

# Proyecto Compilador basado a Objetos Equipo OBJ17: Parejas Lenguaje

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## LÉXICO:

Tokens:

Program	program
Id	id
Class	class
Main	main
Return	return
Factor	+, -
VARs	VARs
While	while
Until	until
If	if
Then	then
Else	else
From	from
expression	>, <, ==, &&,
term	*, /
Read	read
Write	write

PROGRAM  $\rightarrow$  program

PROGRAM  $\rightarrow$  program id ';' Class\* GlobalVar\* FuncDef\* 'main(){' Statement\* '}'

FUNCTION  $\rightarrow$  type id '(' Func\_Param ')' block

CLASS  $\rightarrow$  'Class' id '< derives' id '>' {' Class\_Attr Class\_Method '}' ;'

Class\_Attr  $\rightarrow$  'ATTR {' Var\_List\* '}' ;'

Var\_List  $\rightarrow$  ( ID\_List ' : ' type ';' )+

ID\_List  $\rightarrow$  id ( ',' id )\*

Class\_Method  $\rightarrow$  return-type id '(' Func\_Param ')' Vars '{' Statement\* '}'

Func\_Param  $\rightarrow$  Var ( ',' Var )\*

Var  $\rightarrow$  id ':' type

Vars  $\rightarrow$  'VARS { ' Var\_List '}'

Statement  $\rightarrow$  Assign

| Func\_Return

| Read

| Write

| Decision

| Repettion

Assign  $\rightarrow$  id '=' ( Expression | Func\_Call )

Exp  $\rightarrow$  term ( ( '+' | '-' ) term )\*

Expression  $\rightarrow$  ( ( '>' | '<' | '==' | '&&' | '||' ) Exp )? ';'

Factor  $\rightarrow$  '(' Expression ')'

| ( '+' | '-' )? ( id | cnst )

Term  $\rightarrow$  Factor ( ( '\*' | '/' ) Factor )?

Func\_Call  $\rightarrow$  id '(' ID\_List ');'

Func\_Return  $\rightarrow$  return id ';'

Read  $\rightarrow$  read '(' ID\_List ');'

Write  $\rightarrow$  write '(' Printable ');'

Printable  $\rightarrow$  ( cnst | Expression ) Printabe\_P

Printable\_P  $\rightarrow$  ( ',' ( cnst | Expression ) )\*

Decision  $\rightarrow$  if '(' Expression ')' then '{' Statement\* '}' Decision\_p

Decision\_P  $\rightarrow$  ( 'else {' Statement\* '}' )?

Repetition  $\rightarrow$  Conditional\_Rep

| Unconditional\_Rep

Conditional\_Rep  $\rightarrow$  while '(' Expression ')' {' Statement\* '}'

Unconditional\_Rep → from id '=' Expression until Expression '{' Statement\* '}'

GRAMÁTICO:





