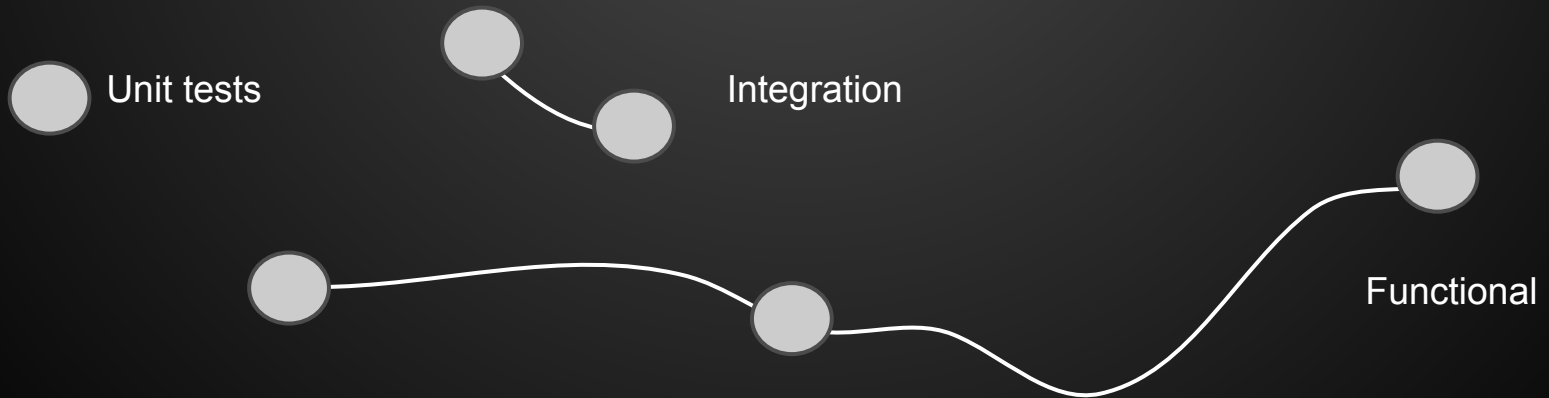
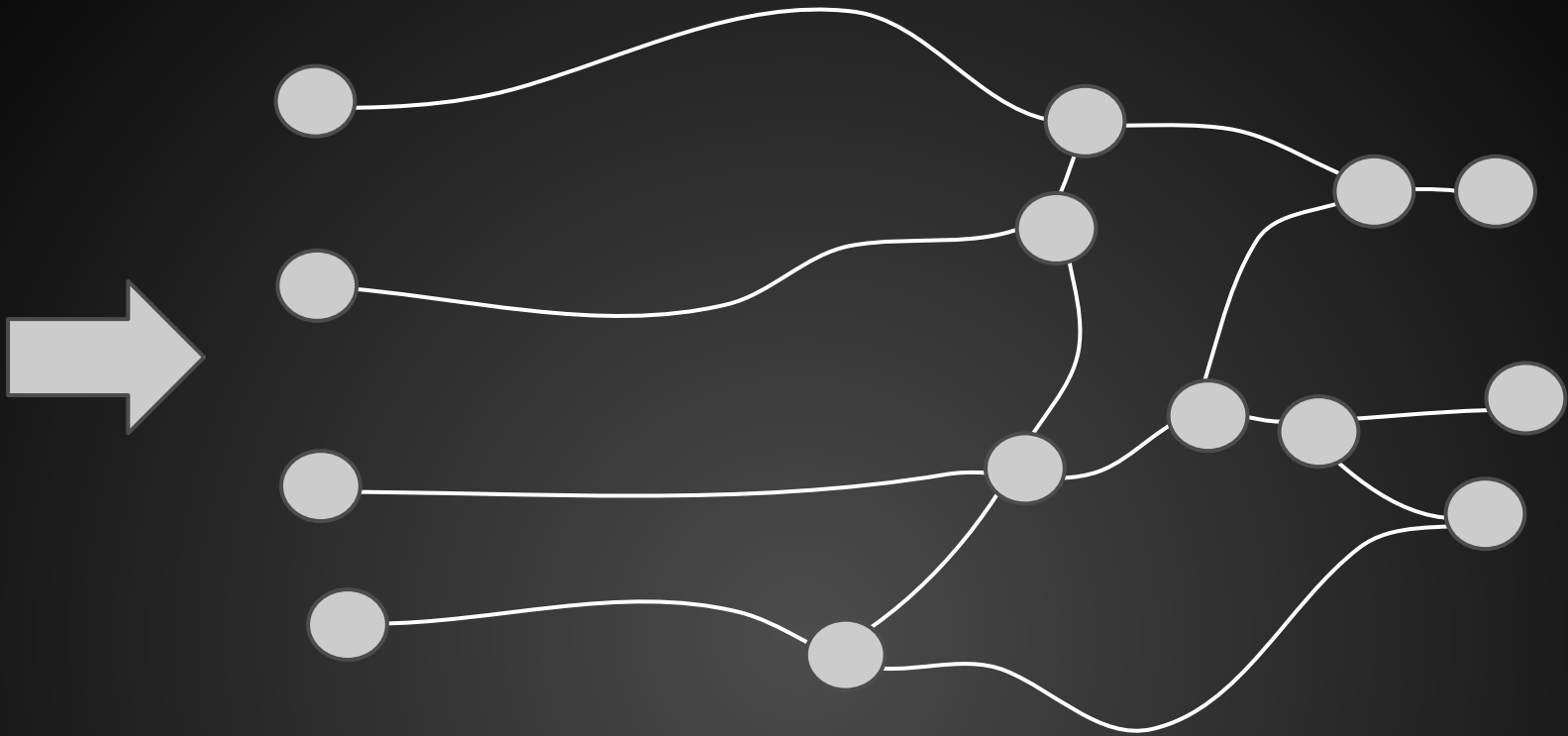
