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Chapter 9: Unit Tests

The Three Laws of TDD

The Three Laws of Test-Driven Development (TDD) provide a systematic way to write code and tests. They emphasize writing tests before the actual code. This helps developers focus on what the code should do from the beginning and makes sure the code works correctly.

Keeping Tests Clean

Just like your main code, test code should be clean and well-organized. Clean test code is easy to maintain, update, and reuse. It’s important to put as much effort into writing clean test code as you do with your main code.

Tests Enable the -ilities

Tests make your code flexible and reliable. Without tests, any change you make can cause bugs or errors. With good tests, you can make changes without fear, knowing that the tests will catch any problems.

Clean Tests

The most important thing about unit tests is that they should be easy to read and understand. Using Domain-Specific Language (DSL) can help make tests clearer and easier to write, especially for testing APIs.

F.I.R.S.T.

There are five rules to remember for unit tests:

- **Fast**: Tests should run quickly.
- **Independent**: Tests should not depend on each other.
- **Repeatable**: Tests should work in any environment.
- **Self-Validating**: Tests should have a clear pass or fail result.
- **Timely**: Write tests at the right time, ideally before the code.

Chapter 10: Classes

Class Organization

When creating a class, organize it well so it’s easy to read, like a newspaper article. Use encapsulation to hide variables and keep them private.

Classes Should be Small!

Classes should be small and focused on one thing. This is known as the Single Responsibility Principle (SRP). If a class does too many things, it becomes hard to understand and maintain. Break big classes into smaller, more focused ones to make them easier to work with.

Organizing for Change

Systems always change, and every change can break something. Organize your classes to minimize the risk of breaking other parts of the system when changes are made. This helps keep the system stable and easier to update.