Reducing test suite of state-sensitivity partitioning (SSP)

ABSTRACT

Software testing is one of the most vital phases of software development lifecycle that aims to detect software faults. Test case generation dominates the software testing research. SSP is one of many techniques proposed for test case generation. The goal of SSP is to avoid exhaustively testing all possible combinations of inputs and preconditions. The test cases produced by SSP are formed of a sequence of events. For instance, a queue test case might encompass the addition of thirty items onto the queue; deletion of three items, addition of sixty more items, seven deletions and examining the outcome. Notwithstanding perceiving the finite bounds of the queue size, there is an endless engage of sequences along with no upper limit on the sequence's length. Therefore, the sequence might get lengthy as a result of comprising data states that are redundant. The test suite size is expanded due to the data states redundancies and subsequently, the testing process will become insufficient. Thus, it is a necessity to optimize the SSP test suite by removing the redundant data states. This paper addresses the issue of SSP suite reduction, which part of the process for optimizing test suite produced by the SSP.