Abstract

Software testing plays an important role for evaluation of the quality of the software. Quality of the software depends upon the kind of testing strategies applied by the software tester who generates valid and invalid test cases for evaluating the quality of software. For optimizing the testing procedure, testing paths are very valuable to judge the quality of the software. From the literature, it is revealed that it is big challenge to optimize the testing paths. In the present work, the concept of genetic algorithm is used for prioritization of test cases generated from Unified Modeling Language. Testing paths are generated from activity diagram is designed for generation of test cases from design specification which will further reduce the cost of software testing. Branch coverage technique and predicate coverage methods are used for prioritization of test cases by identifying the independent paths. Information flow metric and decision node based genetic function are used through a case study.
Use of Genetic Approach for Test Case Prioritization from UML Activity Diagram

Index Terms

Computer Science
Software Engineering

Keywords

Software Testing  Test Suites  Genetic Approach  Unified Modeling Language  Activity Diagram