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## Abstract

Software testing is the process of analyzing a software item to detect the differences between existing and required conditions (that is, bugs) and to evaluate the features of the software items. Software testing is an activity that should be done throughout the whole development process. Pairwise testing primarily targets faults caused by interactions between two parameters. However, some faults can be caused by interactions involving more than two parameters. Those faults cannot effectively be detected by pairwise testing. In this research work, we presented an algorithm to generate effective and less number of test cases using pairwise testing technique. The pairwise testing approach is basically based on the fact that the

majority of possible errors/faults/bugs occur when two modules/parameters values interact. This proposed algorithm can be used efficiently in various realms of software products. In future we can plan to reduce the number of test cases by using the degree of coverage of three and four-wise in efficient way. Ultimately this will reduce the total number of test cases and provide only effective and efficient test case set and thus it will also save time for both software developers as well as for software testers.

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### Index Terms

Computer Science

Software Testing

**Keywords**

Pairwise Testing Software Testing Graph Base Testing