A Semantic Approach for the Generation of Test Cases from Activity Diagram

Abstract

Software testing is the process of evaluating a system or its modules in the intent to find that the software is acquiring the efficient requirements or not. In simple words testing is the execution of the system in order to find their gaps, ambiguity and inconsistency. Software testing comprises into three factors: test case generation, test cases execution and test cases evaluation. This paper implemented a semantic approach for the generation of test cases on UML model i.e., Activity Diagram. In this approach an Activity diagram is created then it automatically generated a Activity Dependency table (ADT) from Activity diagram. From the ADT an Activity Dependency Graph (ADG) is introduced. Finally After the automatic generation of ADG a consistent test case are generated. This approach includes the validation of the test cases by their consistency and efficiency. This approach saves the cost, time, efforts and increases the quality of generated test cases.

References
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Index Terms

Computer Science  Software Engineering

Keywords

Unified Modeling Language Model (UML)  automatic generated test cases  Model Based testing (MBT)

Genetic Algorithm

branch coverage criterion