

PDL: Práctica Procesador

Segunda Entrega:
Analizador Sintáctico

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Gramática Analizador Sintáctico

```
NoTerminales = { E R U V S L Q X B T F H A K C P V1 S1 E1 R1 U1 }
Terminales = { && == != + - ID ( ) ENT CAD TRUE FALSE ! ++ ALERT INPUT
               RETURN DO WHILE , ; = NUMBER BOOLEAN STRING FUNCTION LET { } IF }

Axioma = P
Producciones = {
E -> R E1
E1 -> && R E1
E1 -> lambda
R -> U R1
R1 -> == U R1
R1 -> != U R1
R1 -> lambda
U -> V U1
U1 -> + V U1
U1 -> - V U1
U1 -> lambda
V -> ID V1
V -> ( E )
V -> ENT
V -> CAD
V -> TRUE
V -> FALSE
V -> ! ID
V1 -> ( L )
V1 -> ++
V1 -> lambda
S -> ID S1
S -> ALERT ( E ) ;
S -> INPUT ( ID ) ;
S -> RETURN X ;
S1 -> = E ;
S1 -> ( L ) ;
L -> E Q
L -> lambda
Q -> , E Q
Q -> lambda
X -> E
X -> lambda
B -> IF ( E ) S
B -> LET T ID ;
B -> S
B -> DO { C } WHILE ( E ) ;
T -> NUMBER
T -> BOOLEAN
T -> STRING
F -> FUNCTION H ID ( A ) { C }
H -> T
H -> lambda
```

```

A -> T ID K
A -> lambda
K -> , T ID K
K -> lambda
C -> B C
C -> lambda
P -> B P
P -> F P
P -> lambda
}

```

Tabla First Follow

	First	Follow
A	BOOLEAN NUMBER STRING lambda	..)
T	BOOLEAN NUMBER STRING	..
B	ALERT DO ID IF INPUT LET RETURN	..
S	ALERT ID INPUT RETURN	..
S1	(=	..
C	ALERT DO ID IF INPUT LET RETURN lambda	.. }
E	! (CAD ENT FALSE ID TRUE	..) , ;
E1	&& lambda	..) , ;
V	! (CAD ENT FALSE ID TRUE	.. != &&) + , - ; ==
V1	(++ lambda	.. != &&) + , - ; ==
U	! (CAD ENT FALSE ID TRUE	.. != &&) , ; ==
U1	+ - lambda	.. != &&) , ; ==
R	! (CAD ENT FALSE ID TRUE	.. &&) , ;
R1	!= == lambda	.. &&) , ;
Q	, lambda	..)
L	! (CAD ENT FALSE ID TRUE lambda	..)
X	! (CAD ENT FALSE ID TRUE lambda	.. ;
F	FUNCTION	..
H	BOOLEAN NUMBER STRING lambda	.. ID
K	, lambda	..)
P	ALERT DO FUNCTION ID IF INPUT LET RETURN lambda	.. \$ (final de cadena)

Análisis de las intersecciones (@ es el símbolo de intersección)

Para P:

- B: {ALERT DO ID IF INPUT LET RETURN}
- F: {FUNCTION}
- lambda: lambda
- Interseccion:
 - First(BP) @ First(FP) @ First(lambda) = Vacio
 - First(BP) @ Follow(P) @ First(FP) = Vacio

Para C:

- B:{ALERT DO ID IF INPUT LET RETURN}
- lambda: lambda
 - First(BC) @ First(lambda) = Vacio
 - First(BC) @ Follow(C) = Vacio

Para K:

- First(,T ID K) @ First(lambda) = Vacio
- First(,T ID K) @ Follow(A) = Vacio

Para H:

- T: {BOOLEAN NUMBER STRING}
- lambda: lambda
 - First(T) @ First(lambda) = Vacio
 - First(T) @ Follow(H) = Vacio

Para F:

Para T:

- First(NUMBER) @ First(BOOLEAN) @ First(STRING) = Vacio

Para B:

- S: {ID ALERT INPUT RETURN}
- First(IF (E) S) @ First(LET T ID) @ First(S) @ First(DO { C } WHILE (E);) = Vacio

Para X:

- E: {!(CAD ENT FALSE ID TRUE)}
- lambda: lambda
 - First(E) @ First(lambda) = Vacio
 - First(E) @ Follow(X) = Vacio

