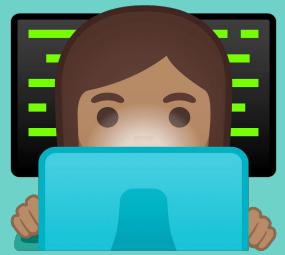
dojo

1. We will look at a simple task to code.
2. We will examine our “Acceptance Criteria”.
3. We will start our code with writing a failing test and practice clean code and solid principles.
4. Technologies that we are going to use are C#, Xunit, FluentAssertions, NSubstitute.



TDD Coding Practice!

Fibonacci Sequence!

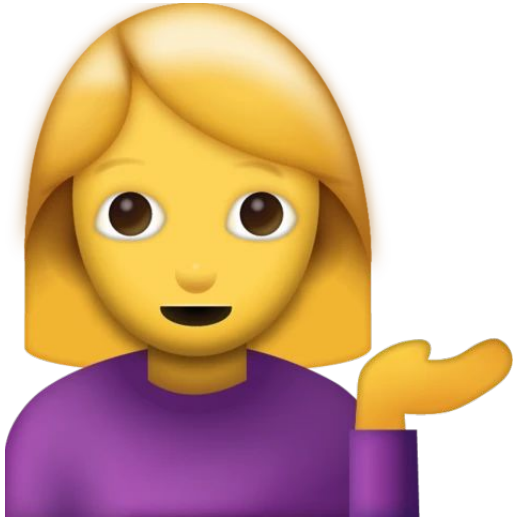
- The Fibonacci sequence, is a sequence of numbers in which each number in the sequence is equal to the sum of two numbers before it.
- Fibonacci Sequence = 0, 1, 1, 2, 3, 5, 8, 13, 21, ...
- The kick-off part is F0=0 and F1=1.
- The recursive relation part is Fn = Fn-1+Fn-2.
- Sequence starts with index 0 rather than 1.

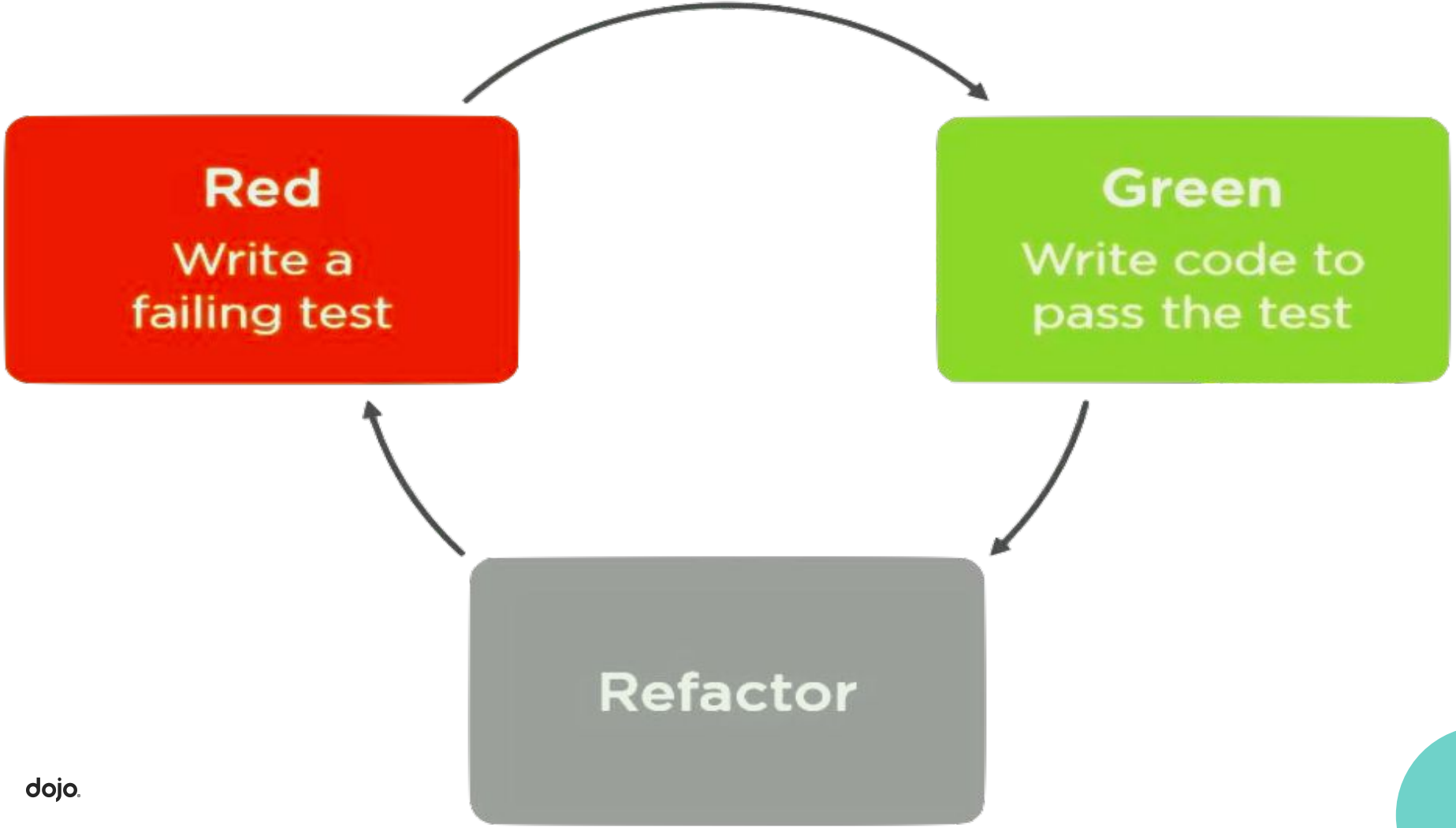
Acceptance Criteria:

