

## CFG

- 1) Assignment\_Statement  $\rightarrow$  Identifier := Expression
- 2) Write\_Statement  $\rightarrow$  write Endl | Expression ;
- 3) Repeat\_Statement  $\rightarrow$  repeat statements until Condition\_Statement
- 4) DataType  $\rightarrow$  int | float | string
- 5) Main\_Function  $\rightarrow$  DataType main ( ) function\_body
- 6) Function\_declaration  $\rightarrow$  DataType Identifier ( fnParameters )
- 7) fnParameters  $\rightarrow$  Parameter fnParameter |  $\epsilon$
- 8) fnParameter  $\rightarrow$  , fnParameter |  $\epsilon$
- 9) Function\_Body  $\rightarrow$  { Statements Return }
- 10) Function\_Statement  $\rightarrow$  Function\_declaration Function\_Body
- 11) Read\_Statement  $\rightarrow$  Read Identifier ;
- 12) Declaration\_Statement  $\rightarrow$  DataType Ids ;
- 13) Ids  $\rightarrow$  Identifier Assign NextId
- 14) Assign  $\rightarrow$  := Expression |  $\epsilon$
- 15) NextId  $\rightarrow$  , Ids |  $\epsilon$
- 16) Program  $\rightarrow$  Function\_Statement Program | Main\_Function
- 17) Parameter  $\rightarrow$  DataType Identifier
- 18) ArithmeticOp  $\rightarrow$  + | - | \* | /
- 19) Expression  $\rightarrow$  string | Term | Equation
- 20) Return  $\rightarrow$  return Expression ;
- 21) Equation  $\rightarrow$  identifier Eq | constant Eq | (Equation) Eq

- 22)  $\text{Eq} \rightarrow \text{ArithmeticOp Equation} \mid \epsilon$
- 23)  $\text{IfStatement} \rightarrow \text{If Condition\_Statement Then Statements ( End \mid \text{elseifStat} \mid \text{elseStat} )}$ .
- 24)  $\text{ElseifStatement} \rightarrow \text{Elseif Condition\_Statement Then Statements ( End \mid \text{elseifStat} \mid \text{elseStat} )}$ .
- 25)  $\text{ElseStatement} \rightarrow \text{Else Statements End}$
- 26)  $\text{Condition\_operator} \rightarrow < \text{Con} \mid > \mid =$
- 27)  $\text{Con} \rightarrow > \mid \epsilon$
- 28)  $\text{Condition} \rightarrow \text{Identifier ConditionOperator Term}$
- 29)  $\text{Condition\_Statement} \rightarrow \text{Condition nextcondition}$
- 30)  $\text{BooleanOperator} \rightarrow \&\& \mid \parallel$
- 31)  $\text{nextcondition} \rightarrow \text{BooleanOperator Condition} \mid \epsilon$
- 32)  $\text{Term} \rightarrow \text{Number} \mid \text{Identifier} \mid \text{functioncall}$
- 33)  $\text{Function\_Call} \rightarrow \text{Identifier ( Identifier nid ) ;}$
- 34)  $\text{nid} \rightarrow , \text{Identifier nid} \mid \epsilon$
- 35)  $\text{Statements} \rightarrow \text{Statement state}$
- 36)  $\text{State} \rightarrow ; \text{Statement state} \mid \epsilon$
- 37)  $\text{Statement} \rightarrow \text{Read} \mid \text{If} \mid \text{Set} \mid \text{Repeat} \mid \text{Write} \mid \text{Declaration} \mid \text{Function\_Call} \mid \text{Assignment\_Statement} \mid \text{Return\_Statement}$