

Automated debugging of Java syntax errors through diagnosis

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Abstract

Syntax errors arise in a program because the program code misuses the programming language. When these errors are detected by a compiler, they are not necessarily easy to debug because the compiler error message that reports the error is often misleading. JaSD, a knowledge-based system written in Java, is a program that can determine the cause of a given syntax error and suggest how to correct that error. JaSD uses artificial intelligence techniques to perform debugging. Currently, JaSD has enough knowledge to debug one of four different Java syntax errors. This paper describes the JaSD system and the diagnostic approach taken and offers some examples. Conclusions describe how JaSD can be expanded to debug additional errors.