Code That's Difficult to Test

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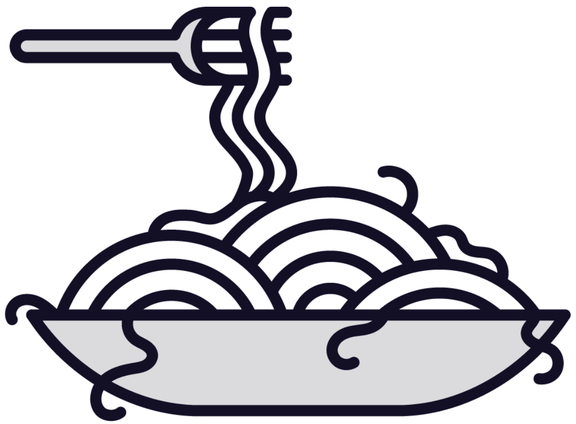
Overview

Turning hard-to-test into easy-to-test

- Peel and Slice
- Monkey Patching
- Self-initializing Fakes



Code that’s hard to test

Poor separation of concerns

Lack of encapsulation

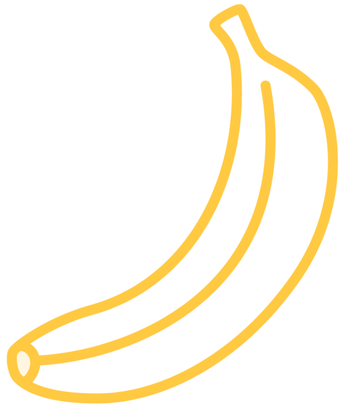
Needs refactoring

Code that’s easy to test

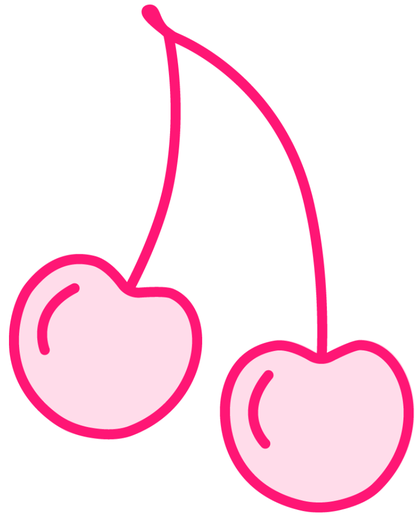
Pure functions

