**Tiny Language Regular Expressions Rules**

1. Number:

^[0-9]+(\.[0-9]\*)?$

1. String:

^\"[^\"]\*\"$

1. Reserved\_Keywords:

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

1. Comment\_Statement:

^/\*([^\*]|(\\*+[^/]))\*\\*/$

1. Identifiers:

^[a-zA-Z][a-zA-Z0-9]\*$

1. Function\_Call:

identifier\(identifier?(, \*identifier)\*\)

1. Term:

Number | identifier | Function\_Call

1. Arithmetic\_Operator:

[+-/\*]

1. Equation:

(Term|(Arithmetic\_Operator\s\*Term)\*|(Term\s\*Arithmetic\_Operator)\*\( Term|(Arithmetic\_Operator\s\*Term)\*\)(Arithmetic\_Operator\s\*Term)\*)

1. Expression:

String|Term|Equation

1. Assignment\_Statement:

Identifier\s\*:=\s\*Expression

1. Datatype:

int|float|string

1. Declaration\_Statement:

Datatype\s+(Assignment\_Statement|Identifier)(,\s\*(Assignement\_Statment|Identifier))\*\s\*;

1. Write\_Statement:

write\s+(Expression|endl)\s\*;

1. Read\_Statement:

read\s+Identifier\s\*;

1. Return\_Statement:

return\s+Expression\s\*;

1. Condition\_Operator:

(<>?|>|=)

1. Condition:

Identifier\s\*Condition\_Operator\s\*Term

1. Boolean\_Operator:

(&&|\|\|)

1. Condition\_Statement:

Condition\s\*(Boolean\_Operator\s\*Condition)\*

1. If\_Statement: If\s+Condition\_Statement\s+then\s+(Assignment\_Statement| ReturnSatement|Read\_Statement|Write\_Statement|

Declaration\_Statement|…)\*\s+(Else\_If\_Statement|Else\_Statement|

end)

1. Else\_If\_Statement:

elseif\s+Condition\_Statement\s+then\s+(Assignment\_Statement| ReturnSatement|Read\_Statement|Write\_Statement|

Declaration\_Statement|…)\*\s+(Else\_If\_Statement|Else\_Statement|

end)

1. Else\_Statement:

else\s+(Assignment\_Statement|ReturnSatement|Read\_Statement|

Write\_Statement|Declaration\_Statement|…)\*\s+end

1. Repeat\_Statement:

repeat\s+(Assignment\_Statement|ReturnSatement|Read\_Statement|

Write\_Statement|Declaration\_Statement|…)\*\s+until\s+Condition\_Statement;

1. FunctionName:

Identifier

1. Parameter:

Datatype\s+Identifiers

1. Function\_Declaration:

Datatype\s+FunctionName\s\*\(\s\*(ε|(parameter\s\*)+(,\s\*parameter\s\*)\*)\)

1. Function\_Body:

\{\s\*( Assignment\_Statement| Declaration\_Statement| Write\_Statement| Read\_Statement| Condition\_Statement| If\_Statement | Repeat\_Statement)\* Return\_Statement\s\*\}

1. Function\_Statement:

Function\_Declaration\s\*Function\_Body

1. Main\_Function:

Datatype\s+(main)\(\)\s\*Function\_Body

1. Program:

Function\_statement\*\s\*Main\_Function