Software Component Technology Group

Semester Project

Implementing Purity and Side Effect Analysis for Java Programs

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Background

The Software Component Technology Group has developed some analysis tools for Java programs, which need purity information about the methods in the program. Purity information means, the analyze tools have to know if a method mutates any object that exists before the method invocation (not pure) or not (pure).

Till now, the purity information has to be written to the tool with an XML-file by hand.

Goal

The goal of this semester project is to build a tool, which automatically finds the pure methods in a Java program and writes this information in an XML-file, that can be used by other analyze tools.

Base for the project is the paper Purity and Side Effect Analysis for Java Programs from Alexandru D. Sălcianu and Martin C. Rinard, which describes theoretically how a purity analysis in a JAVA program could be made.