

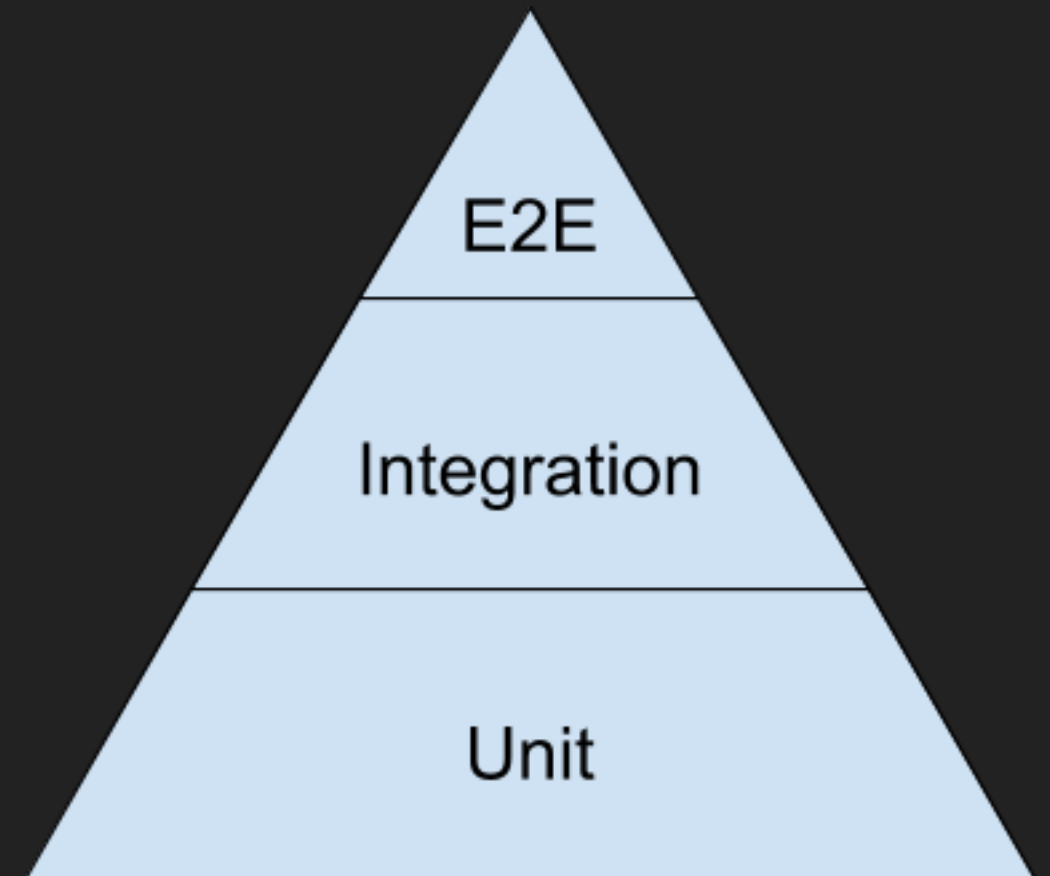
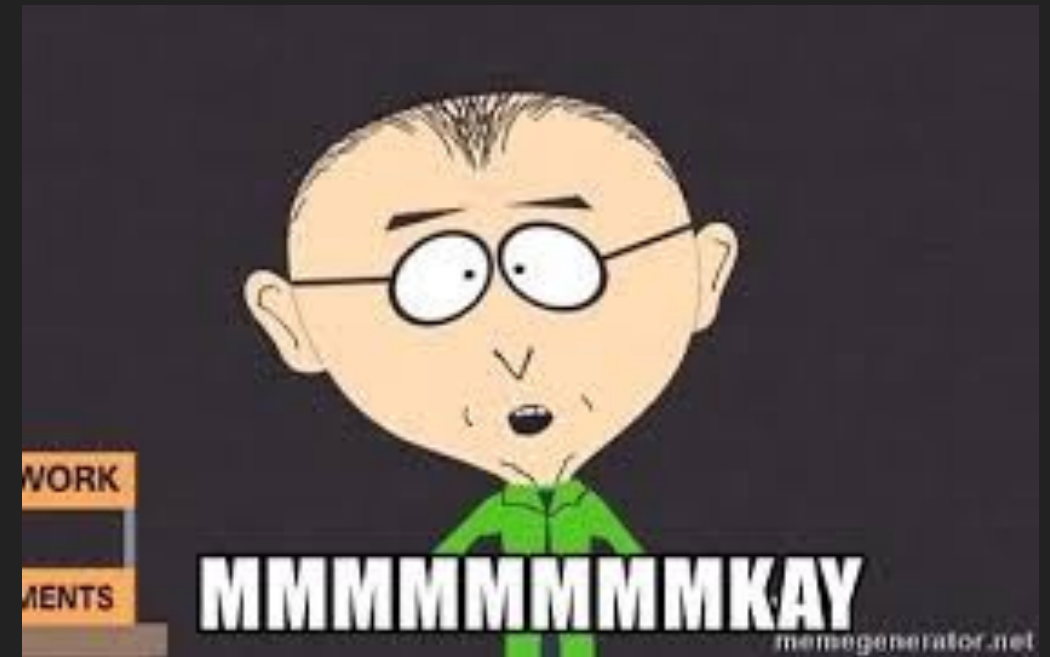
DONATAS KUČINSKAS