Code you can easily isolate with a Test Double

Strategies for “Mostly Logic” Code: Peel and Slice

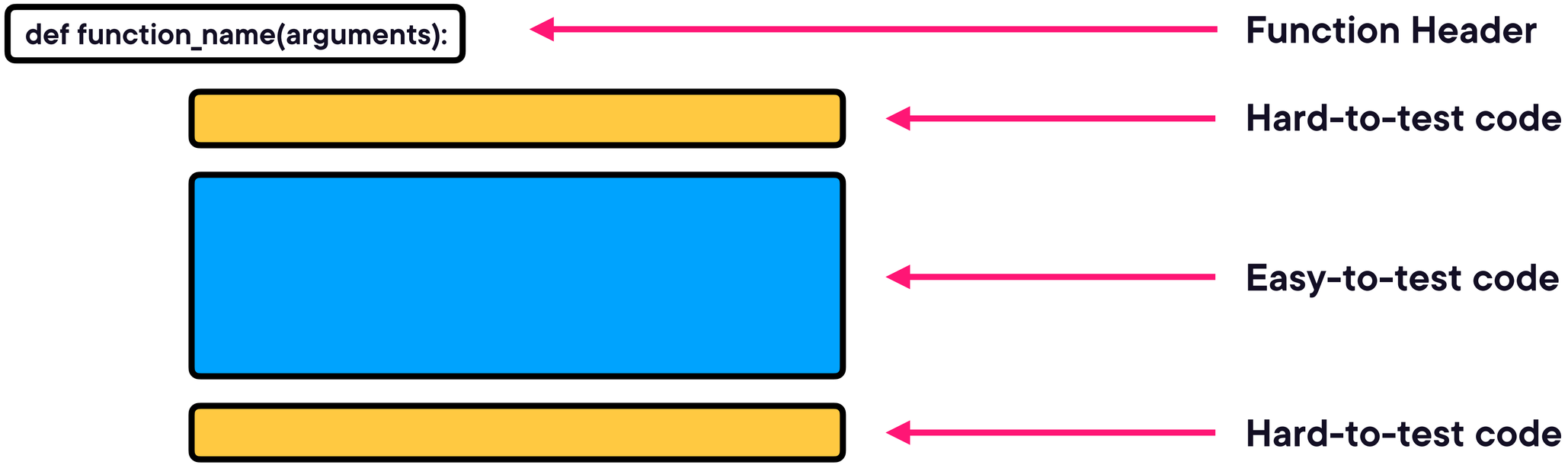


Peel
Take away the untestable outer part

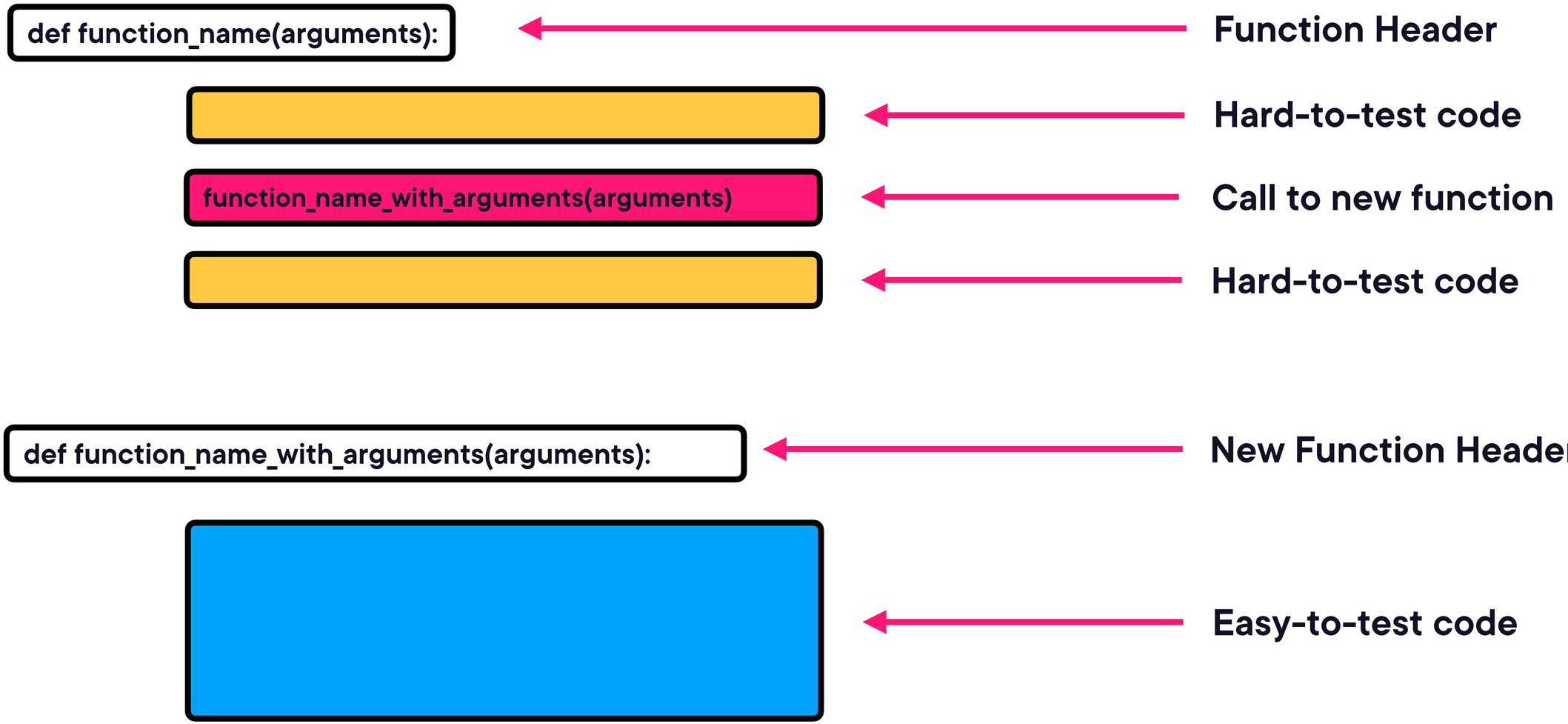


Slice
Take away the untestable inner part

“Peel” Strategy

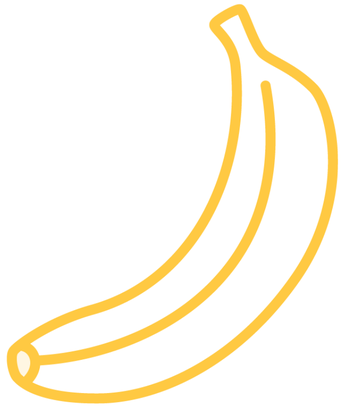


“Peel” Strategy



Peel

Strategies for “Mostly Logic” Code: Peel and Slice



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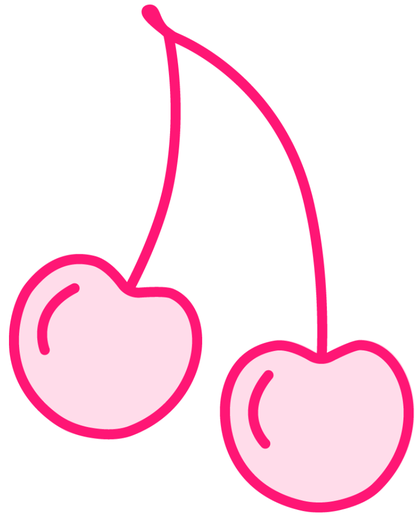

