1- Program 🡪 Function\_StateProgram **|** Main\_Function

* + Program 🡪 Functions
  + Functions 🡪 Data\_type Fun
  + Fun 🡪 Function\_Name **(** Parameter\_LIST **)** Function\_Body Functions

**| main ()** Function\_Body

2- Function\_State 🡪 Function\_declar Function\_Body

3- Function\_declar 🡪 Data\_type Function\_Name **(** Parameter\_LIST **)**

* Parameter\_LIST🡪 Parameter\_LIST **,** Parameter **|** Parameter **|ε**
  + Parameter\_LIST 🡪 Parameter Parameter\_LISTS **|** **ε**
  + Parameter\_LISTS 🡪  **,** Parameter Parameter\_LISTS **|** **ε**
* Parameter 🡪 Data\_type **identifier**

4- Data\_type 🡪 **int | float | string**

5- Funtion\_Name 🡪 **identifier**

6- Function\_Body 🡪 **{** Statements Return\_statement **}**

7- Statements 🡪 Stat Statements **| ε**

* State🡪 Assignment\_Statement

**|** Declaration\_Statement

**|** Write\_Statement

**|** Read\_Statement **|** If\_Statement

**|** Repeat\_Statement **|** Return\_Statement

8-- Assignment\_Statement 🡪 **identifier :=** Exp **;**

9- Exp 🡪 **String |** Term **|** Equation

* Exp 🡪 **String |** Term Arithmatic\_Part **| (**Term Arithmatic\_Term**)** Arithmatic\_Terms
* Arithmatic\_Part🡪Arithmatic\_Term **| ε**

10- Term 🡪 **Number | Identifier** | Function\_call

* Function\_call 🡪 **identifier** **(** ID\_LIST **)**
* ID\_LIST 🡪 ID\_LIST **, identifier** **|** **identifier** **|** **ε**
  + - ID\_LIST 🡪 **identifier** ID\_LISTS **|** **ε**
    - ID\_LISTS **🡪 , identifier** ID\_LISTS **|** **ε**
* Term 🡪 **Number | Identifier** Fun\_call
* Fun\_call 🡪 **(** ID\_LIST **) |** **ε**

11- Equation **🡪 (**Term Arithmatic\_Term**)** Arithmatic\_Terms **|** TermArithmatic\_Term

* Arithmatic\_Term **🡪** Arithmatic\_Operator Equation\_Part
* Equation\_Part **🡪** Term Arithmatic\_Terms **|** **(**Term Arithmatic\_Term**)** Arithmatic\_Terms
* Arithmatic\_Terms **🡪** Arithmatic\_Term **|** **ε**

12- Arithmatic\_Operator **🡪 + | \* | / | -**

13- Declaration\_Statement **🡪** Data\_type Decl Decl\_LIST **;**

* Decl **🡪 identifier |** **identifier :=**Exp
  + Decl **🡪 identifier** Assign
* Assign**🡪 :=** Exp **|** **ε**
* Decl\_LIST **🡪 , identifier** Decl\_LIST **| , identifier :=**Exp Decl\_LIST **|** **ε**
  + Decl\_LIST **🡪 , identifier** Assign Decl\_LIST **|** **ε**

14- Write\_Statement **🡪** **Write** Exp\_Endl **;**

* Exp\_Endl **🡪** Exp **|** **endl**

15- Read\_Statement **🡪** **read identifier** **;**

16- Return\_Statement **🡪** **return** Exp **;**

17- If\_Statement **🡪** **if** Condition\_Statement **then** Statements Close

* Close**🡪** Else\_If\_Statement **|** Else\_Statement **|** **end**
  + Else\_If\_Statement **🡪** **elseif** Condition\_Statement **then** Statements Close
  + Else\_Statement **🡪** **else** Statements **end**

18- Condition\_Statement **🡪** Condition Bool\_Condtion

* Bool\_Condtion **🡪** Boolean\_Op Condition Bool\_Condtion **|** **ε**
* Boolean\_Op **🡪** **&&** **|** **||**
* Condition **🡪** **identifier** Condition\_Op Term
* Condition\_Op **🡪** **< | <> | = | >**

19- Repeat\_Statement **🡪** **repeat** Statements **until** Condition\_Statement

20- Main\_Function **🡪** Data\_type **main ()** Function\_Body