

resolved excess SEMICOLON

fixed reduce-reduce conflicts

Prog \rightarrow func-cycle

func-cycle \rightarrow ϵ

| func-cycle FUNC IDEN SEMICOLON BEGINPARAMS
| decl-cycle ENDPARAMS BEGINLOCALS decl-cycle
| ENDOLOCALS BEGINBODY stmt-cycle ENDBODY

decl-cycle \rightarrow ϵ
| decl-cycle decl SEMICOLON $\rightarrow l_recursion$

decl \rightarrow iden-cycle COLON arr-cycle INTEGER *

iden-cycle \rightarrow IDEN

| iden-cycle COMMA IDEN

arr-cycle \rightarrow ϵ

| ARRAY L-BRACK NUM R-BRACK OF

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L-BRACK NUM R-BRACK OF

stmt-cycle \rightarrow stmt SEMICOLON

| stmt-cycle stmt SEMICOLON

assign-cycle \rightarrow var ASSIGN exp

if-cycle → IF bool-exp THEN stmt-cycle else-cycle ENDIF

else-cycle → {
| ELSE stmt-cycle

while-cycle → WHILE bool-exp BEGINLOOP stmt-cycle ENDLOOP

do-cycle → DO BEGINLOOP stmt-cycle ENDLOOP WHILE bool-exp

for-cycle → FOR var ASSIGN NUM SEMICOLON bool-exp SEMICOLON
var ASSIGN exp BEGINLOOP stmt-cycle ENDLOOP

read-cycle → READ var-cycle

write-cycle → WRITE var-cycle

continue-cycle → CONTINUE

return-cycle → RETURN exp

var-cycle → √var
| var-cycle COMMA var

stmt → assign-cycle

| if-cycle
| while-cycle
| do-cycle
| for-cycle
| read-cycle
| write-cycle
| continue-cycle

| write-cycle
| continue-cycle
| return-cycle

bool-exp \rightarrow rel-and-exp

| bool-exp OR rel-and-exp

rel-and-exp \rightarrow rel-exp

| rel-and-exp AND rel-exp

rel-exp \rightarrow rel-exp-base
| NOT rel-exp-base

rel-exp-base \rightarrow exp comp exp

| TRUE

| FALSE

| L_PAREN bool-exp R_PAREN

comp \rightarrow EQ

| NEQ

| LT

| GT

| LTE

| GTE

exp \rightarrow mult-exp mult-cycle

mult-cycle \rightarrow {

| ADD mult-exp mult-cycle

| SUB mult-exp mult-cycle

mult-exp → term term-cycle

term-cycle → {

| MULT term term-cycle

| DIV term term-cycle

| MOD term term-cycle

term → term-base

| SUB term-base

| IDEN L-PAREN param-cycle R-PAREN

term-base → var

| NUM

| L-PAREN exp R-PAREN

param-cycle → {

| exp-cycle

exp-cycle → exp

| exp-cycle COMMA exp

var → IDEN

| IDEN L-BRACK exp R-BRACK

| IDEN L_BRACK exp R_BRACK

| IDEN L_BRACK exp R_BRACK

L_BRACK exp R_BRACK