Slice
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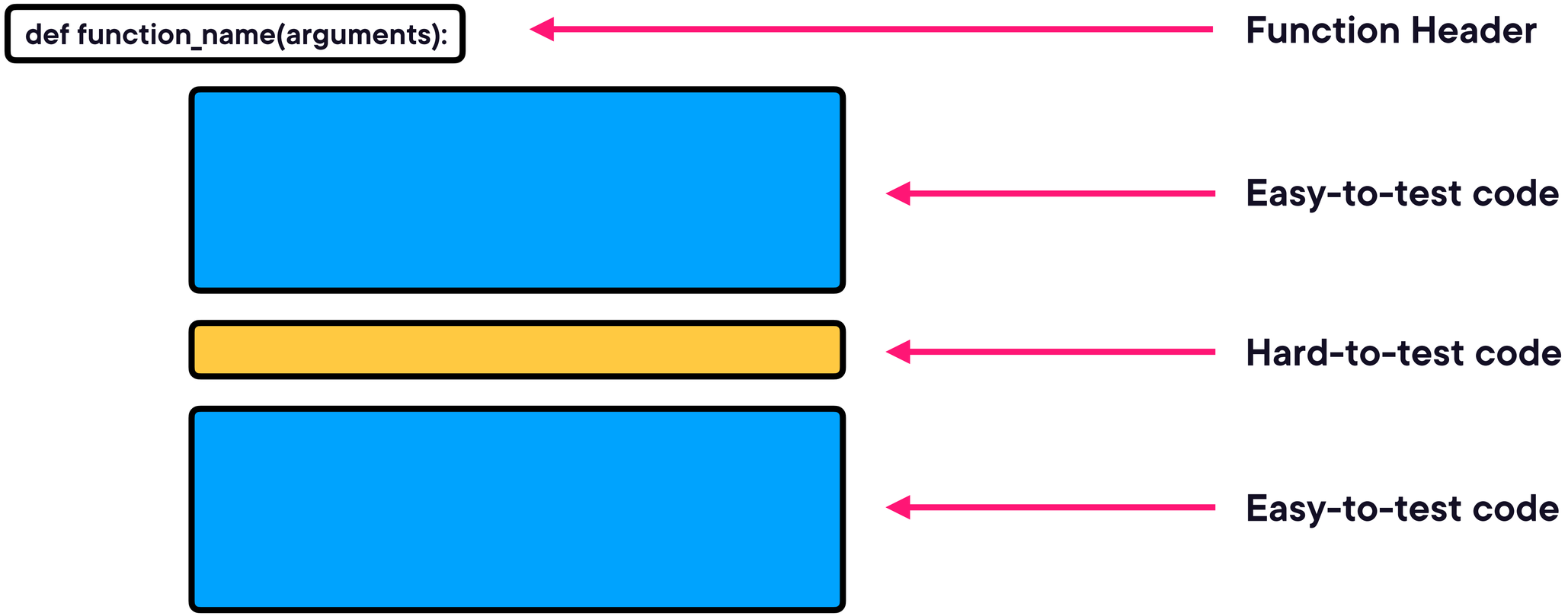
