

The Tiny Language

• Task (1) deliverable: The RE rules of Tiny Language

Digit: [0-9]

Char: ~Digit

Letter: [a-z|A-Z]

1. **Number:** Digit+ (\. Digit)?
2. **String:** "(Char|Digit)*"
3. **Reserved_Keywords:** int | float | string | read | write | repeat | until | if | elseif | else | then | return | endl
4. **Comment_statment:** /*.** /
5. **Identifier:** Letter (Letter | Digit)*
6. **Function_call:** Identifier \ ((Identifier ,)* Identifier)? \) ;
7. **Term:** Number | Identifier | Function_call
8. **Arithmetic_Operator:** (\+ | - | * | /)
9. **Equation:** ((Number Arithmetic_Operator Number)+ (Arithmetic_Operator \ (Number Arithmetic_Operator Number \))?)+)
10. **Expression:** (String | Term | Equation)
11. **Assignment_Statement:** Identifier := Equation
12. **Datatype:** (int | float | string)
13. **Declaration_Statement:** int Identifier* (, Identifier)? (:= (Digit+ | Identifier | Equation))+ ; | float Identifier (, Identifier)? (:= (Number | Identifier | Equation) ; | string (Identifier (, Identifier)? (:= (String | Identifier))+ ;
14. **Read_Statement:** write (Expression | endl) ;
15. **Write_Statement:** read Identifier ;
16. **Return_statment:** return Expression ;
17. **Condition_oppperator:** (> | < | = | <>)
18. **Condition_statement:** Identifier(\s)+ Condition_oppperator(\s)+ Term
19. **Boolean_oppperator:** (&&| \||)

20. **Condition_statement**: ((Identifier | Number)
Condition_operator(Identifier | Number)
(Boolean_operator(Identifier | Number))?)⁺
21. **If_statement**: if condition_statement* (\s)* then(\s)*
(Read_statement | Write_statement | Assignment_statement |
Declaratin_statement)⁺
22. **Else_If_statement**: elseif condition_statement* then
(Read_statement | Write_statement | Assignment_statement |
Declaratin_statement)⁺
23. **Else_statement**: else (Read_statement | Write_statement |
Assignment_statement | Declaratin_statement)⁺ end
24. **Repeat_statement**: repeat (Term; | Equation; |
Assignment_statement\;)* until Condition_statement
25. **Function_name**: Identifier
26. **Parameter**: Datatype Identifier
27. **Function_Declaration**: Datatype Function_name \(
(Parameter(\s,Parameter)*)? \)
28. **Function_body**: { (Write_statement | Read_statement |
Assignment_statement | Declaratin_statement | condition_statement |
If_statement | elseif_statement | else_statement)*Return_statement
}
29. **Function_statement**: Function_declaratin Function_body
30. **Main_function**: Datatype main (**()**) Function_body
31. **Program**: Function_statement* Main_function