Abstract

Regression testing is an important domain of software testing, which attempts to verify all the
fixes that had been introduced into the software throughout its development period by means of
test suites. In spite of being exorbitant in terms of time and cost, it cannot be evaded. As a
result, lot many techniques have been proposed in the past in order to minimize these
expenses. One such technique is Test Case Prioritization, which works by scheduling the
execution order of test cases with a goal of improving the fault detection rate. This paper
introduces a hybrid approach to test case prioritization, by combining Genetic Algorithm and
Adaptive approach. Initially, it applies the Adaptive approach for the prioritization of test cases.
Further, the left over test cases are prioritized by applying the Genetic Algorithm. Finally, the
outcomes obtained from the proposed approach are compared with those of Genetic Algorithm
based on two parameters: execution time and average percentage of statement coverage
(APSC) values. The evaluation results prove that the proposed approach performs better in
terms of both the parameters.
References

16. A. Schwartz, H. Do. Cost-effective regression testing through Adaptive Test

**Index Terms**

Computer Science  
Algorithms

**Keywords**

Regression testing, test case prioritization, genetic algorithms, adaptive approach