Program Overview

For our compiler we decided to use java as the java virtual machine allows for the program to be widely used as well as the language was widely understood by our team members. We also used the JavaCC parser generator in order to help us generate our parser, as the program offers a very understandable way to implement our generated grammer.

Usage

To use our compiler we are targeting the linux command line. To compile the java program for the compiler navigate to the compiler direcotry and in the command line type:

javac \*.java

To use the compiler type:

java Compiler [flags] (path of your c file).

If no flags are given the compilation will proceed under assumed parameters

Here is a list of what each flag does:

-t : will output token and label list

-pt : will output parse tree

Design Discussion

Language Specification

Currently we recognize:

Identifiers, variables, functions

Keywords

Arithmetic expressions

Assignment

Boolean expressions

Goto statements

If / Else control flow

Unary operators

Return statements

Break statements

While loops

Currently we do **Not** recognize

Numop= , ++ ,and --

Types other than integers

For loops

Binary operators

Switch statements

Pointers, arrays, strings

Preprocessor statements

Struct, enum

Casting, type promotion

Type specs