



## GRAMÁTICA - 2019.2

- 0 <PROGRAMA> ::= "program" "identificador" ";" <BLOCO> "."
- 1 <BLOCO> ::= <DCLPROC> <DCLCONST> <DCLVAR> <CORPO>
- 2 <DCLCONST> ::= "const" "identificador" "=" <TIPO> ";" <LDCONST>
- 3 <DCLCONST> ::=  $\hat{1}$
- 4 <LDCONST> ::= "identificador" "=" <TIPO> ";" <LDCONST>
- 5 <LDCONST> ::=  $\hat{1}$
- 6 <DCLVAR> ::= "declaravariaveis" <LID> ":" <TIPO> ";" <LDVAR>
- 7 <DCLVAR> ::=  $\hat{1}$
- 8 <LID> ::= "identificador" <REPIDENT>
- 9 <REPIDENT> ::= "," "identificador" <REPIDENT>
- 10 <REPIDENT> ::=  $\hat{1}$
- 11 <LDVAR> ::= <LID> ":" <TIPO> ";" <LDVAR>
- 12 <LDVAR> ::=  $\hat{1}$
- 13 <TIPO> ::= "array" "[" "numinteiro" ".." "numinteiro" "]" "of" <TIPOARRAY>
- 14 <TIPOARRAY> ::= "integer"
- 15 <TIPOARRAY> ::= "char"
- 16 <TIPOARRAY> ::= "string"
- 17 <TIPOARRAY> ::= "real"
- 18 <TIPO> ::= "integer"
- 19 <TIPO> ::= "char"

20 <TIPO> ::= "string"  
 21 <TIPO> ::= "real"  
 22 <DCLPROC> ::= "procedure" "identificador" <DEFPAR> <DCLVAR> <CORPO> ";" <DCLPROC>  
 23 <DCLPROC> ::=  $\hat{1}$   
 24 <DEFPAR> ::= "(" <LID> ":" <TIPO> ";" <LDVAR> ")"  
 25 <DEFPAR> ::=  $\hat{1}$   
 26 <CORPO> ::= "begin" <COMANDO> ";" <REPCOMANDO> "end"  
 27 <REPCOMANDO> ::= <COMANDO> ";" <REPCOMANDO>  
 28 <REPCOMANDO> ::=  $\hat{1}$   
 29 <COMANDO> ::= "if" "[" <EXPRESSAO> "]" "then" "begin" <COMANDO> "end" <ELSEPARTE>  
 30 <COMANDO> ::= "while" "[" <EXPRESSAO> "]" "do" "begin" <COMANDO> "end"  
 31 <COMANDO> ::= "repeat" <COMANDO> "until" "[" <EXPRESSAO> "]"  
 32 <COMANDO> ::= "read" "(" <VARIABEL> ")"  
 33 <COMANDO> ::= "chamaprocedure" "identificador" <PARAMETROS>  
 34 <COMANDO> ::= "write" "(" <ITEMSAIDA> <REPITEM> ")"  
 35 <COMANDO> ::= "for" "[" "identificador" "=" <EXPRESSAO> "]" "to" "[" <EXPRESSAO> "]"  
 "do" "begin" <COMANDO> "end"  
 36 <COMANDO> ::=  $\hat{1}$   
 37 <PARAMETROS> ::= "(" <LID> ")"  
 38 <PARAMETROS> ::=  $\hat{1}$   
 39 <ITEMSAIDA> ::= "literal"  
 40 <ITEMSAIDA> ::= <EXPRESSAO>  
 41 <REPITEM> ::= "," <ITEMSAIDA> <REPITEM>  
 42 <REPITEM> ::=  $\hat{1}$   
 43 <EXPRESSAO> ::= <TERMO> <REPEXP> <REPEXPSIMP>  
 44 <TERMO> ::= <FATOR> <REPTERMO>  
 45 <FATOR> ::= "numinteiro"  
 46 <FATOR> ::= "identificador"  
 47 <FATOR> ::= "nomestring"

