UNIVERSIDADE FEDERAL DE ALAGOAS

INSTITUTO DE COMPUTAÇÃO

COMPILADORES 2021.1

Linguagem JORG

Gramática Livre de Contexto

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```
S = DecFun S | DecVar S | ε

DecFun = ‘function’ TipoFunc NomeFunc ‘(’ ParamsDec ‘)’ Bloco

TipoFunc = Tipo | ‘void’

Tipo = ‘int’ | ‘float’ | ‘char’ | ‘string’ | ‘bool’

NomeFun = ‘id’ | ‘main’

ParamsDec = Tipo ‘id’ Arr ‘,’ ParamsDec | Tipo ‘id’ Arr

Arr = ‘[‘ ‘]’ | ε

DecVar = Tipo ListId ‘;’ | ‘const’ Tipo ListId ‘;’

ListId = AtribOuId | AtribOuId ‘,’ ListId

AtribOuId = Id | Atrib

Id = ‘id’ | ‘id’ ‘[‘ Earit ‘]’

Atrib = Id ‘=’ Econc | ‘id’ ‘[‘ Earit ‘]’ ‘=’ ‘[‘ ListArr ‘]’

ListArr = Econc | Econc ‘,’ ListArr

ChamadaFunc = ‘id’ ‘(’ ParamsChamada ‘)’ ’;’

ParamsChamada = Econc ‘,’ ParamsChamada | Econc

Bloco = ‘{’ Sentencas ‘}’

Sentencas = DecVar Sentencas | Cmd Sentencas
          | ChamadaFunc Sentencas | Atrib ’;’ Sentencas
          | ε
```

```
Cmd = ‘return’ Ret ‘;’

Ret = Econc | ε

Cmd = ‘write’ ‘(’ ParamsWr ‘)’ ‘;’

Cmd = ‘writeln’ ‘(’ ParamsWr ‘)’ ‘;’

ParamsWr = Econc | Econc ‘,’ ParamsWr

Cmd = ‘input’ ‘(’ LId ‘)’ ‘;’

LId = Id | Id ‘,’ LId

Cmd = ‘if’ ‘(’ Ebool ‘)’ Bloco

Cmd = ‘if’ ‘(’ Ebool ‘)’ Bloco ‘else’ Bloco

Cmd = ‘while’ ‘(’ Ebool ‘)’ Bloco

Cmd = ‘break’ ‘;’

Cmd = ‘for’ ‘(’ Int ‘,’ Int ‘,’ Int Incr ‘)’ Bloco

Int = ‘id’ | ‘int’ ‘id’ | ‘CONST_INT’

Incr = ‘,’ Int | ε

Econc = Econc ‘OP_CONCAT’ Ebool | Ebool

Ebool = Ebool ‘OP_OR’ Tbool | Tbool

Tbool = Tbool ‘OP_AND’ Fbool | Fbool

Fbool = Fbool OpRelac Trelac | ‘OP_NOT’ Fbool | Trelac

Trelac = Trelac OpRelac Earit | Earit
```

```
Earit = Earit OpArit Tarit | Tarit

Tarit = Tarit OpMult Parit | Parit

Parit = Farit OpPot Parit | Farit

Farit = OpArit Farit | IdOuFun | CteLiteral | ‘(’ Econc ‘)’
          | ‘OP_SIZE’ ‘id’

OpRelac = ‘OP_MAIOR’ | ‘OP_MAIOR_IG’ | ‘OP_MENOR’
          |‘OP_MENOR_IG’ | ‘OP_IGUAL’ | ‘OP_N_IGUAL’

OpArit = ‘OP_ADD’ | ‘OP_SUB’

OpMult = ‘OP_MULT’ | ‘OP_DIV’

OpPot = ‘OP_POT’ | ‘OP_MOD’

CteLiteral = ‘CONST_INT’ | ‘COSNT_FLOAT’ | ‘CONST_BOOL’
               | ‘CONST_CHAR’ | ‘CONST_STRING’

IdOuFun = Id | ChamadaFun

ChamadaFun = ‘id’ ‘(’ ParamsChamada ‘)’
```