Test Selection, Minimization, and Prioritization for Regression Testing

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ABSTRACT

Regression testing is referred to as “program revalidation”. Regression testing includes both corrective and progressive regression testing. It is the process of retesting the modified parts of the software and ensuring that no new errors have been introduced into previously tested source code due to these modifications. In this paper, we propose techniques for the selection, minimization, and prioritization of tests for regression testing. The source \(X\) from which tests are selected is likely derived using a combination of black box and white box techniques and used for system or component testing. When this system or component is modified one might be able to retest it using only a subset of \(X\) and ensure that despite the changes the existing unchanged code continues to function as desired.

KEYWORDS

Regression Testing, Component Testing, Minimization, Prioritization