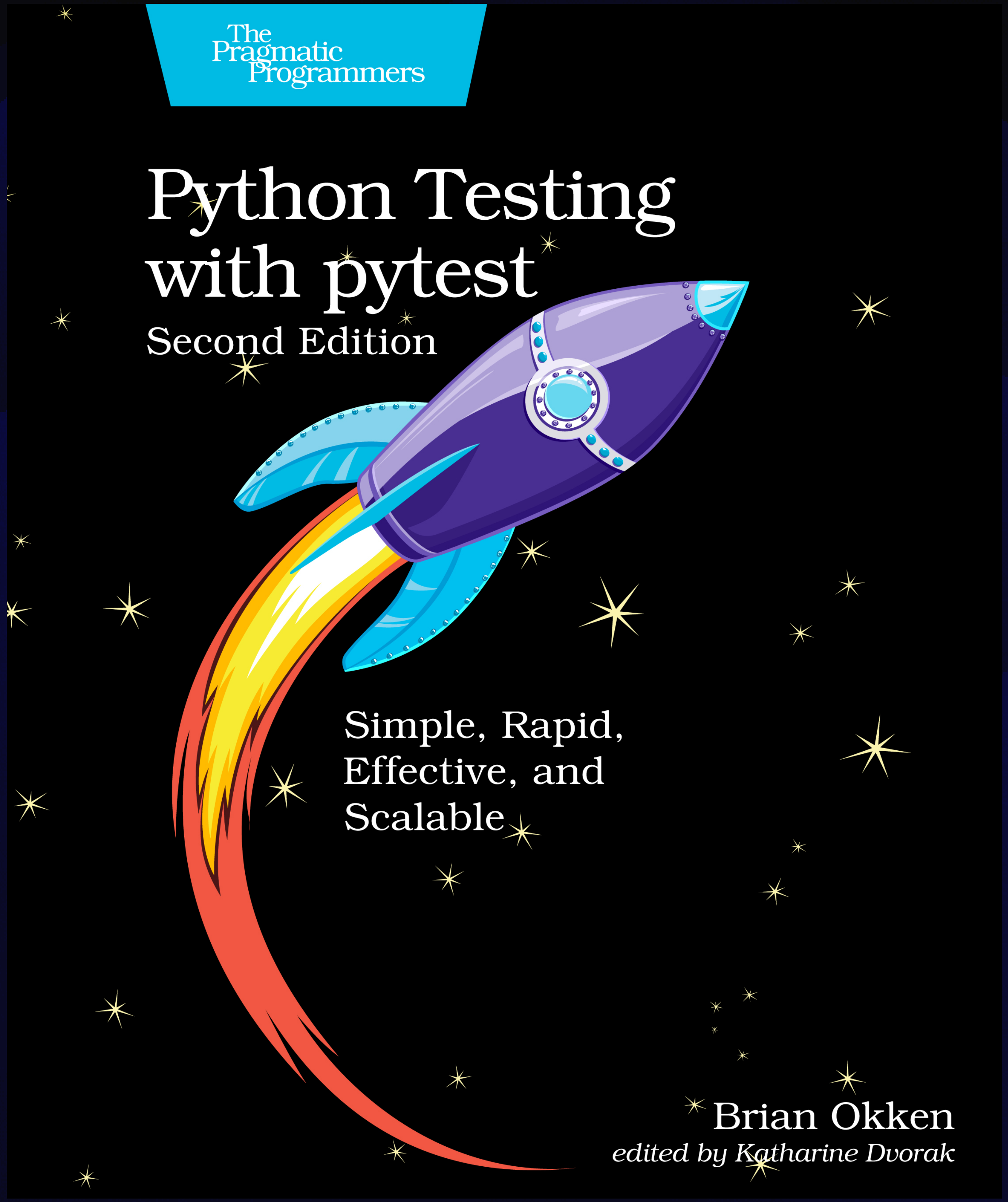
pytest

Part 3: Booster Rockets
Chapters 14-16

pytest

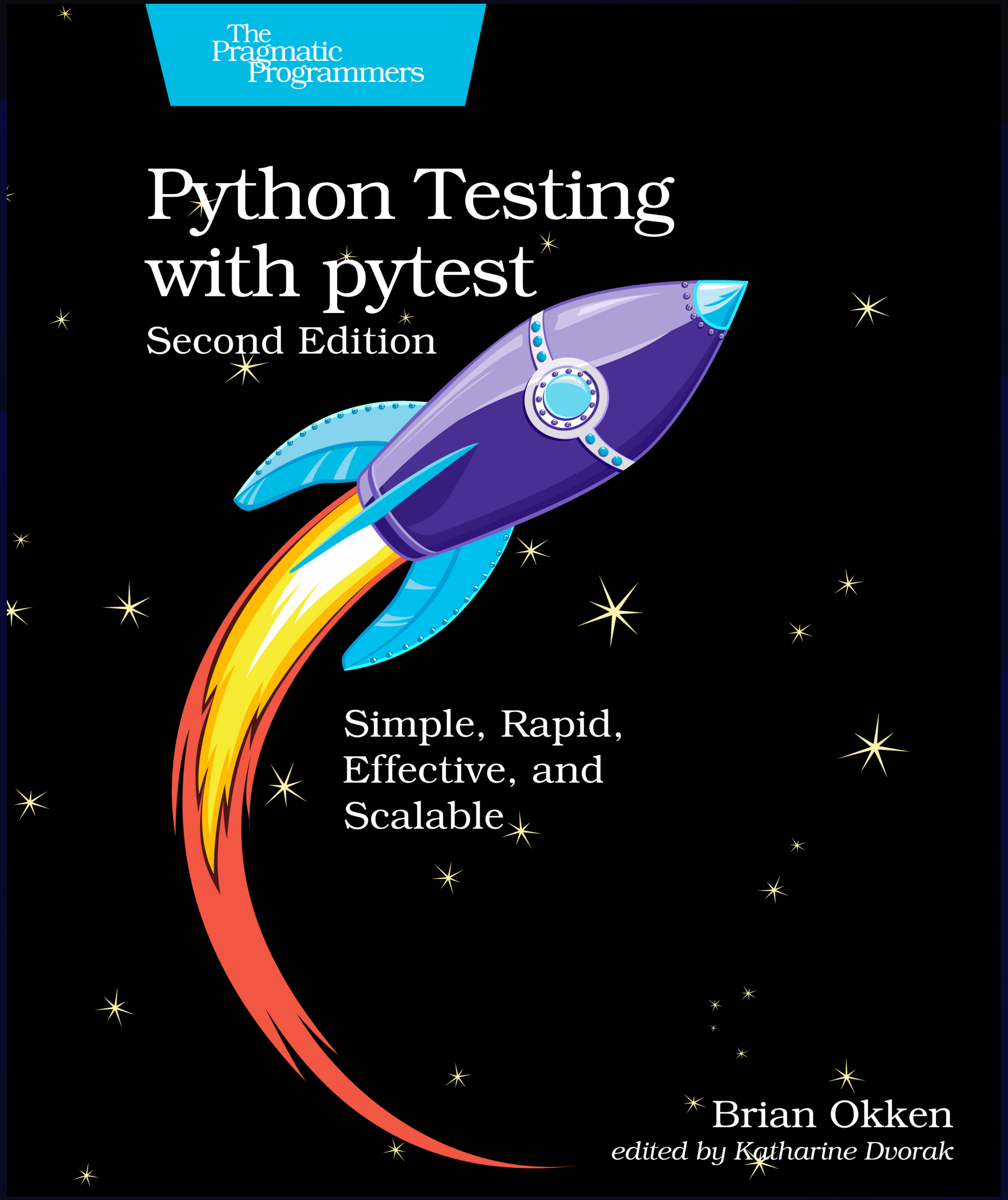
- Third-Party Plugins
- Building Plugins
- Advanced Parametrization

Relationship to the pytest book


The Pragmatic Programmers
Python Testing with pytest
Second Edition
Simple, Rapid, Effective, and Scalable
Brian Okken
edited by Katharine Dvorak

- Early chapters are close
- Many later sections have been updated
- Course will stay as current as possible

