The Tiny Language

1) Number = (+|-)? [0-9] + (“.”[0-9] + )?

2) String = “ ([A-z]\*[0-9]\*)\* “

3) Reserved\_keyword = int | float | string | read | write | repeat | until | if | elseif | else | then | return | endl

4) Comment\_statement = “/\*” String\* ”\*/”

5) Identifiers = ([A-z]+ [0-9]\*)+

6) Function\_Call = Identifiers “(” ((Identifiers )? | ((Identifiers) (,Identifiers)) + “)”

7) Term =(Function call | Identifier | Number)

8) Arithmetic\_Operator = (+ | - | \* | / )

9) Equation =( (Term (Arithmetic Operator Term) + ) | “(“ (Term (Arithmetic Operator Term) + ) “)”(Arithmetic Operator “(“ (Term (Arithmetic Operator Term) + ) “)”)\*

10) Expression = (String | Term | Equation)

11) Assignment\_statement = Identifier := Expression

12) Datatype = ( int | float | string )

13) Declaration\_Statement = Datatype (Identifier |Assignment Statement )(“ , ” (Identifier | Assignment Statement ))\* “;”

14) Write\_Statement = “write” (Expression | endl) “;”

15) Read\_Statement = (“read” Identifier “;” )

16) Return\_Statement = “return” Expression “;”

17) Condition\_Operator = (“>” | “<” | “=” | “<>”)

18) Condition= Identifier Condition\_Operator Term

19) Boolean\_Operator = (“&&” | ”||”)

20) Condition\_Statement = Condition ( Boolean\_Operator Condition)\*

21) If\_Statement= “if” Condition\_Statement “then” (Assignment\_statement |Write\_Statement |Declaration\_Statement |Return\_Statement | Read\_Statement ) + ((Else\_If\_Statement )\*| Else\_Statement| “end”)?

22) Else\_If\_Statement= “elseif” Condition\_Statement “then” (Assignment\_statement |Write\_Statement |Declaration\_Statement |Return\_Statement | Read\_Statement ) +

23) Else\_Statement = “else” (Assignment\_statement |Write\_Statement |Declaration\_Statement |Return\_Statement | Read\_Statement ) + “end”

24) Repeat Statement = “repeat” (Assignment\_statement |Write\_Statement |Declaration\_Statement |Return\_Statement | Read\_Statement ) + ”until” Condition\_Statement 25) FunctionName = ([A-z]+ [0-9]\*)+

26) Parameter= Datatype Identifier

27) Function\_Declaration= Datatype FunctionName “(“ (Parameter (“ , ” Parameter))\* )\* “)”

28) Function\_Body= “{” (Assignment\_statement |Write\_Statement |Declaration\_Statement |Return\_Statement | Read\_Statement ) + Return\_Statement “}”

29) Function\_Statement= Function\_Declaration Function\_Body

30) Main\_Function= Datatype “main” “()” Function\_Body

31) Program = (Function\_Statement)\* Main\_Function