

Test Driven Development (TDD)

- TDD is a process that relies on writing tests before writing production code
- Does this mean that we write all tests before writing any production code?
 - **NO!**
- It is an incremental approach along the same lines as “test a little, code a little”
- This process is best summarized by Red-Green-Refactor cycle

Simple 6 Step RGR cycle

1. Write a test
2. Run all Tests. Should **FAIL** (red)
3. Write Production code to pass test. Simple as possible.
4. Run all tests. Should **PASS** (green)
5. Refactor code
6. Run all test. Should **PASS**

Two major techniques for testing

1. Black Box Testing BBT
 - a. AKA functional testing
 - b. input/output test
2. White Box Testing WBT
 - a. AKA Structural testing
 - b. Requires internal knowledge of program

Mocking

- Code should be organized such that class and methods can be easily replaced with mocks and stubs
- Some external dependencies can slow down tests

Executable Documentation

The tests shows how to use your code.