**TINY Language Context Free Grammar CFG**

1. Program → FunctionList MainFunc
2. MainFunc → DataType main() FuncBody
3. DataType → int | float | string
4. FunctionList → FuncDef FunctionList | ε
5. FuncDef → FuncDecl FuncBody
6. FuncDecl → DataType FuncName ( FuncParams )
7. FuncName → identifier
8. FuncParams → ParamDecl MoreParams | ε
9. ParamDecl → DataType identifier
10. MoreParams → , FuncParams MoreParams | ε
11. FuncBody → { StatementList ReturnStatement | ReturnStatement }
12. StatementList → Statement State
13. State → Statement State | ε
14. Statement → IfStatement | ReturnStatement | ReadStmt | WriteStmt | RepeatStatement | DeclarationStatement | AssignStmt ; | FuncCall ; | ε
15. AssignStmt → identifier := Expr
16. ReadStmt → read identifier ;
17. WriteStmt → write WriteTail ;
18. WriteTail → Expr | endl
19. DeclarationStatement → DataType VarsDeclartion ;
20. VarsDeclartion → identifier Initialization Declartions
21. Initialization → := Expr | ε
22. Declartions → , identifier Initialization Declartions | ε
23. FuncCall → identifier ( ArgList ) ;
24. ArgList → Expr MoreArgs | ε
25. MoreArgs → , Expr MoreArgs | ε
26. Expr → string | Term | Equation
27. Equation → Term EqOp Term | ( Equation ) EqOp Term | Term ////////////////////
28. Operator\_Equation → Arthematic\_Operator Equation Operator\_Equation | ε
29. ReturnStatement → return Expr ;
30. Term → number | identifier | FuncCall
31. CondOp → < | > | != | ==
32. BoolOp → || | &&
33. Condition → identifier ConOp term
34. ConditionStatement → Condition Conditions
35. Conditions → Boolop Condition Conditions | ε
36. RepeatStatement → repeat StatementList until ConditionStatement
37. IfStatement → if ConditionStatement then StatementList ElseifStatements ElseStatement end
38. ElseIfStatements → elseif ConditionStatement then StatementList ElseIfStatements | ε
39. ElseStatement → else StatementList

**Terminal**

* Main
* (
* )
* Number
* Return
* ,
* :=
* Endl
* Write
* Read
* Identifier
* String
* Float
* Int
* {
* }
* Else
* elseif
* then
* end
* then
* until
* if
* repeat
* ||
* &&
* !=
* ==
* >
* <