Para Q:

- lambda: lambda
 - First(, E Q) @ First(lambda) = Vacio
 - First(, E Q) @ Follow(Q) = Vacio

```

Para L:
  -E:{! ( CAD ENT FALSE ID TRUE}
  -lambda: lambda
    -First(E Q) @ First(lambda) = Vacio
    -First(E Q) @ Follow(L) = Vacio

Para S1:
  -First(= E ;) @ First(( L ) ;) = Vacio

Para S:
  -First(RETURN X ;) @ First(INPUT ( ID ) ;) @ First(ALERT ( E ) ;) @ First(ID S1) = Vacio

Para V1:
  -lambda: lambda
    -First(( L )) @ First(++) @ First(lambda) = Vacio
    -First(( L )) @ First(++) @ Follow(V1) = Vacio

Para V:
  -First(ID V1) @ First(( E )) @ First(ENT) @ First(CAD) @ First(TRUE) @ First(FALSE) @ First(!

Para U1:
  - lambda: lambda
    -First(+ V U1) @ First(- V U1) @ First(lambda) = Vacio
    -First(+ V U1) @ First(- V U1) @ Follow(U1) = Vacio

Para U:

Para E:

Para E1:
  -lambda: lambda
    -First(&& R E1) @ First(lambda) = Vacio
    -First(&& R E1) @ Follow(E1) = Vacio

Para R:

Para R1:
  -lambda: lambda
    -First(== U R1)@ First(!= U R1)@ First(!= U R1) = Vacio
    -First(== U R1)@ First(!= U R1)@ Follow(R1) = Vacio

```

Tabla LL(1)

	I	≡	&&	()	+	++	,	-	;	=	==	ALERT	BOOLEAN	CAD	DO	ENT	FALSE	FUNCTION	ID	IF	INPUT	LET	NUMBER	RETURN	STRING	TRUE	WHILE	{ }	S (final de cadena)	
A	--	--	--	--	A → lambda	--	--	--	--	--	--	--	A → TID K	--	--	--	--	--	--	--	--	--	A → TID K	--	A → TID K	--	--	--	--	--
B	--	--	--	--	--	--	--	--	--	--	--	B → S	--	--	B → DO (C) WHILE (E);	--	--	--	B → S	B → IF (E) S	B → S	B → LET TID	--	B → S	--	--	--	--	--	--
C	--	--	--	--	--	--	--	--	--	--	--	C → BC	--	--	C → BC	--	--	--	C → BC	C → BC	C → BC	C → BC	--	C → BC	--	--	--	--	C → lambda	--
E	E → R E1	--	--	E → R E1	--	--	--	--	--	--	--	--	E → R E1	E → R E1	E → R E1	E → R E1	--	E → R E1	--	--	--	--	--	--	--	E → R E1	--	--	--	--
E1	--	--	E1 → && R E1	--	E1 → lambda	--	--	E1 → lambda	E1 → lambda	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	F → FUNCTION H ID (A)(C)	--	--	--	--	--	--	--	--	--	--	--	--
H	--	--	--	--	--	--	--	--	--	--	--	--	H → T	--	--	--	--	--	H → lambda	--	--	--	H → T	--	H → T	--	--	--	--	--
K	--	--	--	--	K → lambda	--	--	K → T ID K	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
L	L → E Q	--	--	L → E Q	L → lambda	--	--	--	--	--	--	--	--	L → E Q	--	L → E Q	L → E Q	--	L → E Q	--	--	--	--	--	--	L → E Q	--	--	--	--
P	--	--	--	--	--	--	--	--	--	--	--	P → BP	--	--	P → BP	--	--	P → FP	P → BP	P → BP	P → BP	P → BP	--	P → BP	--	--	--	--	P → lambda	--
Q	--	--	--	--	Q → lambda	--	--	Q → E Q	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R	R → U R1	--	--	R → U R1	--	--	--	--	--	--	--	--	R → U R1	--	R → U R1	R → U R1	--	--	R → U R1	--	--	--	--	--	--	R → U R1	--	--	--	--
R1	--	R1 → U R1	R1 → lambda	--	R1 → lambda	--	--	R1 → lambda	--	--	R1 → == U R1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S	--	--	--	--	--	--	--	--	--	--	--	S → ALERT (E);	--	--	--	--	--	--	S → ID S1	--	S → INPUT (ID);	--	--	S → RETURN X;	--	--	--	--	--	--
S1	--	--	--	S1 → (L);	--	--	--	--	--	S1 → = E;	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
T	--	--	--	--	--	--	--	--	--	--	--	--	T → BOOLEAN	--	--	--	--	--	--	--	--	--	T → NUMBER	--	T → STRING	--	--	--	--	--
U	U → V U1	--	--	U → V U1	--	--	--	--	--	--	--	--	U → V U1	--	U → V U1	U → V U1	--	--	U → V U1	--	--	--	--	--	--	U → V U1	--	--	--	--
U1	--	U1 → lambda	U1 → lambda	--	U1 → lambda	U1 → + V U1	--	U1 → lambda	U1 → - V U1	U1 → lambda	--	U1 → lambda	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
V	V → I ID	--	--	V → (E)	--	--	--	--	--	--	--	--	--	V → CAD	--	V → ENT	V → FALSE	--	V → ID V1	--	--	--	--	--	--	V → TRUE	--	--	--	--
V1	--	V1 → lambda	V1 → lambda	V1 → (L)	V1 → lambda	V1 → lambda	V1 → ++	V1 → lambda	V1 → lambda	V1 → lambda	--	V1 → lambda	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
X	X → E	--	--	X → E	--	--	--	--	X → lambda	--	--	--	--	X → E	--	X → E	X → E	--	X → E	--	--	--	--	--	--	X → E	--	--	--	--

