Abstract

Manual software testing is both an expensive and time consuming activity, requires proper planning and resource. This paper proposed a method to automate the process of test case generation. This proposed technique reduces time and increase the reliability of the software testing processes. The main criteria of software testing are to generate test cases. This methodology consist of transforming the state diagram (UML) into finite state machine (DFA / NDFA) where each node represent state and the arrow connecting the states represent transition. The nodes store state information and arrows maintain trigger information which is necessary for state transition. Mined information and pre- and post- condition of the states are used to build test case. The proposed technique attains sufficient test coverage without increasing the number of test cases. It also achieves much important coverage like transition coverage, transition pair coverage, and provides state coverage.
Test Case Generation using UML State Diagram and OCL Expression

- Object Constraint Language 2. 0 is available from the main website of Object Management Group (http://www.omg.org/).
- Absolute Astronomy Object Constraint Language, Encyclopedia (http://www.absoluteastronomy.com/topics/Object_Constraint_Language)

Index Terms

Computer Science	Software Testing

Keywords

DFA	NDFA	Sequence diagram graph (SDG)	OCL