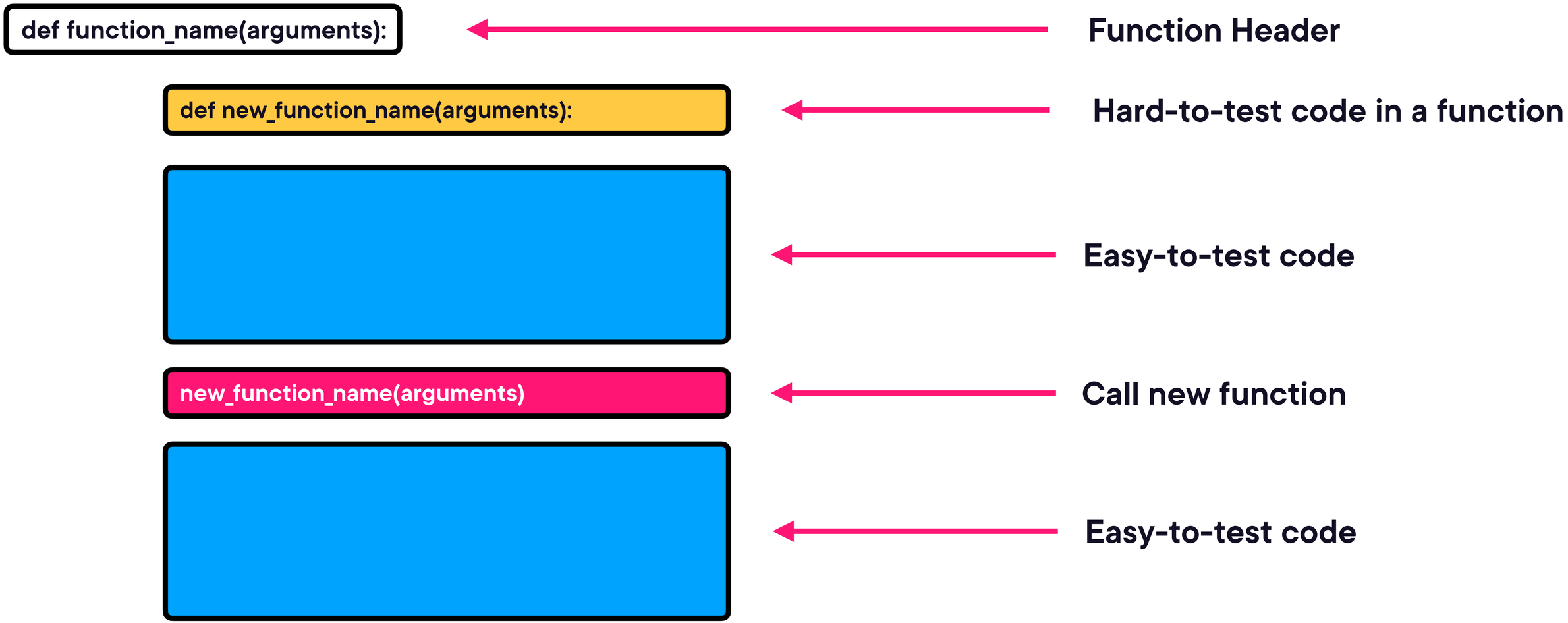
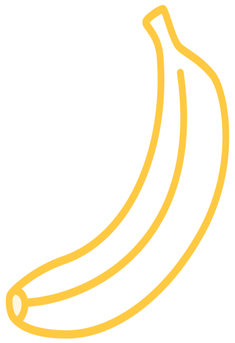
“Slice” Strategy