Relationship to the pytest book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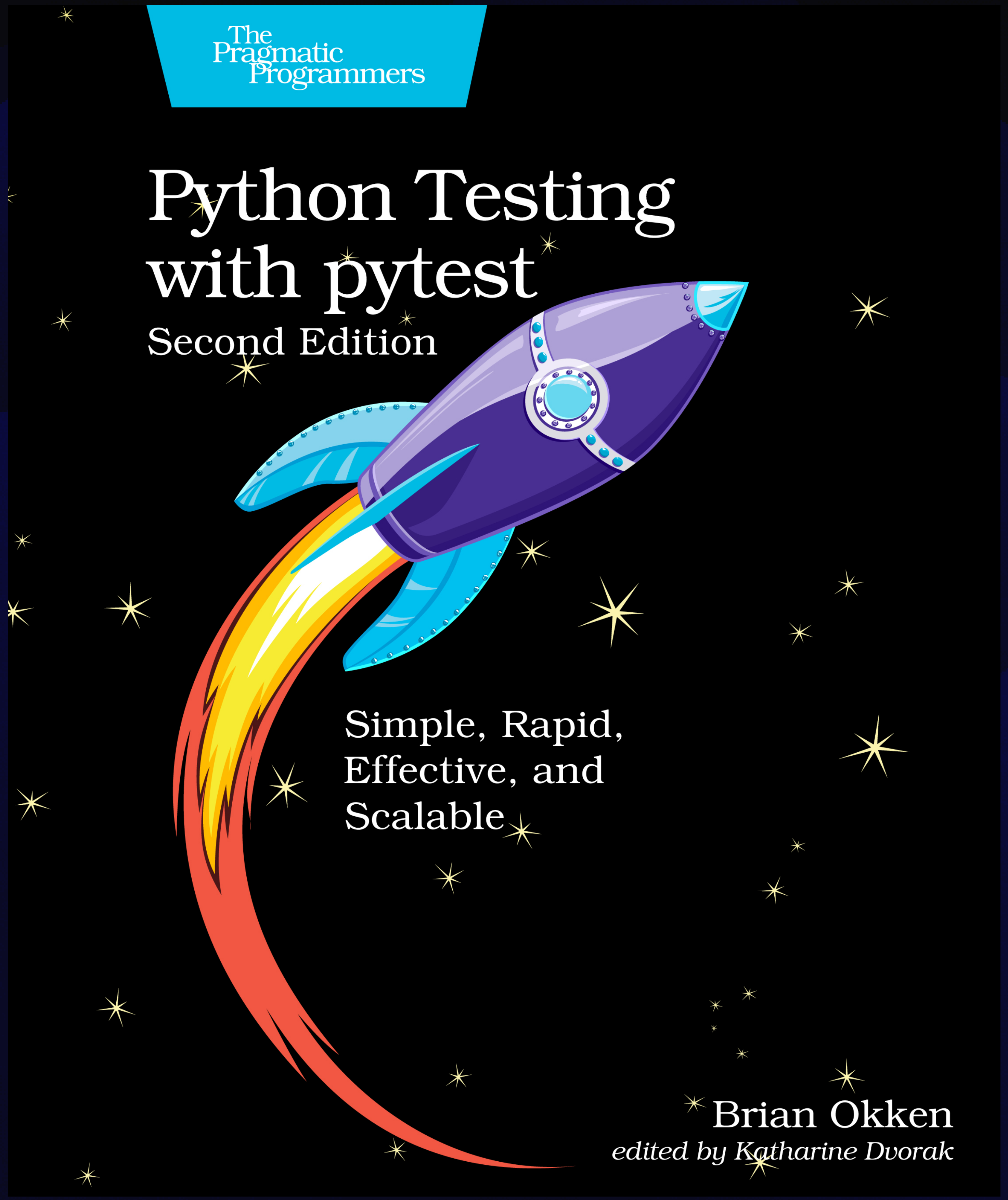
Example updates:

- Testing scripts and apps
- TDD example is new
- tox 4 simplifies workflow
- Building plugins - packaging has been updated

Relationship to the pytest book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- This course may drive the need for future book updates.
- Still a very good desk reference and companion to this course

Have Fun!

pytest

pytest