

# CSSE 404, MiniJava Grammar

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March 28, 2014.

Program	→	MainClassDecl ClassDecl*
ClassDecl*	→ 	ClassDecl ClassDecl* ε
MainClassDecl	→	class ID { public static void main(String[] ID ){ Stmt* } }
Stmt*	→ 	Stmt Stmt* ε
ClassDecl	→ 	class ID { ClassVarDecl* MethodDecl* } class ID extends ID { ClassVarDecl* MethodDecl* }
MethodDecl*	→ 	MethodDecl MethodDecl* ε
ClassVarDecl*	→ 	ClassVarDecl ClassVarDecl* ε
ClassVarDecl	→	Type ID ;
MethodDecl	→	public Type ID ( Formal* ){ Stmt* return Expr; }
Formal*	→ 	Formal+ ε
Formal+	→ 	Formal , Formal+ Formal
Formal	→	Type ID
Type	→   	int boolean ID
Stmt	→           	Type ID = Expr; { Stmt* } if( Expr ) Stmt else Stmt while( Expr ) Stmt System.out.println( Expr ); ID = Expr;

Expr	→	Expr2    Expr2
Expr2	→	Expr3 && Expr3
Expr3	→	Expr4 == Expr3
		Expr4 != Expr3
		Expr4
Expr4	→	Expr5 < Expr4
		Expr5 > Expr4
		Expr5 <= Expr4
		Expr5 >= Expr4
		Expr5
Expr5	→	Expr6 + Expr5
		Expr6 - Expr5
		Expr6
Expr6	→	Expr7 * Expr6
		Expr7 / Expr6
		Expr7
Expr7	→	- Expr7
		! Expr7
		Expr8
Expr8	→	Expr9 Expr8'
Expr8'	→	. ID ( Expr8* ) Expr8'
		ε
Expr8*	→	Expr8+
		ε
Expr8+	→	Expr , Expr8+
		Expr
Expr9	→	new ID ( )
		ID
		this
		Integer
		null
		true
		false
		( Expr )