CFG for tiny language

digit-> 0|1|2|3|4|5|6|7|8|9

char->a|b|c|………………….|z

$->empty string

1-Number :

num->digit num|.digit num|$

2-String :

Str->” Letter”

Letter->CD Letter |$

CD->char|digit

3-Reserved Keywords :

KeyWord-> int | float | string | read | write | repeat | until | if | elseif | else | then | return | endl

4-Comment Statement :

Comment->/\* Letter \*/

Letter ->CD B|$

CD->char|digit

5- Identifier:

ID->char B

B->CD B|$

CD->char|digit

6- Funcion\_Call:

Func\_call->id(Param)

Param ->id IDLIst Param |$

IDLIst ->,id|$

7- Term:

Term->Number | Identifier | Function\_Call

8-Arithmatic\_Operator:

ArithmaticOperator -> + | - | \* | /

9-Equation:

equ -> Term equ’ | **(**Termequ’ **)**

equ’-> Arithmatic\_Operator Termequ’| Arithmatic\_Operator Term

10-Expression:

Expr->String | Term | Equation

11-Assignment\_Statement

assignmentStatement-> identifier := Expression

12-DataType :

datatype->int | float | string

13-Declaration\_Statement :

DEC-> DataType multiID ;

MultiID-> S MultiID |$

S->id | ,id | Assignment\_Statement

14- Write\_Statement :

writeStatement->write STMT;

STMT-> Expression | endl

15 -Read\_Statement :

readStatement -> read Identifier;

16 - Return\_Statement:

ReturnStatement ->return Expression ;

17- Condition\_Operator:

CondOp-> > | < | = | <>

18- Condition:

Cond-> Identifier Condition\_Operator Term

19- Boolean\_Operator:

BoolOp-> && | ||

20- Condition\_Statement:

CondStmt-> Condition ConditionList

ConditionList -> Boolean\_Operator Condition ConditionList | $

21- If\_Statement:

IfStmt-> if condition\_Statement then Statements end

Statements -> Statement Statements’

Statements’-> ; Statement Statements’ |$

22- Else\_If\_Statement:

ElseIfStmt-> elseif condition\_Statement then Statements end

Statements -> Statement Statements’

Statements’-> ; Statement Statements’ |$

23- Else\_Statement

Else-> else Statements end

Statements -> Statement Statements’

Statements’-> ; Statement Statements’ |$

24- Repeat\_Statement

Rpt-> repeat Statements until Condition\_Statement

Statements -> Statement Statements’

Statements’-> ; Statement Statements’ |$

25- FunctionName

FN-> Identifier

26- Parameter

Prmt-> DataType Identirifer

27- Function\_Declaration

FnDcl-> DataType FunctionName ( Parameter PARAMETERS )

PARAMETERS -> , Parameter PARAMETERS | $

28- Function\_Body

FnBdy-> { Statements Return\_Statement }

Statements -> Statement Statements’

Statements’-> ; Statement Statements’ |$

29- Function\_Statement

FnStmt-> Function\_Declaration Function\_Body

30- Main\_Function

Main-> DataType main() Function\_Body

31- Program

Prog-> Functions Main\_Function

Functions -> Function\_Statement Functions |$