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

- Christophe Paoli, Marie Laure Nivet, Jean Francosis Santucci, Antoine Campana, “Path Oriented Test Data Generation of Behavioral VHDL Description”, IEEE Transactions on Software Engineering, March 2002

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