

PROGRAM: functions

functions:

- | function functions

function: FUNCTION identifier SEMICOLON BEGIN\_PARAMS declarations END\_PARAMS  
BEGIN\_LOCALS declarations END\_LOCALS BEGIN\_BODY statements END\_BODY

declarations:

- | declaration SEMICOLON declarations

declaration: identifiers COLON ARRAY L\_SQUARE\_BRACKET NUMBER  
R\_SQUARE\_BRACKET OF INTEGER

- | identifiers COLON INTEGER

- | identifiers COLON ENUM L\_PAREN identifiers R\_PAREN

statements:

- | statement SEMICOLON statements statement:

- | var ASSIGN expressions

- | IF boolexpressions THEN statements ENDIF

- | IF boolexpressions THEN statements ELSE statements ENDIF

- | WHILE boolexpressions BEGINLOOP statements ENDLOOP

- | DO BEGINLOOP statements ENDLOOP WHILE boolexpressions

- | READ vars

- | WRITE vars

- | CONTINUE

- | RETURN expressions

boolexpressions: relationandexpressions

- | relationandexpressions OR relationandexpressions

relationandexpressions: relationexpressions

- | relationexpressions AND relationandexpressions

relationexpressions: NOT relationexpress

- | relationexpress

relationexpress: expressions comps expressions

- | TRUE

- | FALSE

- | L\_PAREN boolexpressions R\_PAREN

comps: EQ

- | NEQ
- | LT
- | GT
- | LTE
- | GTE

expressions: expression  
| expression COMMA expressions

expression: multiplicative\_expression  
| multiplicative\_expression ADD expression  
| multiplicative\_expression SUB expression

multiplicative\_expression: term  
| term MULT multiplicative\_expression  
| term DIV multiplicative\_expression  
| term MOD multiplicative\_expression

term: var  
| SUB var  
| NUMBER  
| SUB NUMBER  
| L\_PAREN expression R\_PAREN  
| SUB L\_PAREN expression R\_PAREN  
| IDENT L\_PAREN expressions R\_PAREN

vars: var  
| var COMMA vars

var: identifier  
| identifier L\_SQUARE\_BRACKET expressions R\_SQUARE\_BRACKET

identifiers: identifier  
| identifier COMMA identifiers

identifier: IDENT