BNF for MiniJava

NON-TERMINALS

Goal ::= MainClass (ClassDeclaration)* <EOF>

MainClass ::= "class" Identifier "{" "public" "static" "void" "main" "(" "String" "[" "]"
Identifier ")" "{" Statement "}" "}"

ClassDeclaration ::= "class" Identifier ("extends" Identifier)? "{" (VarDeclaration)*
(MethodDeclaration)* "}"

VarDeclaration ::= Type Identifier ";"

MethodDeclaration ::= "public" Type Identifier "(" (Type Identifier ("," Type Identifier)*)? ")"
"{" (VarDeclaration)* (Statement)* "return" Expression ";" "}"

Type ::= "int" "[" "]"
| "boolean"
| "int"
| Identifier

Statement ::= "{" (Statement)* "}"
| "if" "(" Expression ")" Statement "else" Statement
| "while" "(" Expression ")" Statement
| "System.out.println" "(" Expression ")" ";"
| Identifier "=" Expression ";"
| Identifier "[" Expression "]" "=" Expression ";"

Expression ::= Expression ("&&" | "<" | "+" | "-" | "*") Expression
| Expression "[" Expression "]"
| Expression "." "length"
| Expression "." Identifier "(" (Expression ("," Expression)*)? ")"
| <INTEGER_LITERAL>
| "true"
| "false"
| Identifier
| "this"
| "new" "int" "[" Expression "]"
| "new" Identifier "(" ")"
| "!" Expression
| "(" Expression ")"

Identifier ::= <IDENTIFIER>