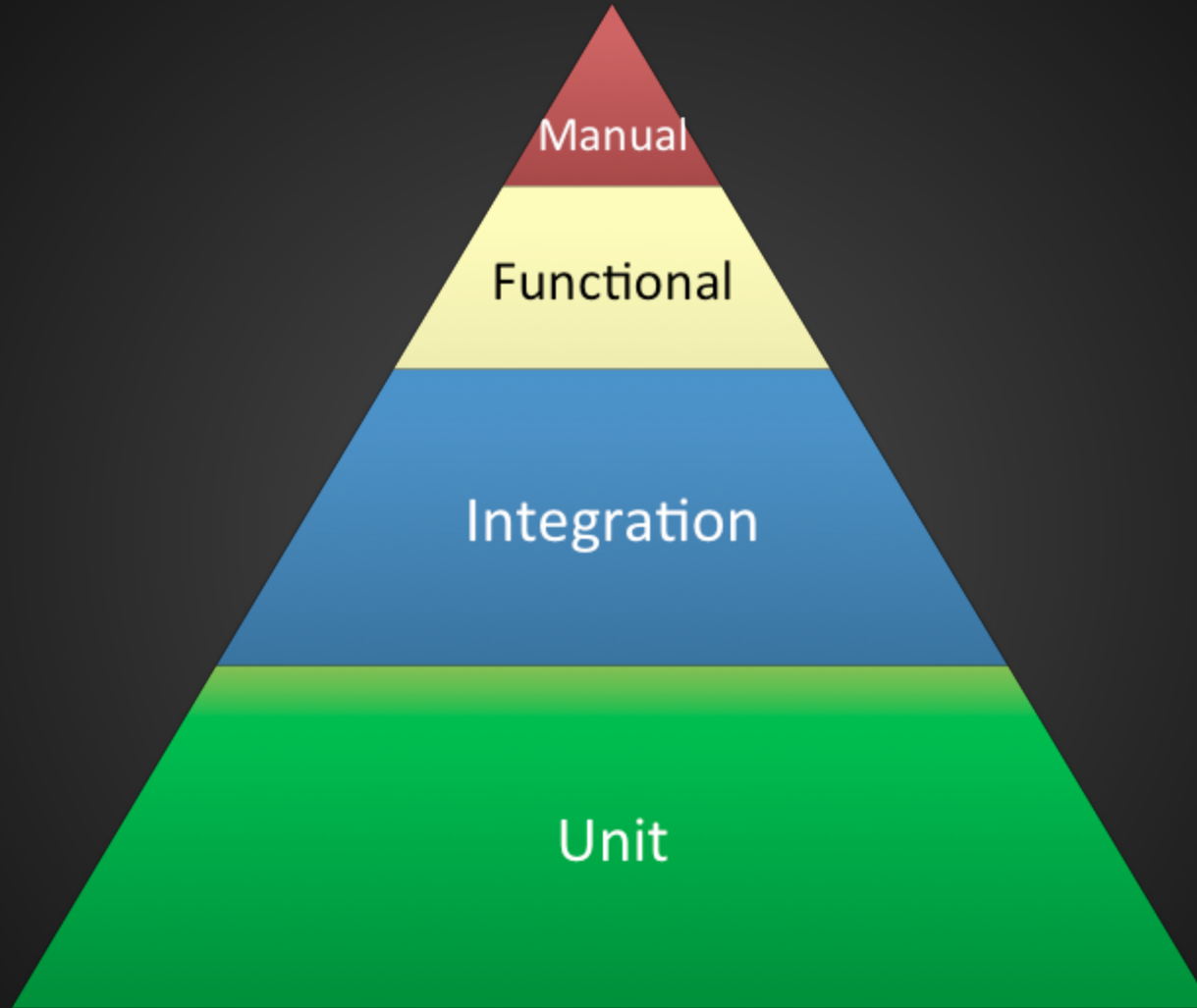