Por tanto podemos concluir que la gramática al no tener recursividad por la izquierda, estar factorizada y ser LL(1), es una gramática correcta para un analizador sintáctico, del tipo descendente recursivo.

Prueba 1 correcta

```
-----
----- código -----
-----
let number a;
let number b;
let number int;
alert ('Introduce el primer operando');
input (a);
alert ('Introduce el segundo operando');
input (b);
function number operacion (number num1, number num2)
{
let number res;
res = num1-num2;
return res;
}
int = operacion (a, b);
alert (int);
-----
----- tokens -----
-----
<reservedWord,let>
<reservedWord,number>
<ID,1>
<separator,semicolon>
<reservedWord,let>
<reservedWord,number>
<ID,2>
<separator,semicolon>
<reservedWord,let>
<reservedWord,number>
<ID,3>
<separator,semicolon>
<reservedWord,alert>
<separator,openPar>
<chain,"Introduce el primer operando">
<separator,closePar>
<separator,semicolon>
<reservedWord,input>
```

```

<separator,openPar>
<ID,3>
<separator,closePar>
<separator,semicolon>
<reservedWord,alert>
<separator,openPar>
<chain,"Introduce el segundo operando">
<separator,closePar>
<separator,semicolon>
<reservedWord,input>
<separator,openPar>
<ID,3>
<separator,closePar>
<separator,semicolon>
<reservedWord,function>
<reservedWord,number>
<ID,4>
<separator,openPar>
<reservedWord,number>
<ID,5>
<separator,colon>
<reservedWord,number>
<ID,6>
<separator,closePar>
<separator,openBraque>
<reservedWord,let>
<reservedWord,number>
<ID,7>
<separator,semicolon>
<ID,7>
<asigOp,equal>
<ID,7>
<aritOp,minus>
<ID,7>
<separator,semicolon>
<reservedWord,return>
<ID,7>
<separator,semicolon>
<separator,closeBraque>
<ID,7>
<asigOp,equal>
<ID,7>
<separator,openPar>
<ID,7>
<separator,colon>
<ID,7>
<separator,closePar>
<separator,semicolon>
<reservedWord,alert>

```



```

<separator,openPar>
<ID,7>
<separator,closePar>
<separator,semicolon>

```

```

-----
----- ts -----
-----

```

Contenido Tabla Simbolos # 0 :

```

* LEXEMA : 'a'
  ATRIBUTOS :
* LEXEMA : 'b'
  ATRIBUTOS :
* LEXEMA : 'int'
  ATRIBUTOS :
* LEXEMA : 'operacion'
  ATRIBUTOS :
* LEXEMA : 'num1'
  ATRIBUTOS :
* LEXEMA : 'num2'
  ATRIBUTOS :
* LEXEMA : 'res'
  ATRIBUTOS :

