**Test-Driven Development**

Correctness — for a data type means "it meets/satisfies its specification" 
what it’s "supposed to do"

Problem: How do describe the specification?

- English — danger: ambiguity
  underspecified data type (holes, open questions)
  user & implementor make different assumptions \( \Rightarrow \) SURPRISE!

- Test program — if data type implementation "passes" then spec. is satisfied
  could still be underspecified!
Want: Test program captures the entire specification

How? Test-driven development is a methodology

1. Write the tests first, little by little
2. Implement the methods in a minimal way to make the test succeed.
3. You are forced to go back and add more of the spec. to the tests.