# An Introduction to Unit Testing

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<http://shawnewallace.com/img/TestingPyramid.png>

# why?

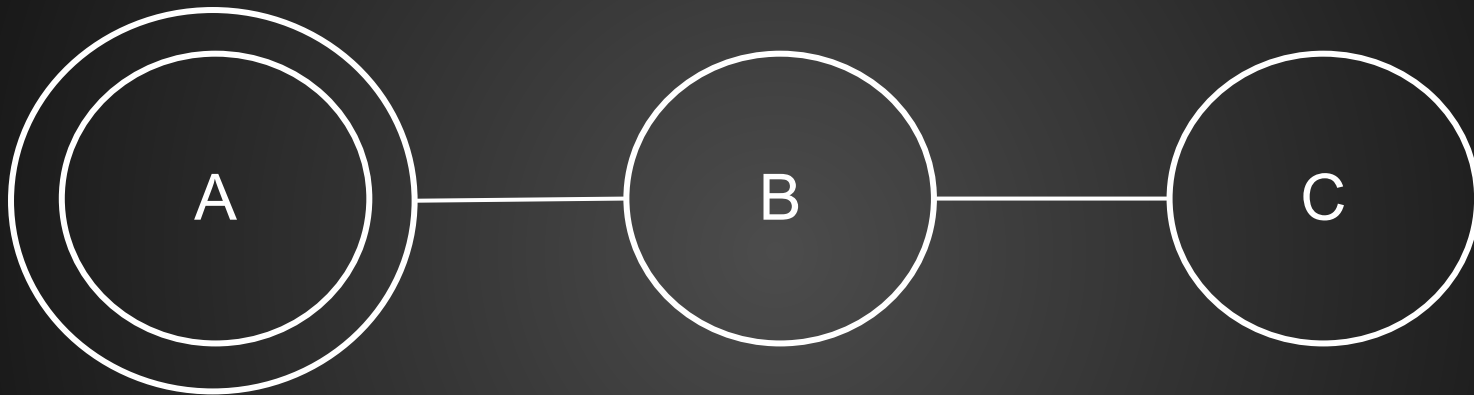
Semantic  
documentation

Automated  
regressions

Developer  
confidence

Attrition  
proofing

A depends on B depends on C

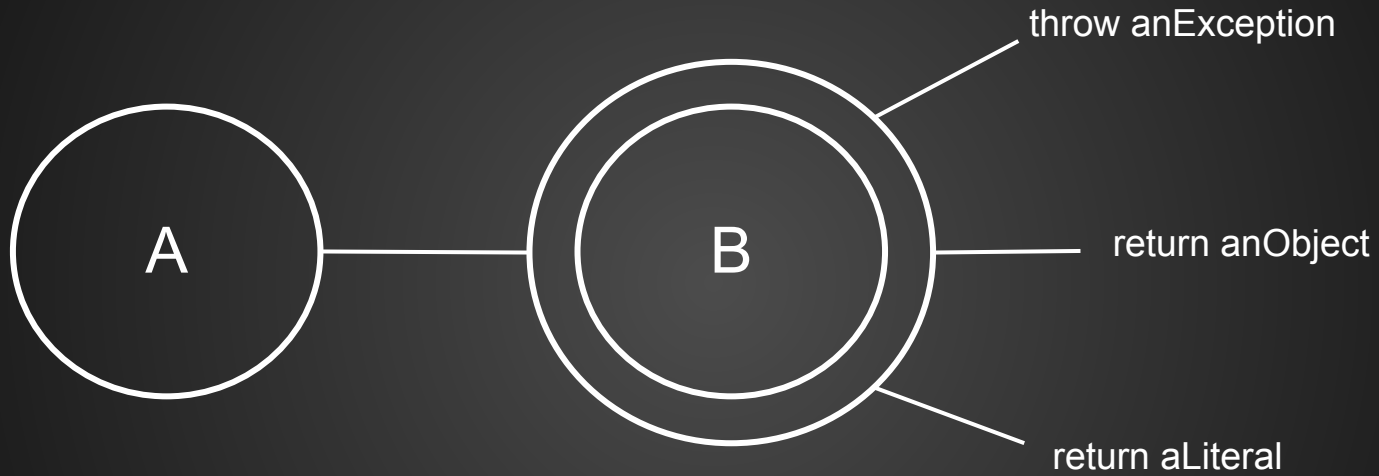


- Want to verify the behaviors of A
- Want to verify the semantics of how B is used by A
