Practical Object-Oriented Design Course
Sandi Metz

Day 1

Prequel: '99 Bottles of Beer'

Lessons

Simplicity versus Complexity

Exercise: 'The House that Jack Built'

Lessons

Find 'shameless green'
Refactor to simplest possible solution
Open/Closed Refactoring

Techniques

When to refactor
How to refactor
What to refactor

Metrics

Inebriation test

Exercise: '99 Bottles of Beer'

Lessons

Single Responsibility Principle
Open/Closed Principle

Techniques

Extract Method
Extract Class
Refactorings as recipes
Step-wise refactoring to reach for Open/Closed

Metrics

Squint test

Day 2

Exercise: '99 Bottles', continued

Lessons

Liskov Substitution Principle
Inheritance
    Inheritance vs Composition
    Problems best suited to Inheritance
    Problems *unsuited* to Inheritance
Concepts as Objects
Factories
Metaprogramming

Techniques

Recipe for refactoring from conditionals to polymorphism
    Replacing if statements with objects

Exercise: 'Farm'

Lessons

Recognizing fundamental code shapes that guide OOD

Techniques

Null Object Pattern

Day 3

Exercise: 'The Random House that Jack Built'

Lessons

Dependency Inversion Principle
Depending on abstractions

Dependency Injection
    Injecting abstractions to depend on roles

Inheritance revisited
    Template Method Pattern

Hook Methods

Exercise: Applying Lessons to the Real World

Lessons

Dealing with the real world
Applying class lessons to your own code