

BNF for MiniJava

NON-TERMINALS

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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>