Test Driven Development

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What? Why? How?

Test Driven Development

Behavior Driven Development

Test First Development

Test Driven Design
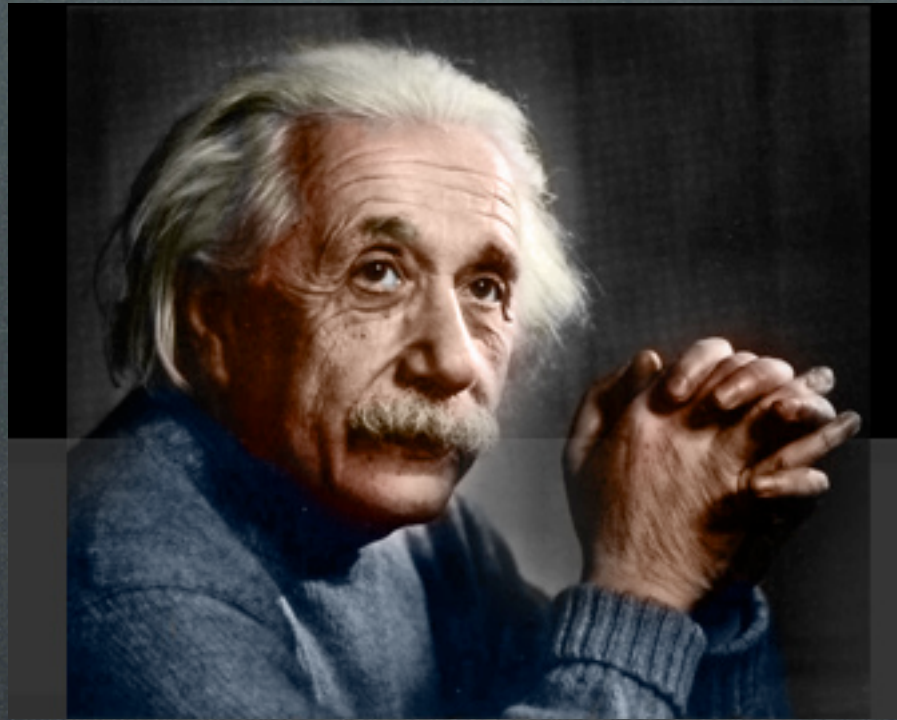
What? Why? How?

"... is a software development technique that uses short development iterations based on pre-written tests that define desired improvements..." - wikipedia

"... is an in-process development technique where testing steers all development..." - Hakan Erdogmus

"The goal of test driven development is to produce clean code that works" - Kent Beck

What? Why? How?

"We can't solve problems by using the same kind of thinking we used when we created them"

What? Why? How?

1

It is all about design

creates testable code
reduces cyclometric complexity

What? Why? How?

2

Increases Productivity

task focussed

refactor without fear

visible progress with continual feedback

concentrate on problem space before solution space

What? Why? How?

3

Clarifies Requirements

consumer-centric view

continual feedback

What? Why? How?

4

It Works

40% - 90% lower defect density*

15% higher productivity**

What? Why? How?

5

High Quality (side-effect)

the sooner one finds bugs, the cheaper

What? Why? How?

$$(\text{Red} \rightarrow \text{Green} \rightarrow \text{Refactor})^n$$

$$(\text{design} \rightarrow \text{test} \rightarrow \text{code} \rightarrow \text{test})^n$$

What? Why? How?

No more of a test than is sufficient to make code fail

No more code than is sufficient to make test pass

What? Why? How?

Test behavior, not 'unit'

Test interactions, not static state

Expectation, not assertion

From 'how does my code work' unto 'what do i want my code to do'

What? Why? How?

Hands-on Exercise