CMPT 473
Software Quality Assurance

Regression Testing

Nick Sumner

The Story So Far

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- We have seen how to measure the quality of software (and even improve it a bit)

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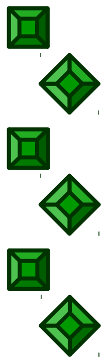
  - Establish quality requirements



Requirements

The Story So Far

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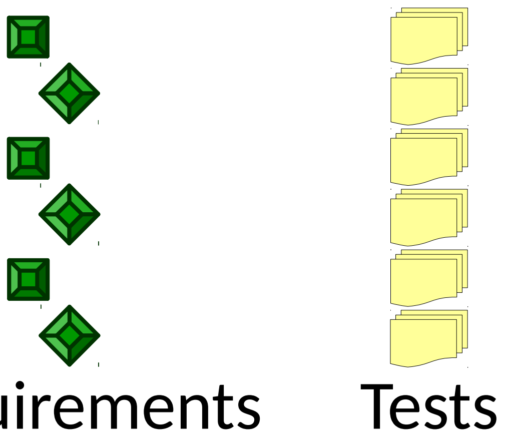
  - Establish quality requirements
  - Build a test suite



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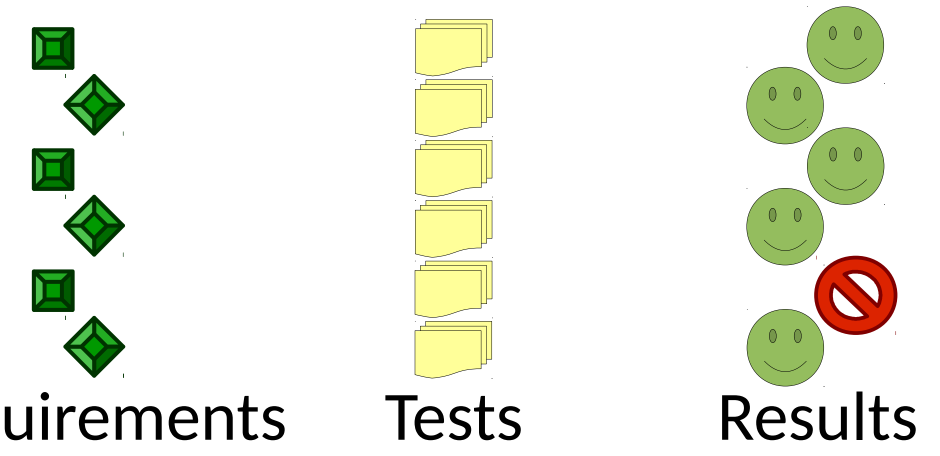

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- Are the quality requirements in real software static/ fixed?
- Software evolves
  - The testing process should support and facilitate change

Regression Testing

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What is it?

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- Regression tests further enable making changes

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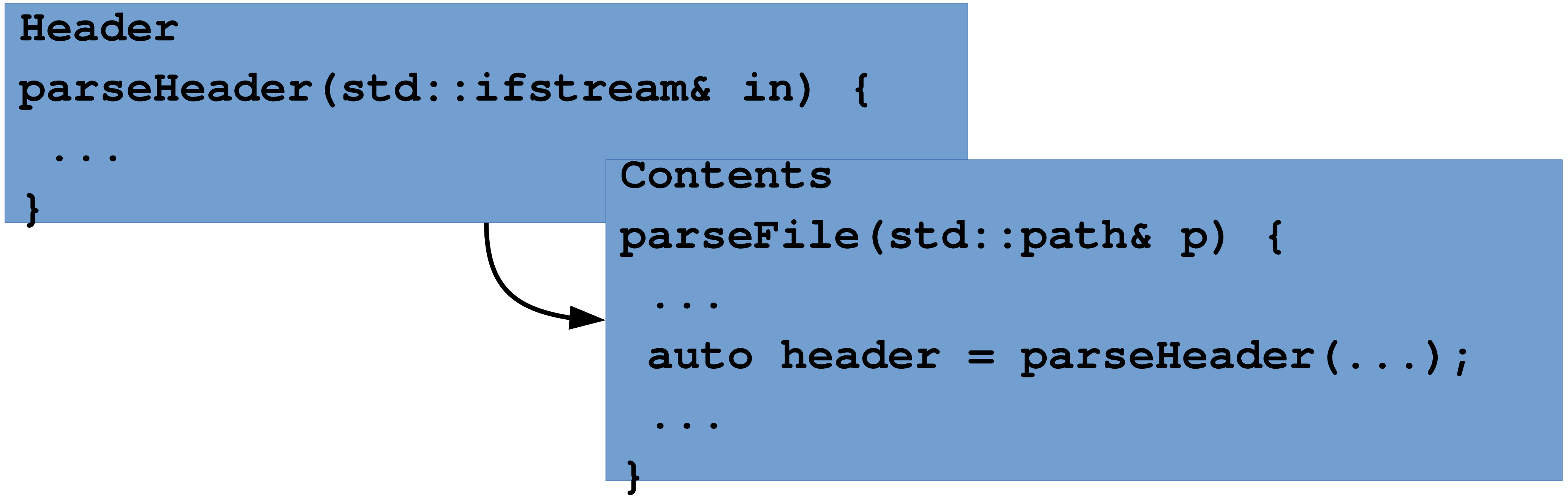