Generate Fibonacci Sequence = 0, 1, 1, 2, 3, 5, 8, 13, 21, ….

Fibonacci Generator should:

1. Given index Zero, return Zero.
2. Given index One, return One.
3. Given index Two, return One.
4. Given index Three, return Two.
5. Given index Five, return Five.
6. Negative indexes are not accepted.
7. Log the given index to a file.
8. Log the given index to a database.




Red
Write a failing test
Green
Write code to pass the test
Refactor

Solid Principles!

Single-responsibility principle: Every class should have only one responsibility.

Open–closed: Software entities (classes, modules, functions, etc.) should be open for extension, but closed for modification.

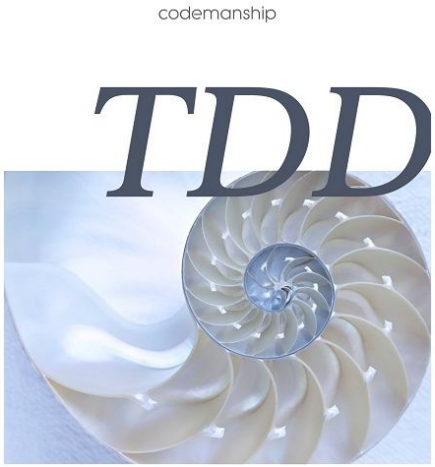
Liskov substitution: Functions that use pointers or references to base classes must be able to use objects of derived classes without knowing it.

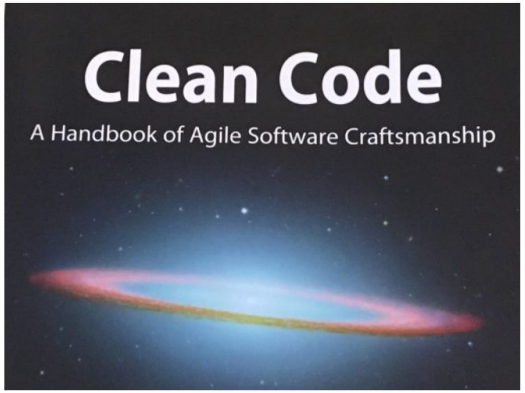
Interface segregation: Many client-specific interfaces are better than one general-purpose interface. No client should be forced to depend on methods it does not use.

Dependency inversion: Depend upon abstractions (interfaces), not concrete classes.

Recommended Reading

The handout has a lot of links and resources for further reading, plus more examples in different languages. It also has the full interview with Margaret Hamilton discussing her work as the first female software engineer.





Robert C. Martin

“

Don’t let fear get in the way and don’t be afraid to say “I don’t know” or “I don’t understand” – no question is a dumb question.

”

Margaret H. Hamilton on her advice for women getting into programming.

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Thank you for joining us!