

Remove ambiguity in MiniJava grammar

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" | "private") Type Identifier "(" (Type Identifier (
", " Type Identifier)*)? ")" "{" (VarDeclaration)* (Statement)* "return" Expression
";" "}"

Type ::= "boolean" Parentheses

Type ::= "int" Parentheses

Type ::= "float" Parentheses

Type ::= "String" Parentheses

Type ::= "char" Parentheses

Parentheses ::= "[" "]" | ε

Statement ::= "{" (Statement)* "}"

Statement ::= "if" "(" Expression ")" Statement Else

Statement ::= "while" "(" Expression ")" Statement

Statement ::= "System.out.println" "(" Expression ")" ";"

Statement ::= Identifier Identifier-Statements

Else ::= "else" Statement | ε

Identifier-Statements ::= "=" Expression ";"

Identifier-Statements ::= "[" Expression "]" "=" Expression ";"

```
Expression ::= <INTEGER_LITERAL> ExpressionDash  
Expression ::= "true" ExpressionDash  
Expression ::= "false" ExpressionDash  
Expression ::= Identifier ExpressionDash  
Expression ::= "this" ExpressionDash  
Expression ::= "new" newExpression ExpressionDash  
Expression ::= "!" Expression ExpressionDash  
Expression ::= "(" Expression ")" ExpressionDash
```

```
LeftExpression ::= ( "&&" | "<" | "+" | "-" | "*" ) Expression  
LeftExpression ::= "[" Expression "]"  
LeftExpression ::= "." DotExpression
```

```
newExpression ::= "int" "[" Expression "]" | Identifier "(" ")"
```

```
DotExpression ::= "length" | Identifier "(" ( Expression ( "," Expression ) * )? ")"
```

```
ExpressionDash ::= LeftExpression ExpressionDash | ε
```

```
Identifier ::= <IDENTIFIER>
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