



Lab 8: Test Driven Development and CI

CS360 Spring 2026

Adapted from CMPUT 301 – Software Engineering (University of Alberta)
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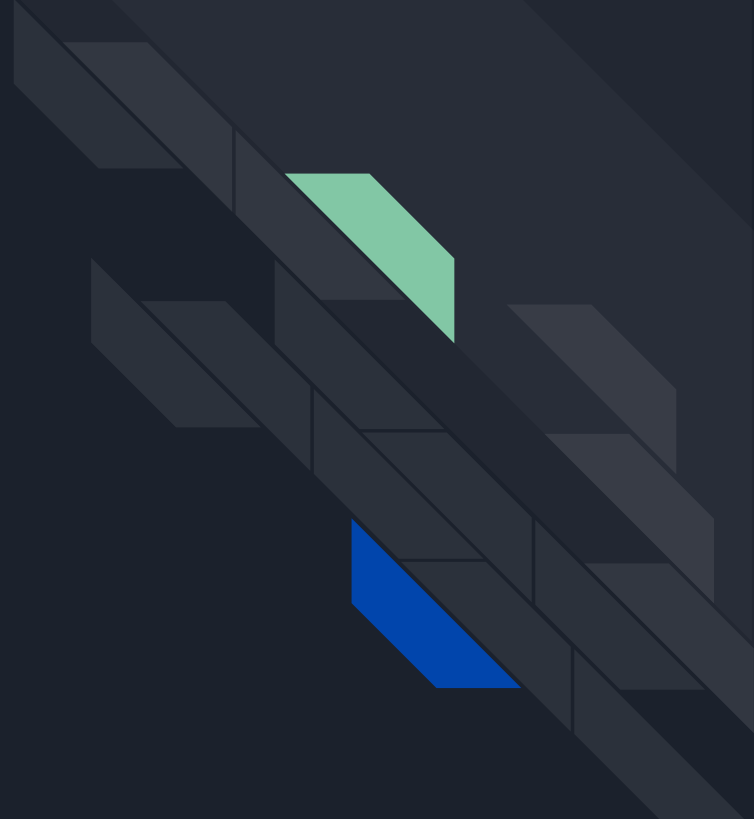


Coding Problems

How many times have you worked on an assignment, and you forgot to implement something?

Or, you implemented something, but then it broke later and you didn't notice it?

How can we prevent this?



Solution 1: Test Driven Development



Instead of writing tests (maybe) later, we write the tests before we write the implementation of our feature.

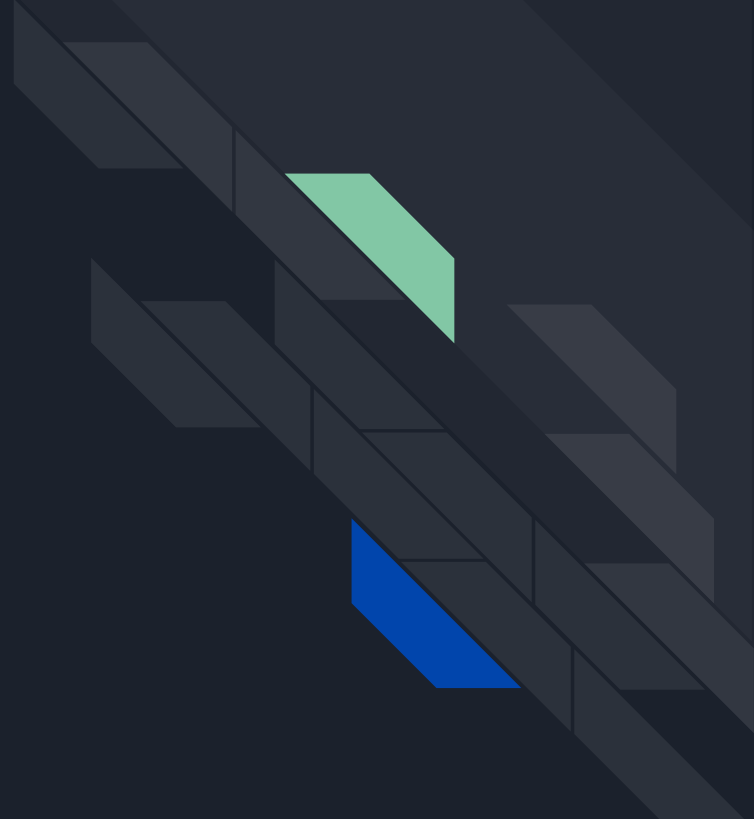
How does TDD Work?



