

# Gramática Livre de Contexto LL(1) da Linguagem L

**S** → **Declarar**SA |  $\lambda$

**A** → **Comandos**A |  $\lambda$

**Declarar** → “final” “id” “<-” **B** const “;” | **C** “id” **ListaIds** “;”

**B** → “-” |  $\lambda$

**C** → “int” | “boolean” | “byte” | “string”

**ListaIds** → **Atrib** **D**

**Atrib** → “<-” **B** “const” |  $\lambda$

**D** → “,” “id” **Atrib** |  $\lambda$

**Comando** → **Atribuicao** | **Repeticao** | **Teste** | **Nulo** | **Leitura** | **Escrita**

**Atribuicao** → “id” “<-” **Expressao** “;”

**Repeticao** → “while” “(”**Expressao**“)” **BlocoWhile**

**BlocoWhile** → “begin” **E** “endwhile” | **Comando**

**E** → **Comando****E** |  $\lambda$

**Teste** → “if” “(”**Expressao**“)” **G**

**G** → **Blocoif** | **Comando** **BlocoElse**

**Blocoif** → “begin” **H** “endif” “else” “begin” **H** “endelse”

**H** → **Comando****H** | **Comando**

**BlocoElse** → “else” **Comando** |  $\lambda$

**Nulo** → “;”

**Leitura** → “readln”“(”“id”“)”“;”

**Escrita** → “write”“(”**ListaExpressoes**“)”“;” | “writeln”“(”**ListaExpressoes**“)”“;”

**ListaExpressoes  $\rightarrow$  ExpressaoI**

**I  $\rightarrow$  “,” ExpressaoI  $\mid \lambda$**

**Expressao  $\rightarrow$  ExpJ**

**J  $\rightarrow$  “=” Exp  $\mid$  “!=” Exp  $\mid$  “<” Exp  $\mid$  “>” Exp  $\mid$  “<=” Exp  $\mid$  “>=” Exp  $\mid \lambda$**

**Exp  $\rightarrow$  KTL**

**K  $\rightarrow$  “+”  $\mid$  “-”  $\mid \lambda$**

**L  $\rightarrow$  “+” TL  $\mid$  “-” TL  $\mid$  “||” TL  $\mid \lambda$**

**T  $\rightarrow$  FM**

**M  $\rightarrow$  “\*” F  $\mid$  “&&” F  $\mid$  “/” F  $\mid \lambda$**

**F  $\rightarrow$  “!” F  $\mid$  “(”Expressao“)”  $\mid$  B const  $\mid$  “id”**