Comparison of Static Analysis Tools for Finding Concurrency Bugs

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Abstract: This paper highlights the issue of detecting Java concurrency bugs using static code analysis tools. Concurrency bugs are often hard to find because of interleaving threads and there is need to use static analysis tools to detect the concurrency bugs. In the literature review, we established that there are number of static analysis tools such as FindBugs, JLint and Chord, used in experiments to determine their ability to detect the Java concurrency bugs. However there are still tools in the class of open source static analysis that needs experimental evidence for their ability to find concurrency bugs. In this study we selected three tools CheckThread, RacerX and RELAY. The experiment and survey is used to find out the answer for formulated research questions in the introduction section. As we were not required to actually conduct the research methodology, we assumed the results of experiment and survey for discussion and results.