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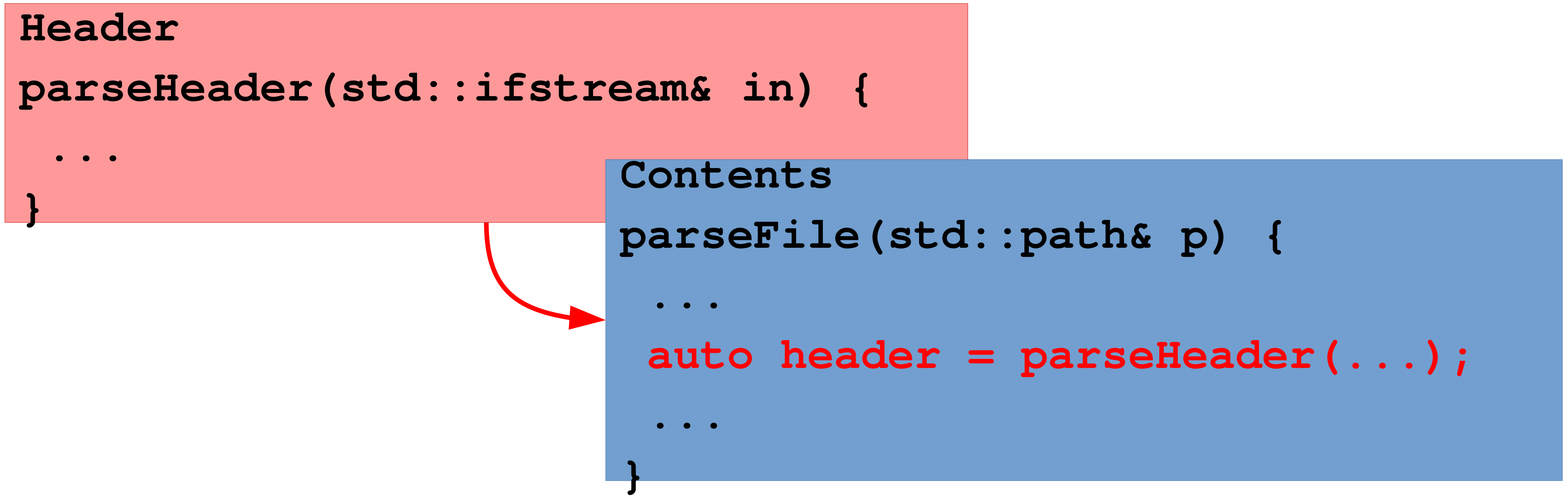

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How often did you run regression tests in co-ops/internships?

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  - Unit tests
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  - General system tests
- Regression tests are usually a selected subset of tests generated for other purposes.

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How else can we address this problem?

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But this is more or less where we started…

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These mostly validate the build process & core behaviors.

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  - "   " weekly
  - "   " preparing for milestones/ integration

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What else could we do?

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Is the cheap approach enough?

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In practice, tools can assist in finding out which tests need to be run

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Honestly. What do you do?
We are no longer *measuring* quality.

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Why might this happen?

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This yields the ratcheting power of regression tests!

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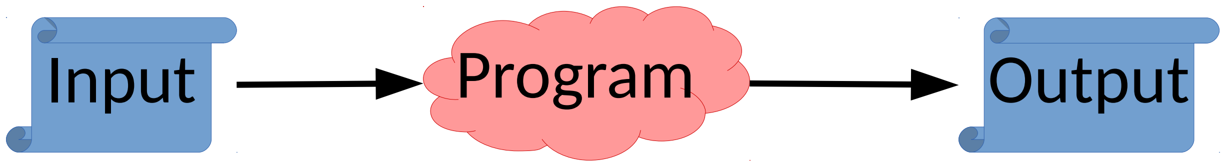

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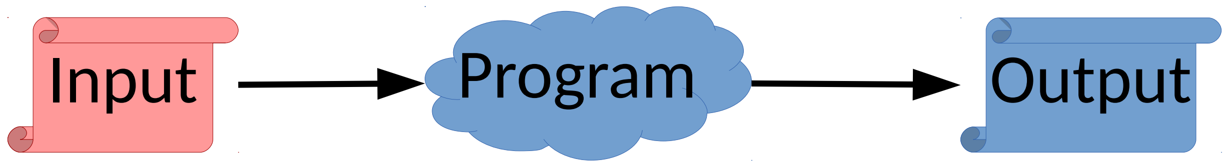

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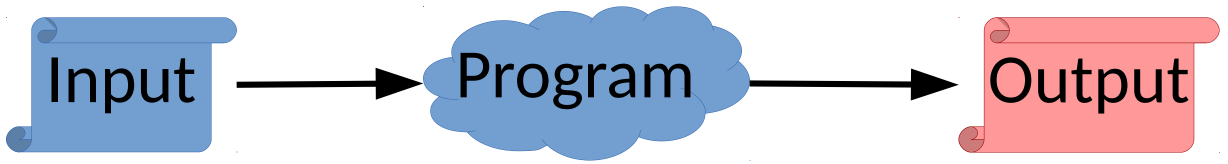

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Keeping these cases separate is important.
How can we do that?

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- Maintaining regression tests is ***costly***

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Addressing these burdens is a major focus of *automated testing* and *testability*

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We may also look at techniques for generalizing unit tests to find new bugs...