- Don't want to get C involved or any other baggage from B

# what do we need?

1. test runner
2. assertion library
3. doubles library

# doubles



# stub

# doubles

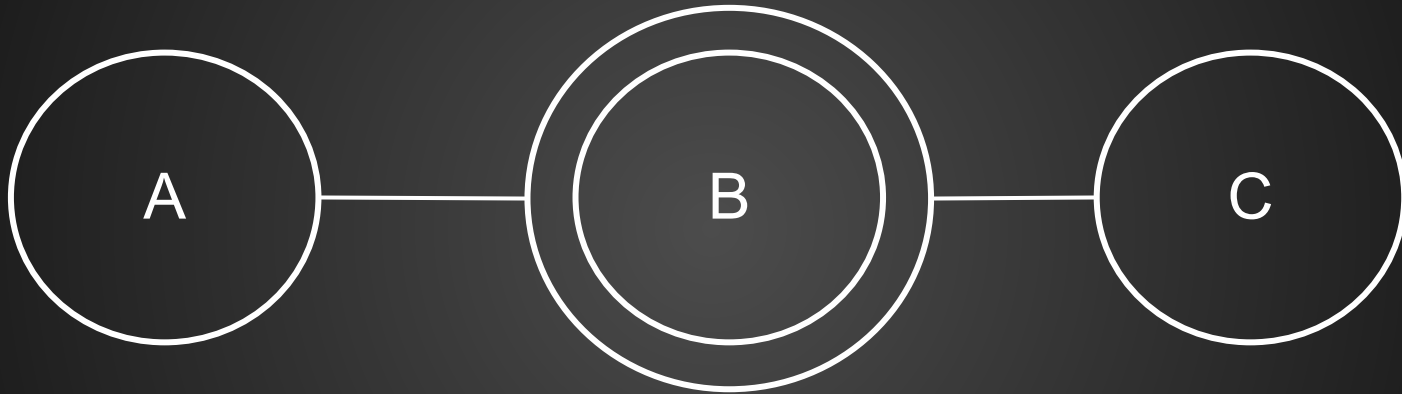


1. call method1 with arguments x and y
2. make sure the call happens once
3. call method2 with no arguments
4. make sure it's called twice

# mock



**doubles**



**spy**

# what helps?

- Looser coupling
- Higher cohesion
- Dependency injection
- Test driven development

**thanks**