Testing of Multi-threaded Programs

Description

Multi-threaded programs are usually error prune due to data races. However, testing of real-world concurrent programs can be both time- and space-consuming, since the exploration space can increase exponentially during execution [1]. To tackle this problem, existing approaches have been proposed to efficiently detect concurrency bugs [1, 2, 3, 4], where techniques such as bounded sampling, fuzzing, and dynamic slicing are usually involved.

The student should examine and discuss the current state of the art approaches for testing multithreaded programs.

References


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