```

```

-----
----- parse -----
-----

```

```

Descendente 50 35 38 50 35 38 50 35 38 50 36 23 1 4 8 15 11 7 3 50 36 24 50 36 23 1 4 8 15 11 7 3
50 36 24 51 41 42 38 44 38 46 38 47 48 35 38 48 36 22 26 1 4 8 12 21 10 12 21 11 7 3 48 36 25 32 1
4 8 12 21 11 7 3 49 50 36 22 26 1 4 8 12 19 28 1 4 8 12 21 11 7 3 30 1 4 8 12 21 11 7 3 31 11 7 3 50
36 23 1 4 8 12 21 11 7 3 52

```

```

-----
----- errors -----
-----

```

Árbol resultado de:

Gramática: D:\Universidad\3\Procesador de Lenguaje\Practica\VisorArbSt\trys\gramtica.txt

Parse: D:\Universidad\3\Procesador de Lenguaje\Practica\VisorArbSt\trys\parse1.txt

```
P (50)
  B (35)
    LET
    T (38)
      NUMBER
    ID
    ;
  P (50)
    B (35)
      LET
      T (38)
        NUMBER
      ID
      ;
    P (50)
      B (35)
        LET
        T (38)
          NUMBER
        ID
        ;
      P (50)
        B (36)
```

12/10/2020

Arbol

```
S (23)
  ALERT
  (
    E (1)
      R (4)
        U (8)
          V (15)
            CAD
          U1 (11)
            lambda
          R1 (7)
            lambda
          E1 (3)
            lambda
        )
      ;
    P (50)
      B (36)
        S (24)
          INPUT
          (
            ID
          )
          ;
        P (50)
          B (36)
            S (23)
              ALERT
```

```
(  
  E (1)  
    R (4)  
      U (8)  
        V (15)  
          CAD  
        U1 (11)  
          lambda  
        R1 (7)  
          lambda  
        E1 (3)  
          lambda  
      )  
    ;  
  P (50)  
    B (36)  
      S (24)  
        INPUT  
        (  
          ID  
        )  
      ;  
    P (51)  
      F (41)  
        FUNCTION  
      H (42)  
        T (38)  
          NUMBER
```

```
ID
(
A (44)
  T (38)
    NUMBER
  ID
  K (46)
    ,
    T (38)
      NUMBER
    ID
    K (47)
      lambda
)
{
C (48)
  B (35)
    LET
    T (38)
      NUMBER
    ID
    ;
  C (48)
    B (36)
      S (22)
        ID
        S1 (26)
          =
```

```
E (1)
  R (4)
    U (8)
      V (12)
        ID
        V1 (21)
          lambda
      U1 (10)
        -
        V (12)
          ID
          V1 (21)
            lambda
        U1 (11)
          lambda
      R1 (7)
        lambda
    E1 (3)
      lambda
  ;
C (48)
  B (36)
    S (25)
      RETURN
      X (32)
        E (1)
          R (4)
```

12/10/2020

Arbol

 $U(8)$

V (12)

ID

V1 (21)

lambda

U1 (11)

lambda

R1 (7)

lambda

E1 (3)

lambda

•

C (49)

lambda

}

P (50)

B (36)

S (22)

ID

S1 (26)

二

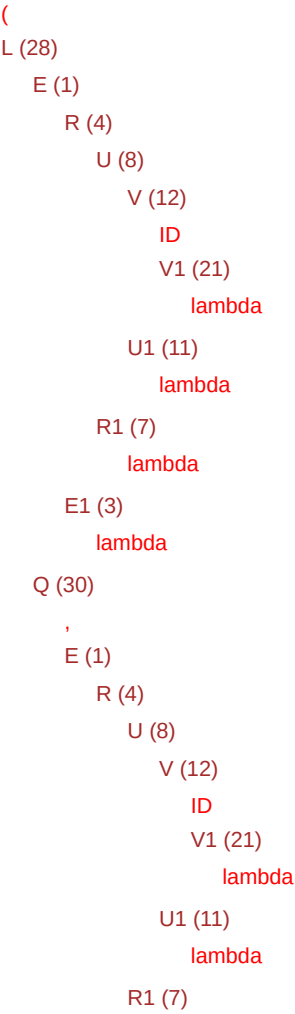
E (1)

R (4)

