INTRO TO TESTING

minimizing mistaqes

QUESTIONS YOU MIGHT HAVE

- **Why** test?
- **How** to test?
- **What** to test?

WHY DO I NEED TO WRITE TESTS?

WHY

- Reliability
- Refactorability
- Documentation
- Accuracy
- Value in industry

Reliability: Ensure code is working
Refactorability: Ensure code WILL continue to work after someone changes it
Documentation: Documents what the code actually does.
Accuracy: Precision/Accuracy/certainty of behavior

HOW TO WRITE MY TESTS?

ANATOMY OF A SPEC

Describe blocks: contains [sub-groups of] specs

1) descriptive labels of entity to be tested
2) function to nest further `describe`s (sub-entities) or `it`s

```
describe('Kittens', function() {
  describe('eat', function() {
    it('returns yum', function() {
      var k = new Kitten();
      expect(k.eat()).to.equal('yum');
    });
  });
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```

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Assertion: making your expectations

1) There can be many assertions within one it block
2) If something is `thrown` *at any point* in an it block, the spec stops and **fails**

TOOLS

- Jasmine and Mocha/Chai are two popular testing frameworks in the JavaScript ecosystem
- We chose mocha/chai for the popularity and flexibility
- However, there are many other options out there!

Jasmine

mocha

simple, flexible, fun

+

Chai Assertion Library

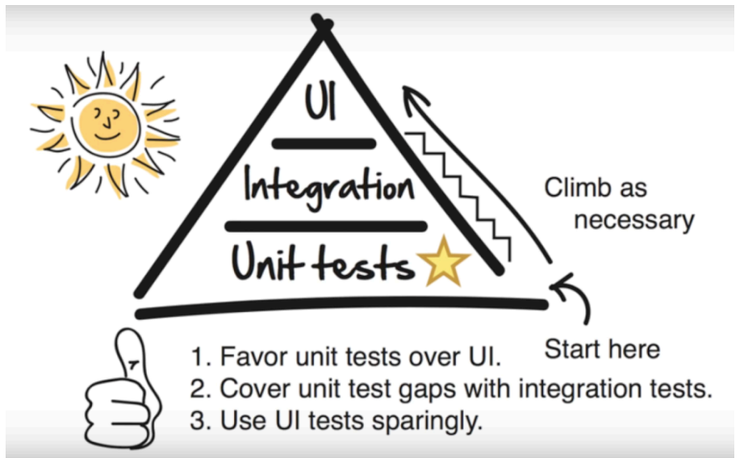
Workshop link
https://learn.fullstackacademy.com/workshop/5a68bf8a9f9cb600048448ef/landing

WHAT DO I TEST FOR?

WHAT

- **Test for behavior, *not* implementation**
  - ✗ "I expect this multiply function to use the add function"
  - ✓ "I expect this multiply function to return 6 given the inputs 2 and 3"
- **Implementation details change all the time, but intended behaviors generally do not**

TEST PYRAMID



source http://www.agilenutshell.com/

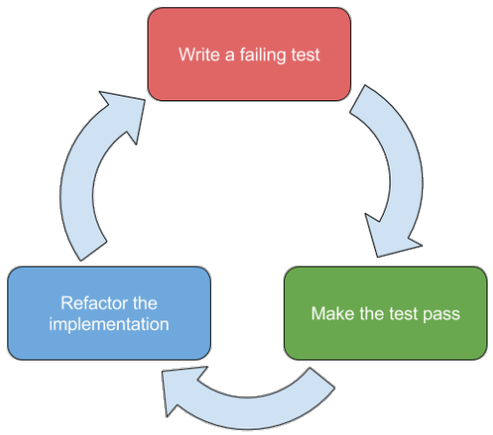
TEST-DRIVEN DEVELOPMENT

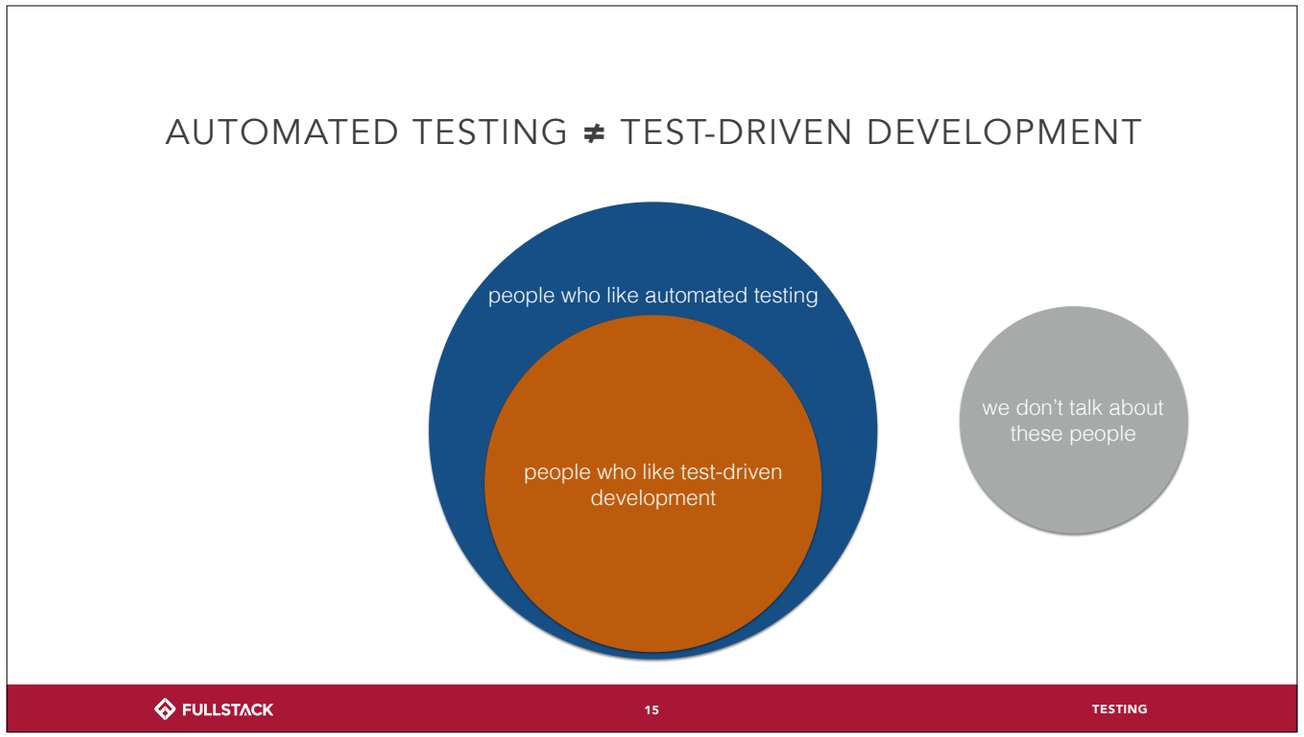
- **Write tests first, *then* write code to pass the tests**

- Focus on what code does
- Have a goal
- Ensure you don't blow off automated testing
- Improve design and modularity

Just one philosophy for test-writing

TEST-DRIVEN DEVELOPMENT





Don't have to love strict TDD, but you should at least embrace tests