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# TEST-DRIVEN DEVELOPMENT

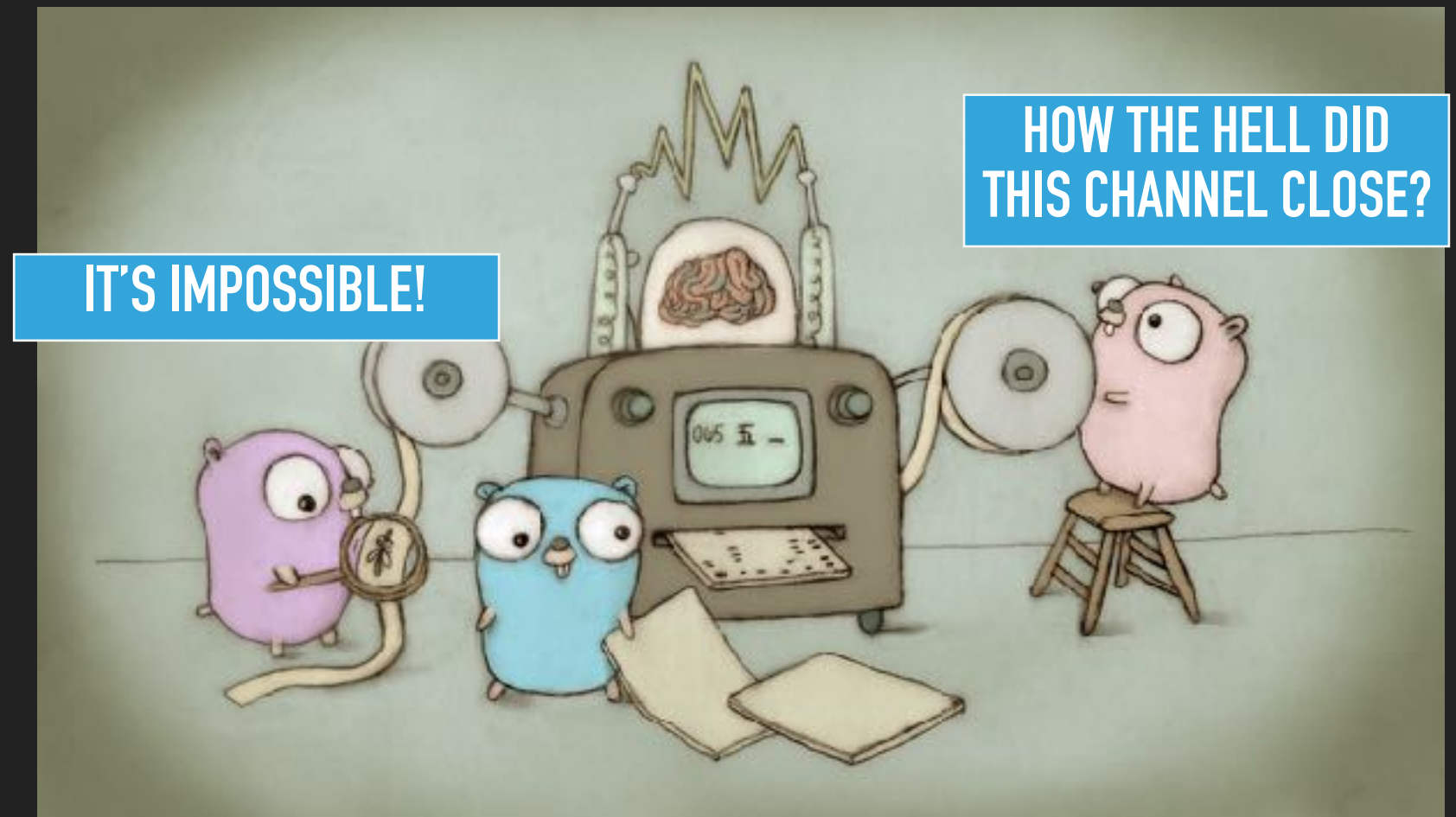
# TESTING

- ▶ Testing is good:
  - ▶ Saves development time
  - ▶ Avoid bugs
  - ▶ Less manual testing = happy developer
  - ▶ Increases developer confidence in codebase -> new features faster -> happy product owner



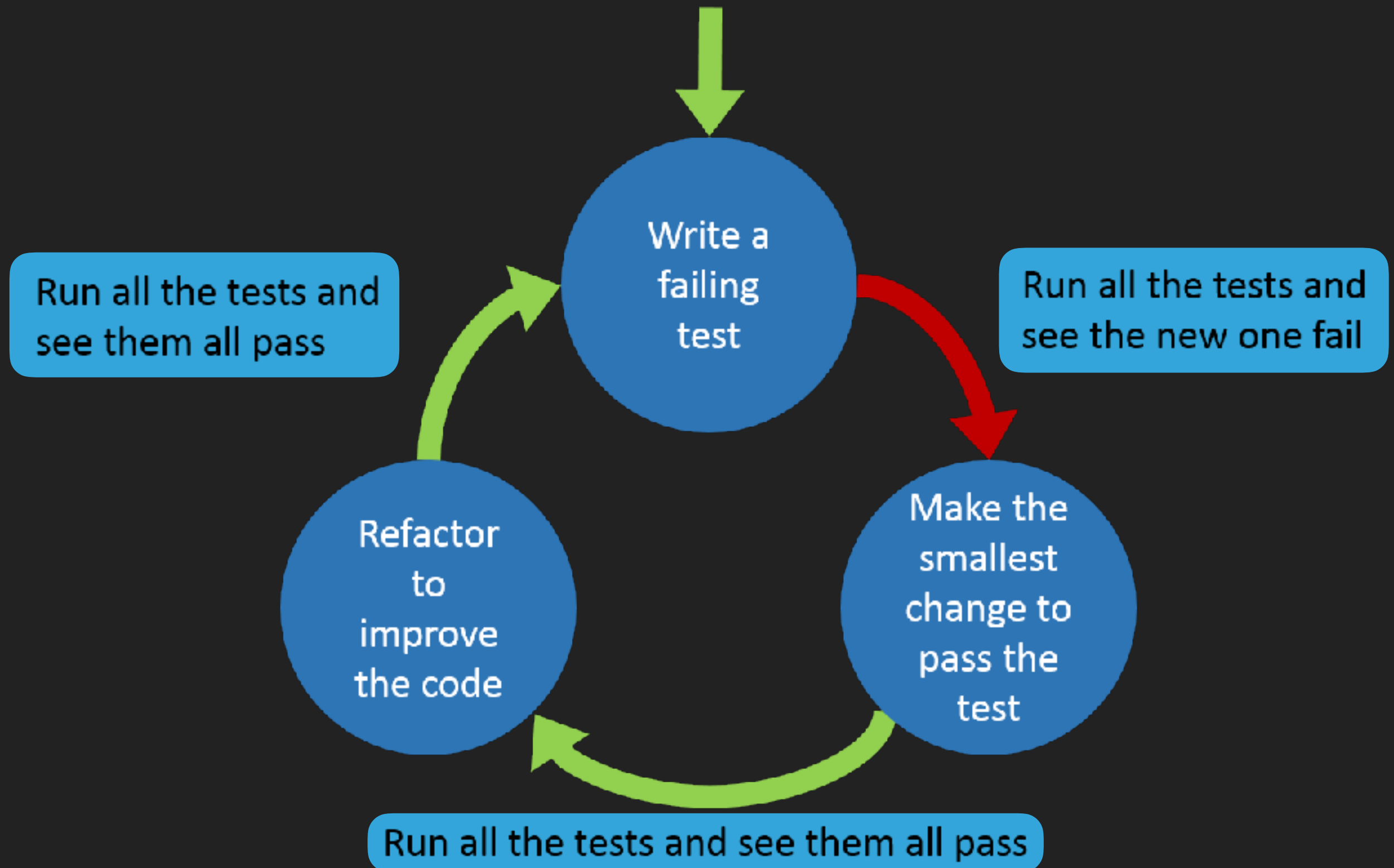
## PROBLEMS WHEN TESTING WITH NO TDD

- ▶ Scenario #1: annoying debugging of stupid errors (when implementing many things at once, before ensuring any of it works)
- ▶ Scenario #2: too many tests, but still some areas are not covered
- ▶ Scenario #3: feature implemented, everything works - it's tests time now... Yay ... :(
- ▶ Scenario #4: ...



