

# Abstract

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## **Automatic Repair of Software Bugs**

software evaluation reaches the peak when the software passes the testing phase successfully proves its reliability. unreliability can be caused due to some bugs that cannot be detected during the compilation time. the task of fixing these bugs is basically human-only task because of its complexity. although there are many techniques for automating the detection of these bugs, very much fewer ones exist for correcting them. rule-based systems can be indispensable when human expertise is not accessible, that is the case when the automation is required. thus, an after compilation fault correction (alfc) rule-based system is proposed for automating the complex task of fixing such bugs that are not detected in the compilation phase. a prototype for the alfc system is implemented applied for the java language with test cases to validate it. experimental results show the success effectiveness of the proposed technique.