

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>

```