Grammar for Mini_L

prog_start → function prog_start
| ϵ

function → FUNCTION ident SEMICOLON BEGIN_PARAMS declarations END_PARAMS BEGIN_LOCALS declarations END_LOCALS BEGIN_BODY stmtloop END_BODY

declarations → decbranch1 declarations
| ϵ

decbranch1 → ident COMMA decbranch1
| ident COLON decbranch2 INTEGER SEMICOLON

decbranch2 → ARRAY L_SQUARE_BRACKET number R_SQUARE_BRACKET OF
| ϵ

stmtloop → statements SEMICOLON stmtloop
| statements SEMICOLON

statements → stmtbranch1
| stmtbranch2
| stmtbranch3
| stmtbranch4
| stmtbranch5
| stmtbranch6
| stmtbranch7
| stmtbranch8
| stmtbranch9

stmtbranch1 → var ASSIGN expr

stmtbranch2 → IF boolexpr THEN stmtloop stmtbranch21 ENDIF

stmtbranch21 → ELSE stmtloop
| ϵ

stmtbranch3 → WHILE boolexpr BEGINLOOP stmtloop ENDLOOP

stmtbranch4 → DO BEGINLOOP stmtloop ENDLOOP WHILE boolexpr

stmtbranch5 → FOR var ASSIGN number SEMICOLON boolexpr SEMICOLON var ASSIGN expr BEGINLOOP stmtloop ENDLOOP

stmtbranch6 → READ stmtbranch61

stmtbranch61 → var COMMA stmtbranch61
| var

stmtbranch7 → WRITE stmtbranch71

stmtbranch71 → var COMMA stmtbranch71
| var

stmtbranch8 → CONTINUE

stmtbranch9 → RETURN expr

boolexpr → relandexpr boolbranch

boolbranch → OR relandexpr boolbranch
| ϵ

relandexpr → relexpr raebranch
raebranch → AND relexpr raebranch
| ϵ

relexpr → NOT relexpr
| expr comp expr
| TRUE
| FALSE
| L_PAREN boolexpr R_PAREN

comp → EQ
| NEQ
| LT
| GT
| LTE
| GTE

expr → multexpr exprbranch
exprbranch → exprop multexpr exprbranch
| ϵ
exprop → ADD
| SUB

multexpr → term multexprbraanch
multexprbranch → multexprop term multexprbranch
| ϵ
multexprop → MULT
| DIV
| MOD

term → termbranch1
| termbranch2
termbranch1 → SUB termbranch1
| var
| number
| L_PAREN expr R_PAREN
termbranch2 → ident L_PAREN termbranch21 R_PAREN
termbranch21 → termbranch22
| ϵ
termbranch22 → expr COMMA termbranch22
| expr

var → ident varbranch
varbranch → L_SQUARE_BRACKET expr R_SQUARE_BRACKET
| ϵ

ident → IDENT

number → NUMBER