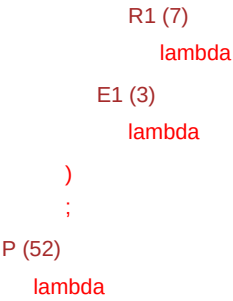
 $U(8)$ $V(12)$

ID

V1 (19)



lambda
E1 (3)
lambda
Q (31)
lambda
)
U1 (11)
lambda
R1 (7)
lambda
E1 (3)
lambda
;
P (50)
B (36)
S (23)
ALERT
(
E (1)
R (4)
U (8)
V (12)
ID
V1 (21)
lambda
U1 (11)
lambda



```
-----
----- código -----
-----
let number a;
let number b;
let boolean bbb;
a = 3;
b = a;
let boolean c;
c = a == b;
if (c) b = 3333;
a = a + b;
alert (a);
alert(b);
-----
----- tokens -----
-----
<reservedWord,let>
<reservedWord,number>
<ID,1>
<separator,semicolon>
<reservedWord,let>
<reservedWord,number>
<ID,2>
<separator,semicolon>
<reservedWord,let>
<reservedWord,boolean>
<ID,3>
<separator,semicolon>
<ID,3>
<asigOp,equal>
<wholeConst,3>
<separator,semicolon>
<ID,3>
<asigOp,equal>
<ID,3>
<separator,semicolon>
<reservedWord,let>
<reservedWord,boolean>
<ID,4>
<separator,semicolon>
<ID,4>
<asigOp,equal>
<ID,4>
<relOp,equals>
<ID,4>
<separator,semicolon>
<reservedWord,if>
```

```

<separator,openPar>
<ID,4>
<separator,closePar>
<ID,4>
<asigOp,equal>
<wholeConst,3333>
<separator,semicolon>
<ID,4>
<asigOp,equal>
<ID,4>
<aritOp,plus>
<ID,4>
<separator,semicolon>
<reservedWord>alert>
<separator,openPar>
<ID,4>
<separator,closePar>
<separator,semicolon>
<reservedWord>alert>
<separator,openPar>
<ID,4>
<separator,closePar>
<separator,semicolon>

```

```

-----
----- ts -----
-----

```

Contenido Tabla Simbolos # 0 :

```

* LEXEMA : 'a'
  ATRIBUTOS :
* LEXEMA : 'b'
  ATRIBUTOS :
* LEXEMA : 'bbb'
  ATRIBUTOS :
* LEXEMA : 'c'
  ATRIBUTOS :

```

```

-----
----- parse -----
-----

```

```

Descendente 50 35 38 50 35 38 50 35 39 50 36 22 26 1 4 8 14 11 7 3 50 36 22 26 1 4 8 12 21 11 7 3 50
35 39 50 36 22 26 1 4 8 12 21 11 5 8 12 21 11 7 3 50 34 1 4 8 12 21 11 7 3 22 26 1 4 8 14 11 7 3 50
36 22 26 1 4 8 12 21 9 12 21 11 7 3 50 36 23 1 4 8 12 21 11 7 3 50 36 23 1 4 8 12 21 11 7 3 52

```

```

-----
----- errors -----
-----

```

Árbol resultado de:

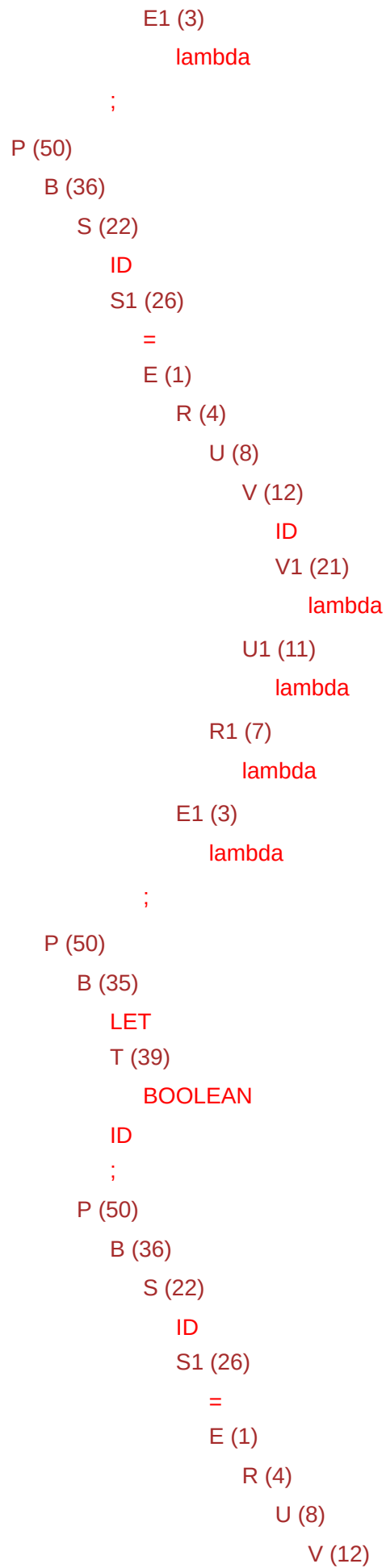
Gramática: D:\Universidad\3\Procesador de Lenguaje\Practical\VisorArbSt\trys\gramtica.txt

