## What is Test Driven Development (TDD)

## Red, Green, Refactor

The red, green, refactor approach helps developers compartmentalize their focus into three phases:

Red — think about what you want to develop

Green — think about how to make your tests pass

Refactor — think about how to improve your existing implementation

## The 5 Steps of TDD

- 1. Write tests

  Begin with writing tests, just enough to fail.
- 2. Run the tests

  Make sure that the new ones fail
- **3. Write the "actual code"**Just enough to satisfy the tests.
- **4. Run tests again**This time makes sure they all pass
- **5. Refactor and repeat**Make changes to the code



## **TDD Tips & Tricks**

- Avoid unit tests for trivial getters/setters
- Don't test language builtins
- Use a standard variable name for your instance under test; e.g., testObj
- Start with a testInitialize, that checks construction post-conditions
- Look very carefully at the dependencies and seams in your code as you'll likely need to inject dependencies (Test doubles) so that your tests can run in isolation

