

Program \rightarrow Program Function $| \varepsilon$

Functions \rightarrow "function" identifier ";" "beginparams" Declarations "endparams" "beginlocals"
Declarations "endlocals" "beginbody" Statements "endbody"

Declarations \rightarrow Declaration ";" Declarations $| \varepsilon$

Statements \rightarrow Statement ";" Statements $|$ Statement ";"

Declaration \rightarrow Identifiers ":" "integer" $|$ "array" "[" number "]" "of" "integer"

Identifiers \rightarrow identifier ";" Identifiers $|$ identifier

Statement \rightarrow Var "!=" Expression
 $|$ "if" Bool-Exp "then" Statements "endif"
 $|$ "if" Bool-Exp "then" Statements "else" Statements "endif"
 $|$ "do" "beginloop" Statements "endloop" "while" Bool-Expr
 $|$ "read" Vars
 $|$ "write" Vars
 $|$ "continue"
 $|$ "return" Expression

Vars \rightarrow Var ";" Vars $|$ Var

Bool-Expr \rightarrow Relation-And-Expr "or" Bool-Expr $|$ Relation-And-Expr

Relation-And-Expr \rightarrow Relation-Expr "and" Relation-And-Expr $|$ Relation-Expr

Relation-Expr \rightarrow Nots Expression Comp Expression
 $|$ Nots "true"
 $|$ Nots "false"
 $|$ Nots "(" Bool-Expr ")"

Nots \rightarrow not Nots $| \varepsilon$

Comp \rightarrow "==" $|$ "<>" $|$ "<" $|$ ">" $|$ "<=" $|$ ">="

Expression \rightarrow Multiplicative-Expr "+" Expression
 $|$ Multiplicative-Expr "-" Expression
 $|$ Multiplicative-Expr

Multiplicative-Expr \rightarrow Term "*" Multiplicative-Expr
| Term "/" Multiplicative-Expr
| Term "%" Multiplicative-Expr
| Term

Term \rightarrow Mins Var
| Mins number
| Mins "(" Expression ")"
| identifier "(" Expressions ")"

Mins \rightarrow "-" Mins | ε

Expressions \rightarrow Expression "," Expressions | Expression | ε

Var \rightarrow identifier
| identifier "[" Expression "]"