Introduction

The program being built is a compiler for the Pascal programming language, written in the Java programming language. Each piece will be defined with a summary, as well as a section on the current state of development, and the testing methods used.

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1. Scanner
2. Parser
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1. Scanner

1.1 - Summary

The scanner is the implementation of the DFA found in the documentation folder. This is a class that reads an input file and looks for ‘tokens’ that are defined in the TokenTypes enum, and stored as a hash with their values in the LookupTable class.

1.2 - Current State of Development

The scanner is fully implemented except for floating point numbers and comments, which will be implemented at a later date.

1.3 - Testing

There is one test file for the scanner. This contains all of the keywords and symbols found in the grammar, and it scans successfully.

2. Parser

2.1 - Summary

The parser is the implantation of the Pascal grammar found in the documentation folder. This class uses the scanner to get the tokens and organize them into a syntax tree, giving an error if the given token does not match the expected token according to the grammar.

2.2 - Current State of Development

At this point, the parser will fully parse a program. Still needing to be implemented are procedure statement within statement(), and read(id) and write(expression), also within statement.

2.3 - Testing

Testing for the parser involves six text file (pascal programs), and 4 java classes. The first class runs through the 3 happy path test files. These are error free Pascal programs ranging in complexity from empty to full programs with subprogram declarations and items in the compound statement. The next three classes test the error programs individually (this is necessary because the parser system exits on error). These error classes are the same as their non-error counterparts, yet they introduce syntax errors in different parts. Currently, all of the classes error out at the expected time.