





SOFTWARE TESTING

An Interactive Introduction

Software testing is

an investigation conducted to provide stakeholders with information about the <u>quality</u> of the software product or service under test

Ken Camer, via https://en.wikipedia.org/wiki/Software_testing





https://kevcui.github.io/2017/05/02/refine-software-testing-types/





Testing small chunks of software

Test Case

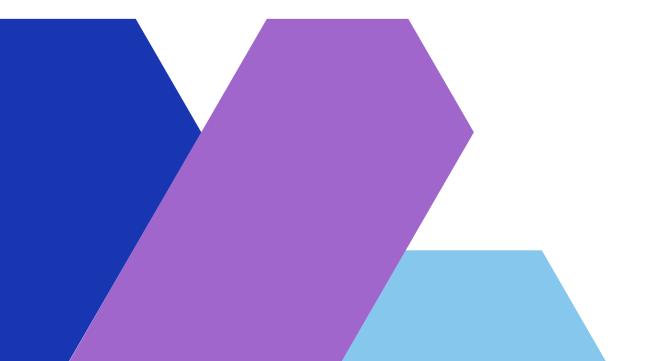
Specification of a test to execute, including input data and expected output

Coverage

How much of the source code has been exercised by the test suite, usually measured as a percentage

Happy Path

Following a desired sequence of events - no errors



Test-Driven Development (TDD)

The religious doctrine practice of writing tests before the software itself

So we know that the tests work!

e.g. prevents accidentally writing a test that always passes

And we catch bugs introduced in the future

more jargon: "Regression Testing"





Let's Try TDD

Interactive Exercise

Write a function that, given an integer, tells us some "interesting" facts about it

- Is it prime?
- Its factors (if composite)





Summary

Quality is the motivation for testing

Test-Driven Development gives us confidence in both the software under test and the tests themselves

It's hard to test everything

Testing *something* is much better than testing *nothing*!

There are many (many) types of testing - manual and automated

Would you like to know more?

Starship Troopers (1997)





S&A GitLab Workshop

Late October

Andrew Bolin Randika Hewage Malte Marquarding