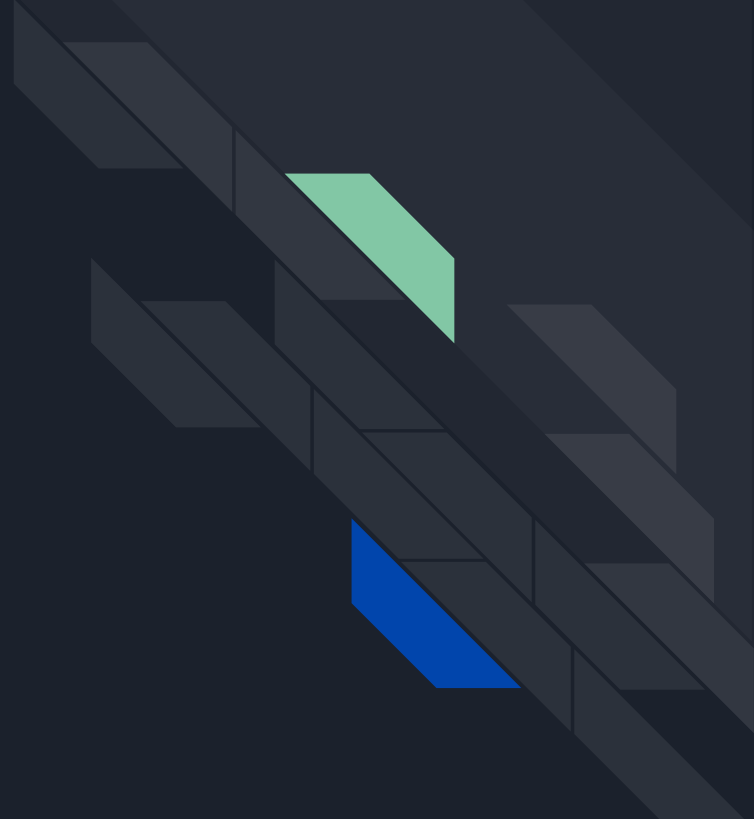
HOW TDD WORKS

Test Driven
Development

Advantages and Disadvantages of TDD



What about our second
problem?





Continuous Integration

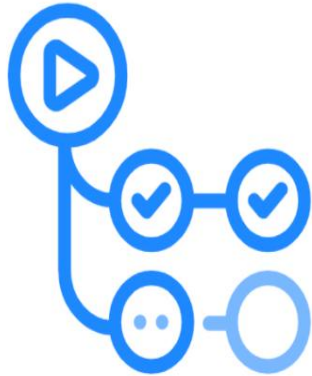
A process where we automatically build, test, and analyze our software when we make changes to it.

How CI Works



Image is from <https://www.pagerduty.com/resources/learn/what-is-continuous-integration/>

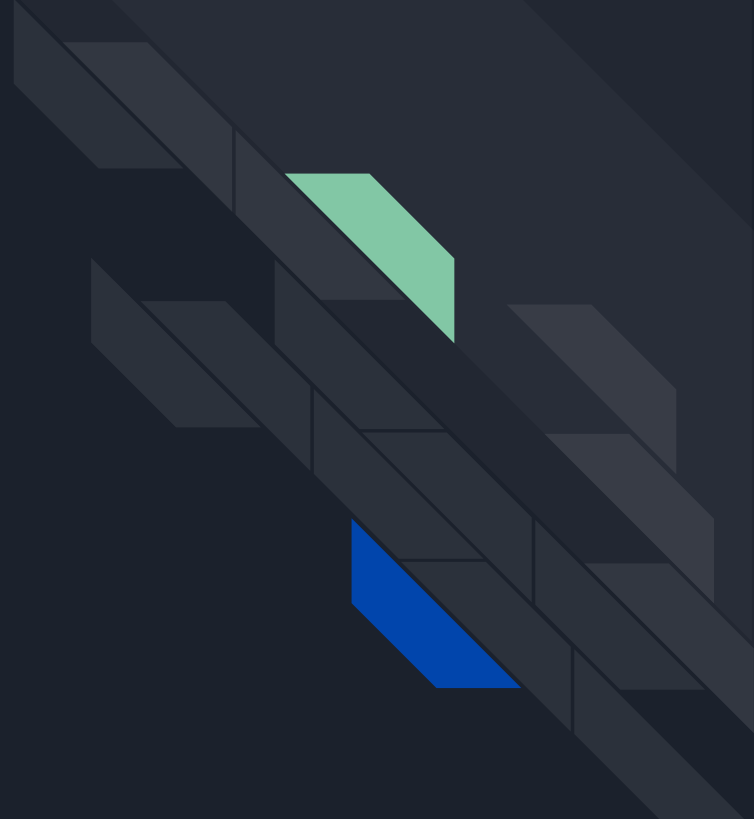
GitHub Actions



GitHub Actions

For this course, we will be using GitHub Actions for CI.

Main Idea: We use TDD and CI together to solve both of our initial problems.





Thank You!

Slides are based on the Lab 8 Slides posted on the class website
(https://ualberta-cmput301.github.io/labs/slides/Lab8_Slides.pdf)