Abstract

Software testing is the critical activity in any industrial–strength software development process. As the software grows in size, its complexity increases and testing becomes more difficult. Hence generating test cases manually produces more errors and affects overall system quality. In this paper, we have proposed a tool for automatic generation of test cases using the
control structure methods. This tool aims to achieve 100% coverage of a given structural code by including statement coverage, decision coverage, and path coverage and branch coverage analysis. It also helps the developers and testers to measure the effectiveness of test case generated using a metric called ‘Test Effectiveness Ratio’.

Reference

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**Index Terms**

Computer Science  
Software Engineering  

**Key words**  

Testing  
Test cases  
Control  

Flow Graph (CFG)

Statement Coverage  
Decision Coverage  
Path Coverage  
Branch Coverage  
Test Effectiveness Ratio