

MiniJava Syntax

In the following, a sequence of tokens enclosed in lightweight square brackets, like [**extends** ID] is optional. A token or tokens enclosed in lightweight braces, like {ClassDecl} may appear 0 or more times.

Program ::= MainClassDecl {ClassDecl}

MainClassDecl ::= **class** ID { **public static void main** (**String**[] ID) { Stmt {Stmt} } }

ClassDecl ::= **class** ID [**extends** ID] { {ClassVarDecl} {MethodDecl} }

ClassVarDecl ::= Type ID;

MethodDecl ::= **public** Type ID ([Formal {, Formal}]) { {Stmt} **return** Expr; }

Formal ::= Type ID

Type ::= **int**[] | **int** | **boolean** | ID

Stmt ::= Type ID = Expr;

| { {Stmt} }

| **if** (Expr) Stmt **else** Stmt

| **while** (Expr) Stmt

| **System.out.println**(Expr);

| ID = Expr;

| ID[Expr] = Expr;

Expr ::= Expr (+ | - | * | / | < | <= | >= | > | == | != | && | ||) Expr

| (- | !) Expr

| Expr[Expr]

| Expr.length

| Expr . ID ([Expr {, Expr}])

| **new** ID ()

| **new int**[Expr]

| ID

| **this**

| Integer

| **null**

| **true**

| **false**

| (Expr)