48 <FATOR> ::= "nomechar"  
 49 <FATOR> ::= "numreal"  
 50 <FATOR> ::= "(" <EXPRESSAO> ")"  
 51 <REPEXPSIMP> ::= "=" <EXPSIMP>  
 52 <REPEXPSIMP> ::= "<" <EXPSIMP>  
 53 <REPEXPSIMP> ::= ">" <EXPSIMP>  
 54 <REPEXPSIMP> ::= ">=" <EXPSIMP>  
 55 <REPEXPSIMP> ::= "<=" <EXPSIMP>  
 56 <REPEXPSIMP> ::= "<>" <EXPSIMP>  
 57 <REPEXPSIMP> ::=  $\hat{=}$   
 58 <EXPSIMP> ::= "+" <TERMO> <REPEXP>  
 59 <EXPSIMP> ::= "-" <TERMO> <REPEXP>  
 60 <EXPSIMP> ::= <TERMO> <REPEXP>  
 61 <REPEXP> ::= "+" <TERMO> <REPEXP>  
 62 <REPEXP> ::= "-" <TERMO> <REPEXP>  
 63 <REPEXP> ::= "or" <TERMO> <REPEXP>  
 64 <REPEXP> ::=  $\hat{=}$   
 65 <REPTERMO> ::= "\*" <FATOR> <REPTERMO>  
 66 <REPTERMO> ::= "/" <FATOR> <REPTERMO>  
 67 <REPTERMO> ::= "and" <FATOR> <REPTERMO>  
 68 <REPTERMO> ::=  $\hat{=}$   
 69 <ELSEPARTE> ::= "else" "begin" <COMANDO> "end"  
 70 <ELSEPARTE> ::=  $\hat{=}$   
 71 <VARIAVEL> ::= "identificador" <REPVARIAVEL>  
 72 <REPVARIAVEL> ::= ", " "identificador" <REPVARIAVEL>  
 73 <REPVARIAVEL> ::=  $\hat{=}$

## TERMINAIS

| Cod | Lexema             |
|-----|--------------------|
| 0   | "write"            |
| 1   | "while"            |
| 2   | "until"            |
| 3   | "to"               |
| 4   | "then"             |
| 5   | "string"           |
| 6   | "repeat"           |
| 7   | "real"             |
| 8   | "read"             |
| 9   | "program"          |
| 10  | "procedure"        |
| 11  | "or"               |
| 12  | "of"               |
| 13  | "literal"          |
| 14  | "integer"          |
| 15  | "if"               |
| 16  | "identificador"    |
| 17  | "î"                |
| 18  | "for"              |
| 19  | "end"              |
| 20  | "else"             |
| 21  | "do"               |
| 22  | "declaravariaveis" |

23 "const"  
24 "char"  
25 "chamaprocedure"  
26 "begin"  
27 "array"  
28 "and"  
29 ">="

30 ">"  
31 "="  
32 "<>"  
33 "<="

34 "<"  
35 "+"  
36 "numreal"  
37 "numinteiro"  
38 "nomestring"

39 "]"  
40 "["  
41 ";"  
42 ":"  
43 "/"  
44 ".."  
45 "."  
46 ","  
47 "\*"  
48 ")"

|    |      |
|----|------|
| 49 | "("  |
| 50 | "\$" |
| 51 | "-"  |

## NÃO TERMINAIS

| Cod | Lexema        |
|-----|---------------|
| 52  | <PROGRAMA>    |
| 53  | <BLOCO>       |
| 54  | <DCLPROC>     |
| 55  | <DCLCONST>    |
| 56  | <DCLVAR>      |
| 57  | <CORPO>       |
| 58  | <TIPO>        |
| 59  | <LDCONST>     |
| 60  | <LID>         |
| 61  | <LDVAR>       |
| 62  | <REPIDENT>    |
| 63  | <TIPOARRAY>   |
| 64  | <DEFPAR>      |
| 65  | <COMANDO>     |
| 66  | <REPCOMANDO>  |
| 67  | <EXPRESSAO>   |
| 68  | <ELSEPARTE>   |
| 69  | <VARIABEL>    |
| 70  | <REPVARIABEL> |

71 <PARAMETROS>  
72 <ITEMSAIDA>  
73 <REPITEM>  
74 <TERMO>  
75 <REPEXP>  
76 <REPEXPSIMP>  
77 <FATOR>  
78 <REPTERMO>  
79 <EXPSIMP>