

- 1) Program \rightarrow Program' Main_Function
 - Program' \rightarrow Function_Statements | ϵ
- 2) Fuction_Statements \rightarrow Function_Statement Fun_Ss
 - Fun_Ss \rightarrow Function_Statement Fun_Ss | ϵ
- 3) Function_Statement \rightarrow Function_Decleration Function_Body
- 4) Main_Function \rightarrow Datatype **main** () Function_Body
- 5) Function_Decleration \rightarrow Datatype Identifier (**Argument** | ϵ)
- 6) Function_Body \rightarrow { Statements Return_Statement }
- 7) Datatype \rightarrow **int** | **float** | **string**
- 8) Argument \rightarrow Datatype identifier Args
 - Args \rightarrow , Datatype identifier Args | ϵ
- 9) Statements \rightarrow Statement State
 - State \rightarrow statements | ϵ
- 10) Statement \rightarrow Write_Statement | Read_Statement | If_Statement |
 Assignment_Statement | Declaration_Statement |
 Repeat_Statement

11) Write_Statement \rightarrow write Expression ; | write endl ;

12) Read_Statement \rightarrow read identifier ;

13) If_Statement \rightarrow if Condition_Statement then Statements

Else_If_Statement | if Condition_Statement then
Statements Else_Statement | if Condition_Statement
then Statements end

14) Assignment_Statement \rightarrow identifier := Expression

15) Declaration_Statement \rightarrow Datatype Assignment_Statements ;

- Assignment_Statements \rightarrow Assignment_Statement
Assigns_coma | Identifiers Idens_coma
- Assigns_coma \rightarrow , Assignment_Statements | ϵ
- Identifiers \rightarrow Identifier Idens_coma
- Idens_coma \rightarrow , Assignment_Statements | ϵ

16) Return_Statement \rightarrow return Expression ;

17) Repeat_Statement \rightarrow repeat Statements until Condition_Statement

18) Condition_Statement \rightarrow Condition more_cond

19) more_cond \rightarrow Boolean_op condition_statements | ϵ

20) Else_If_Statement \rightarrow elseif Condition_Statement then Statements

Else_If_Statement | elseif Condition_Statement
then Statements Else_Statement | elseif
Condition_Statement then Statements end

21) Else_Statement \rightarrow else Statements end

22) Condition \rightarrow Identifier Condition_Operator Term

23) Expression \rightarrow string | Term | Equation

24) Term \rightarrow number | identifier | Function_Call

25) Equation \rightarrow Ter Eq '

- Eq ' \rightarrow AddOp Equation Eq ' | ϵ

26) Ter \rightarrow Factor Ter '

- Ter ' \rightarrow MulOp Ter Ter ' | ϵ

27) Factor \rightarrow (Equation) | Term

28) AddOp \rightarrow + | -

29) Condition_Operator $\rightarrow > \mid < \mid = \mid <>$

30) MulOp $\rightarrow * \mid /$

31) Boolean_op $\rightarrow \&\& \mid \mid\mid$

32) Function_Call \rightarrow Identifier (Term parameter) \mid Identifier ()

33) parameter $\rightarrow ,$ Term parameter $\mid \epsilon$