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Program ::= Decl+
Decl ::= VariableDecl | FunctionDecl
VariableDecl ::= Variable ;
Variable ::= Type ident
Type ::= int | double | bool | string | ident | Type []
FunctionDecl ::= Type ident ( Formals ) Stmt*
               void ident ( Formals ) Stmt*
Formals ::= Variable+, | ε
Stmt ::= IfStmt | WhileStmt | ForStmt | ReturnStmt | PrintStmt | Expr ;
IfStmt ::= if ( Expr ) Stmt (else Stmt)
WhileStmt ::= while ( Expr ) Stmt
ForStmt ::= for ( ⟨Expr⟩ ; Expr ; ⟨Expr⟩ ) Stmt
ReturnStmt ::= return ⟨Expr⟩ ;
PrintStmt ::= Print ( Expr+, ) ;
Expr ::= LValue = Expr | Constant | LValue | this | ( Expr ) |
        Expr + Expr | Expr - Expr | Expr * Expr | Expr / Expr |
        Expr % Expr | - Expr | Expr < Expr | Expr <= Expr |
        Expr > Expr | Expr >= Expr | Expr == Expr | Expr != Expr |
        Expr && Expr | Expr || Expr | ! Expr | New (ident) |
LValue ::= ident | Expr . ident | Expr [ Expr ]
Constant ::= intConstant | doubleConstant | boolConstant |
            stringConstant | null

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[Original]

Program → Decl⁺

Decl → VariableDecl | FunctionDecl

VariableDecl → Variable ;

Variable → Type ident

Type → int | double | bool | string | ident | Type []

FunctionDecl → Type ident (Formals) Stmt* | void ident (Formals) Stmt*

Formals → Variable⁺, | ε

Stmt → WhileStmt | ReturnStmt | Expr ;

WhileStmt → while (Expr) Stmt

ReturnStmt → return Expr ;

Expr → LValue = Expr | Constant | LValue | this | (Expr) | Expr + Expr | Expr - Expr |
 Expr * Expr | Expr / Expr | Expr % Expr | - Expr | Expr < Expr | Expr <= Expr |
 Expr > Expr | Expr >= Expr | Expr == Expr | Expr != Expr | Expr && Expr |
 Expr || Expr | : Expr | New (ident)

LValue → ident | Expr.ident | Expr [Expr]

Constant → intConstant | doubleConstant | boolConstant | stringConstant | null

[Propuesta]

Program \rightarrow Decl Decl+
Decl+ \rightarrow Decl Decl+ | ϵ
Decl \rightarrow VariableDecl | FunctionDecl
VariableDecl \rightarrow Variable ;
Variable \rightarrow Type ident
Type \rightarrow int Brackets | double Brackets | bool Brackets | string Brackets | ident Brackets
Brackets \rightarrow [] Brackets | ϵ
FunctionType \rightarrow Type | void

FunctionDecl \rightarrow FunctionType ident (Formals) FunctionStmt
FunctionStmt \rightarrow Stmt FunctionStmt | ϵ
Formals \rightarrow VariableList | ϵ
VariableList \rightarrow Variable , VariableList | Variable

Stmt \rightarrow WhileStmt | ReturnStmt | Expr ;
WhileStmt \rightarrow while (Expr) Stmt
ReturnStmt \rightarrow return Expr ;

Expr \rightarrow LValue ExprP | : Expr | Operation
ExprP \rightarrow = RValue | := RValue
LValue \rightarrow ident LValueP | this.ident
LValueP \rightarrow [Expr] | .ident | ϵ
RValue \rightarrow New (ident) | Expr
Constant \rightarrow intConstant | doubleConstant | boolConstant | stringConstant | null

OpTerm \rightarrow Constant | LValue | (Operation)
Operation \rightarrow - Operation | (Operation) | OP1
OP1 \rightarrow OpTerm OP1.1 | OP2
OP1.1 \rightarrow || OP1 | && OP1 | == OP1
OP2 \rightarrow OpTerm BoolSymb OP2 | OP3
BoolSymb \rightarrow < | <= | > | >=
OP3 \rightarrow OpTerm OP3.1 | OP4
OP3.1 \rightarrow * OP3 | / OP3 | % OP3
OP4 \rightarrow OpTerm OP4.1
OP4.1 \rightarrow + OP4 | - OP4 | ϵ