Pascal to MIPS Compiler

Software Design Document

Version <1.3>

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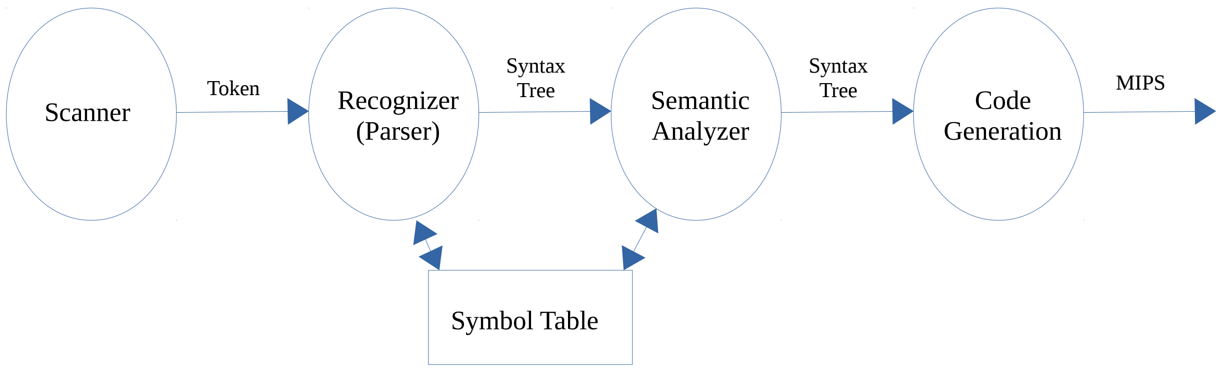
Revisions

Date	Description	Version
January 23rd, 2018	Created the document.	1.0
January 30th, 2018	Added cover page and separated sections.	1.1
January 30th, 2018	Added documentation about Parser.	1.2
February 1st, 2018	Added graph containing the overview of the compiler.	1.3

1. Introduction

This project is for Programming Languages and Compilers course, keystone for Computer Science majors, at Augsburg University. It contains a compiler in Java for Pascal, to finally, convert the code to MIPS. Its components are described below.

2. Overview



3. Implemented Components

/src/scanner/

a) Scanner.jflex – we used a JFlex tool to create Scanner.java which currently contains the skeleton of being able to read-in a file and creating their respective Token.

b) Scanner.java – created from the JFlex tool.

c) Token.java – This class contains the simple Token object, which contains String lexeme and TokenType.

d) TokenType.java – This class is an ENUM that contains all the relative token types in Pascal.

e) LookUpTable.java – This class is a HashMap containing lexeme as a key and TokenType as value. The lexeme is matched to their respective TokenType using this LookUpTable.

f) ScannerTest.java – This class currently contains JUnit testing for yytext() and nextToken().

/src/parser/

a) Parser.java – contains a parser for Pascal based on the grammar provided by professor. On top of abiding the rules of the grammar, there are six other methods, isMulop(), mulop(), isAddop(), addop(), isRelop(), and relop() for simplicity.