

Junit++: An Open Educational Tool for Simplifying Unit Testing



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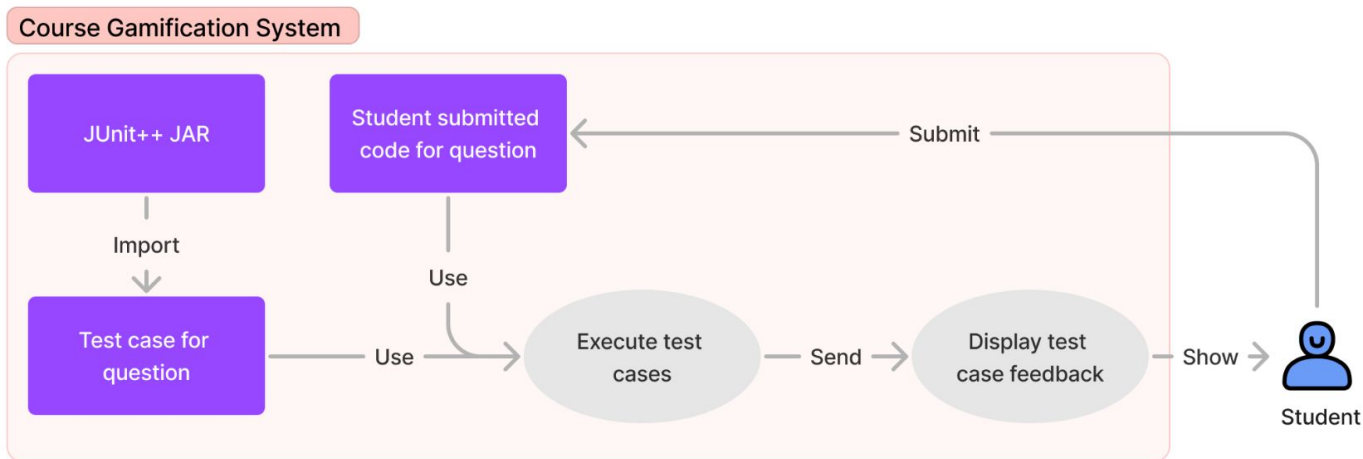
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Motivation

- JUnit 5 framework designed for software development testing
- Context: autograding for course with similar question structure
- Initial experience with JUnit 5 framework:
 - Lots of startup code
 - Test creation took too long
 - Too much redundant and repeated code across tests
- Consequently:
 - Inconsistent test cases across similar questions
 - Test quality was questionable
 - Higher learning curve not suitable for junior undergraduates
- Our proposal: JUnit++ extension that simplifies test writing process

How JUnit++ Works



JUnit++ Structure:

- Classes for boilerplate code (common and random-specific)
- Utility classes (features, next slide)

Features

- Output testing with clauses and regex
- Placeholder control flow testing
- Simulating randomness
- Data generation to create additional test cases
- Checks class/method signatures and properties
- Suite of default feedback messages

Interested?

<https://github.com/canvas-gamification/canvas-gamification-junit-tests>