**Program:**

**Program** -> **function**

**function** -> **Function function** | empty

**Function:**

**Function ->** FUNCTION IDENT SEMICOLLON BEGIN\_PARAMS **Function'** END\_PARAMS BEGIN\_LOCALS **Function'** END\_LOCALS BEGIN\_BODY **Statement** SEMICOLON **Function''** END\_BODY

**Function' -> Declaration** SEMICOLON **Function'** | empty

**Function'' -> Statement** SEMICOLON **Function''** | empty

**Declaration:**

**Declaration ->** IDENT **Declaration'** COLON **Declaration''** INTEGER

**Declaration' ->** COMMA IDENT **Declaration'** | empty

**Declaration'' ->** ARRAY L\_SQUARE\_BRACKET NUMBER R\_SQUARE\_BRACKET OF | empty

**Statement:**

**Statement ->** **Var** ASSIGN **Expression**

**Statement ->** IF **Bool-Expr** THEN **Statement** SEMICOLON **Statement'** ENDIF ;

**Statement ->** WHILE **Bool-Expr** BEGINLOOP **Statement** SEMICOLON **Statement''** ENDLOOP

**Statement ->** DO BEGINLOOP **Statement** SEMICOLON **Statement''** ENDLOOP WHILE **Bool-Expr**

**Statement ->** READ **Var Statement'''**

**Statement ->** WRITE **Var Statement'''**

**Statement ->** CONTINUE

**Statement ->** RETURN **Expression**

**Statement' -> Statement** SEMICOLON **Statement'** | ELSE **Statement** SEMICOLON **Statement''** | empty

**Statement'' -> Statement** SEMICOLON **Statement''** | empty

**Statement''' ->** COMMA **Var Statement'''** | empty

**Bool-Expr:**

**Bool-Expr -> Relation-And-Expr Bool-Expr'**

**Bool-Expr' ->** OR **Relation-And-Expr Bool-Expr'** | empty

**Relation-And-Expr:**

**Relation-And-Expr -> Relation-Expr Relation-And-Expr'**

**Relation-And-Expr' -> AND Relation-Expr Relation-And-Expr'** | empty

**Relation-Expr:**

**Relation-Expr -> Relation-Expr'** |NOT **Relation-Expr'**

**Relation-Expr' -> Expression Comp Expression |** TRUE | FALSE | L\_PAREN **Bool-Expr** R\_PAREN

**Comp:**

**Comp ->** EQ | NEQ | LT | GT | LTE | GTE

**Expression:**

**Expression -> Multiplicative-Expr Expression'**

**Expression' ->** ADD **Multiplicative-Expr Expression'** |SUB **Multiplicative-Expr Expression'** |empty

**Multiplicative-Expr:**

**Multiplicative-Expr -> Term Multiplicative-Expr'**

**Multiplicative-Expr' ->** MULT **Term Multiplicative-Expr'** | DIV **Term** **Multiplicative-Expr'** |MOD **Term Multiplicative-Expr'** |empty

**Term:**

**Term -> Term'** |SUB **Term'** | IDENT L\_PAREN **Term''** R\_PAREN

**Term' -> Var** |NUMBER | L\_PAREN **Expression** R\_PAREN

**Term'' -> Expression Term'''** | empty

**Term''' ->** COMMA **Term''** | empty

**Var:**

**Var ->** IDENT **|** IDENT L\_SQUARE\_BRACKET **Expression** R\_SQUARE\_BRACKET