## TDD CYCLE

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## TDD ADVANTAGES

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- ▶ Ensures all code is tested
- ▶ Ensures all tests are essential, avoids having too many tests
- ▶ Makes development easy by adding requirements incrementally
- ▶ Makes testing satisfying
- ▶ Increases confidence in code:
  - ▶ Ensures refactoring does not break something
  - ▶ Ensures better design
  - ▶ Ensures faster feature release

- ▶ Microsoft:

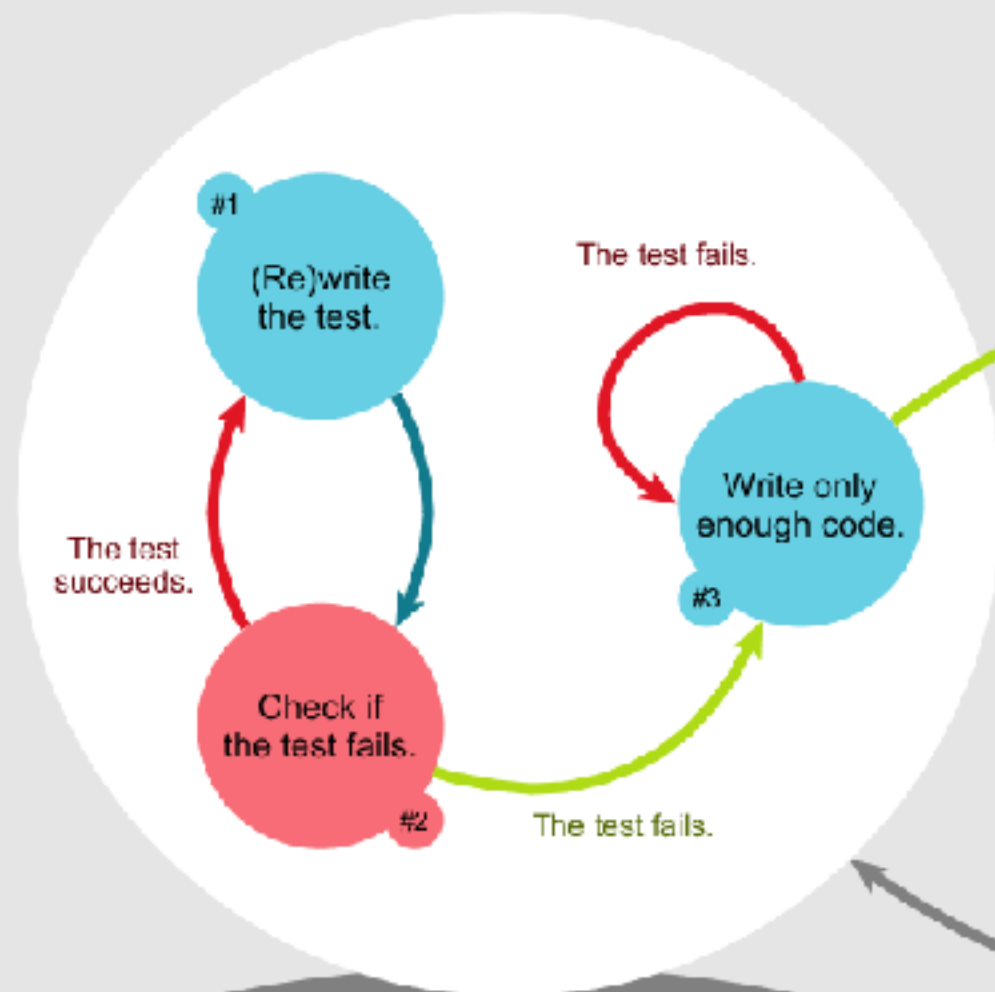
- ▶ The results of the case studies indicate that the pre-release defect density of the four products decreased between 40% and 90% relative to similar projects that did not use the TDD practice.