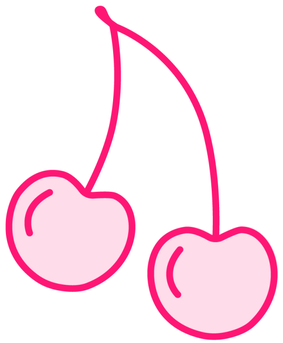


“Slice” Strategy



Slice





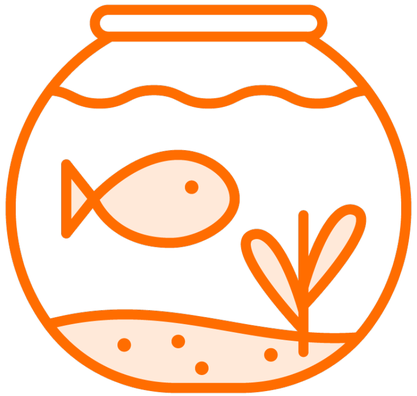
Peel and Slice - Consequences

Gets the ‘logic’ part under test

The remaining code is not covered

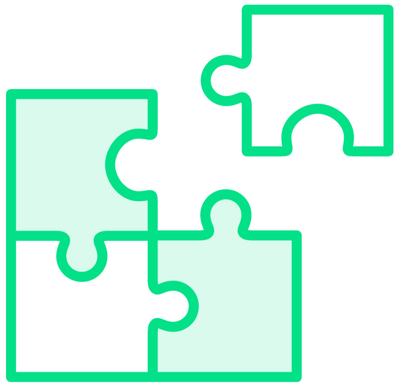
The overall design may be worse - next step is to refactor

Strategies for “Mostly Side Effects” Code



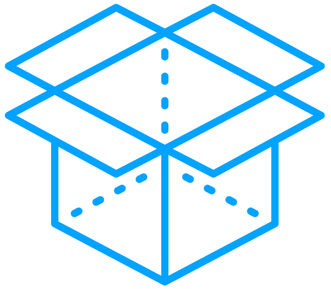
Manual testing

Look at it often while you develop



Design Pattern & Inspection

Code is obviously correct



Test Double

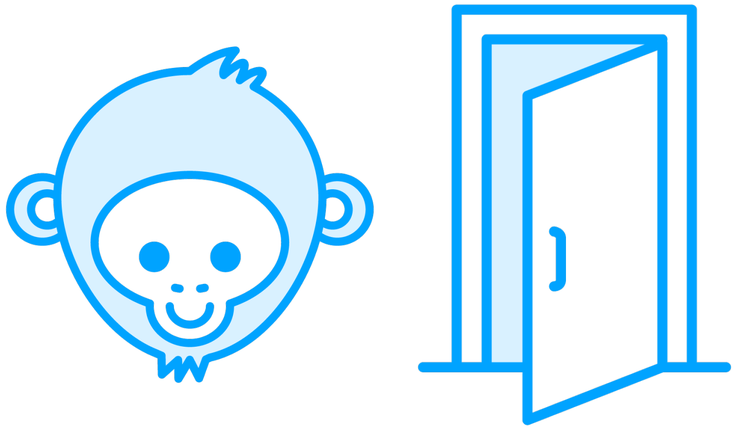
Check interactions using a test double

Demo

Insert a Test Double using Monkey Patching

Monkey Patching

Collaborator is difficult to replace



Use a monkey patch

Pitfalls with Monkeypatching

Make tests harder to read and understand

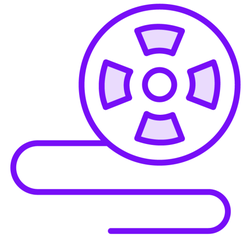
Get out of sync with the real object they replace

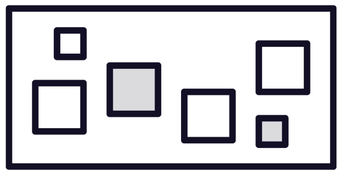
Hinder Refactoring

Demo

Self-initializing Fake

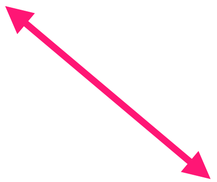
Self-initializing Fake



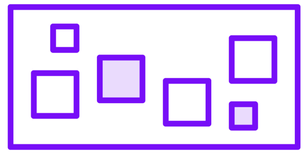


System Under Test

Fake



Local Files of Recordings



Remote Service

https://martinfowler.com/bliki/SelfInitializingFake.html

Pitfalls with Self-Initializing Fake

It’s still a monkey patch

Your cassette files can get out of sync with the real service

Hinder Refactoring

Summary

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