Correção – Gramática PasC

prog → “program” “id” body

body → decl-list “{“ stmt-list “}”

decl-list → decl “;” decl-list | ε

decl → type id-list

type → “num” | “char”

id-list → “id” id-listLINHA

id-listLINHA → “,” id-list | ε

stmt-list → stmt “;” stmt-list | ε

stmt → assign-stmt | if-stmt | while-stmt | read-stmt | write-stmt

assign-stmt → “id” “=” simple\_expr

if-stmt → “if” “(“ condition “)” “{“ stmt-list “}“ if-stmtLINHA

if-stmtLINHA → “else” “{“ stmt-list “}” | ε

condition → expression

while-stmt → stmt-prefix “{“ stmt-list “}”

stmt-prefix → “while” “(“ condition “)”

read-stmt → “read” “id”

write-stmt → “write” writable

writable → simple-expr | “literal”

expression. → simple-expr expressionLINHA

expressionLINHA → relop simple-expr | ε

simple-expr → term simple-exprLINHA

simple-exprLINHA → addop term simple-exprLINHA | ε

term → factor-a termLINHA

termLINHA → mulop fator-a termLINHA | ε

factor-a → factor | “not” factor

factor → “id” | constant | “(“ expression “)”

relop → “==” | “>” | “>=” | “<” | “<=” | “!=”

addop → “+” | “-” | “or”

mulop → “\*” | “/” | “and”

constant → “num\_const” | “char\_const”

|  |  |  |
| --- | --- | --- |
| Não terminal | First | Follow |
| prog | program | $ |
| body | Num, char, ε ,{ | $ |
| decl-list | Num, char ,ε | { |
| decl | Num, char | ; |
| type | Num, char | id |
| id-list | id | ; |
| id-listLINHA | “,” ,ε | ; |
| stmt-list | Id,if,while, read , write , ε | } |
| stmt | Id,if,while, read , write | ; |
| assign-stmt | id | ; |
| if-stmt | if | ; |
| if-stmtLINHA | else , ε | ; |
| condition | id, num\_const, char\_const,(,not | ) |
| while-stmt | while | ; |
| stmt-prefix | while | { |
| read-stmt | read | ; |
| write-stmt | write | ; |
| writable | Id, num\_const, char\_const,(,not,literal | ; |
| expression | Id, num\_const, char\_const,(,not | ) |
| expressionLINHA | ==,>,>=,<,<=,!=, ε | ) |
| simple-expr | Id, num\_const, char\_const,(,not | ; , ==,>,>=,<,<=,!=, ) |
| simple-exprLINHA | +, - , or , ε | ; , ==,>,>=,<,<=,!=, ) |
| term | Id, num\_const, char\_const,(,not | +, - , or , ; , ==,>,>=,<,<=,!=, ) |
| termLINHA | \* , / , and , ε | +, - , or , ; , ==,>,>=,<,<=,!=, ) |
| factor-a | Id, num\_const, char\_const,(,not | \* , / , and , +, - , or , ; , ==,>,>=,<,<=,!=, ) |
| factor | Id, num\_const, char\_const,( | \* , / , and , +, - , or , ; , ==,>,>=,<,<=,!=, ) |
| relop | ==,>,>=,<,<=,!= | Id, num\_const, char\_const,(,not |
| addop | +, - ,or | Id, num\_const, char\_const,(,not |
| mulop | \* , / ,and | Id, num\_const, char\_const,(,not |
| constant | num\_const , char\_const | \* , / , and , +, - , or , ; , ==,>,>=,<,<=,!=, ) |