Property-based test generation from Java specifications
Project Proposal

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Objectives

The goal of this project is to explore the generation of property-based tests from Java Modelling Language (JML) [1,2] specifications. A possible direction is to use JUnit-Quickcheck [3] but other alternatives will be studied.

Work plan and expected timeline

T1 Literature review
(week 1 -> week 3)

T2 Choose technologies to be used and prepare work environment
(week 2 -> week 4)

T3 Gather requirements and define design for the property-based test generation tool
(week 2 -> week 5)

T4 Implement and test tool
(week 5 -> week 13)

T5 Evaluation
(week 13)

T6 Report writing
(ongoing throughout the project with the final 2 weeks fully dedicated to report writing)

Expected Output

1. Project report

2. Tool for property-based test generation

3. Conference Paper (depending on results and time available)

Bibliography

[1] Java Modelling Language, `http://www.eecs.ucf.edu/~leavens/JML//index.shtml`

[2] OpenJML, `http://www.openjml.org/`

[3] JUnit-Quickcheck, `http://pholser.github.io/junit-quickcheck`