([https://www.microsoft.com/en-us/research/wp-content/uploads/2009/10/Realizing-Quality-Improvement-Through-Test-Driven-Development-Results-and-Experiences-of-Four-Industrial-Teams-nagappan\\_tdd.pdf](https://www.microsoft.com/en-us/research/wp-content/uploads/2009/10/Realizing-Quality-Improvement-Through-Test-Driven-Development-Results-and-Experiences-of-Four-Industrial-Teams-nagappan_tdd.pdf))

**IT'S SHOWTIME!**

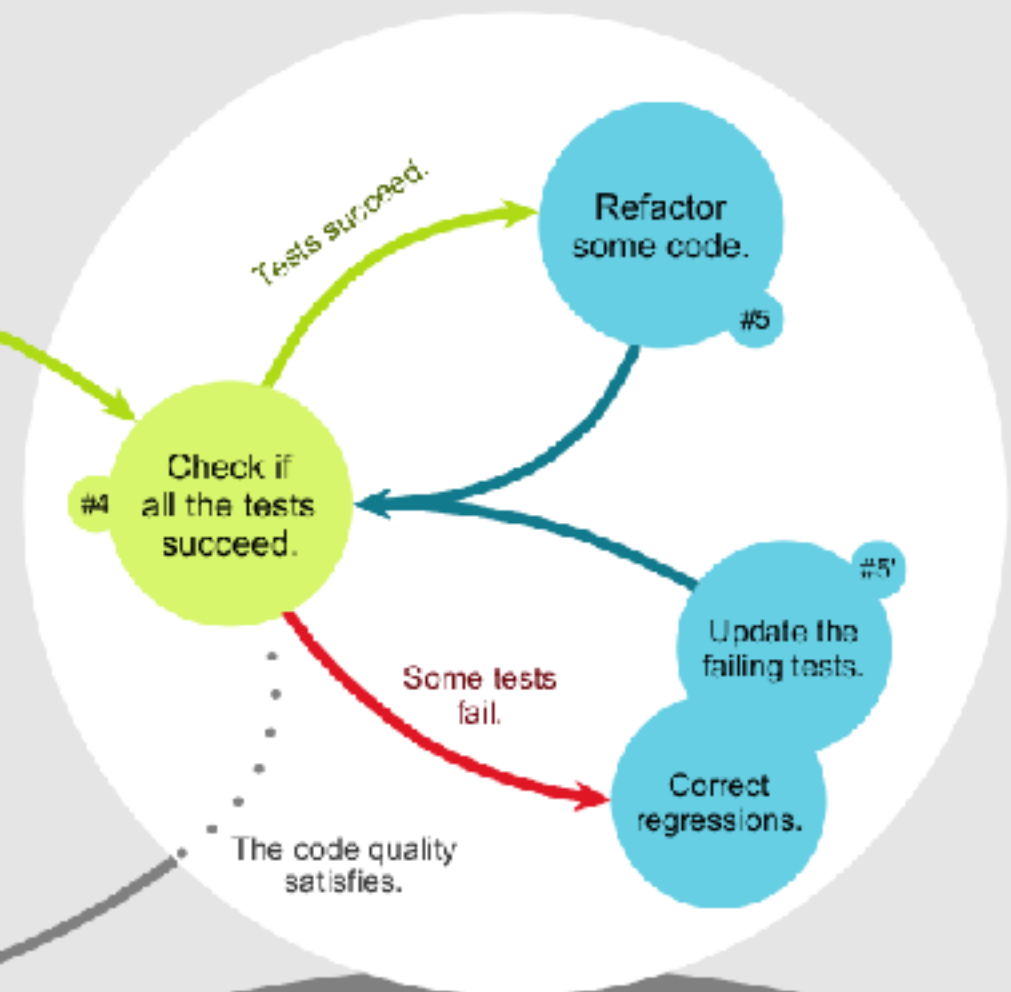
# DETAILED CYCLE

## TEST-FIRST DEVELOPMENT



focus  
Completion of the contract  
as defined by the test

## REFACTORING



The code quality  
satisfies.

Iterate

focus  
Alignment of the design  
with known needs



## TRY OUT TDD

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```
if reader.isDoingTesting {  
    go reader.startTDD()  
} else {  
    go reader.startTesting()  
}
```

- ▶ TDD helps everybody
- ▶ TDD is fun
- ▶ Give it a try