Parse: D:\Universidad\3\Procesador de Lenguaje\Practical\VisorArbSt\trys\parse1.txt

```

P (50)
  B (35)
    LET
    T (38)
      NUMBER
    ID
    ;
  P (50)
    B (35)
      LET
      T (38)
        NUMBER
      ID
      ;
    P (50)
      B (35)
        LET
        T (39)
          BOOLEAN
        ID
        ;
      P (50)
        B (36)
          S (22)
            ID
            S1 (26)
              =
              E (1)
                R (4)
                  U (8)
                    V (14)
                      ENT
                    U1 (11)
                      lambda
                  R1 (7)
                    lambda

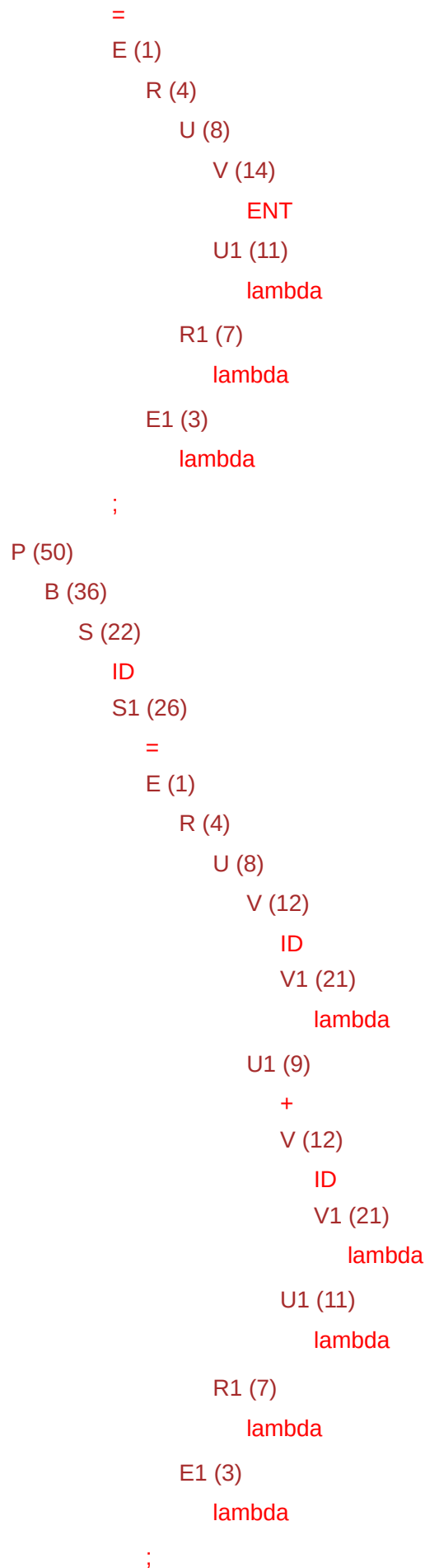
```



```

      ID
      V1 (21)
      lambda
      U1 (11)
      lambda
      R1 (5)
      ==
      U (8)
      V (12)
      ID
      V1 (21)
      lambda
      U1 (11)
      lambda
      R1 (7)
      lambda
      E1 (3)
      lambda
      ;
P (50)
  B (34)
    IF
    (
      E (1)
      R (4)
      U (8)
      V (12)
      ID
      V1 (21)
      lambda
      U1 (11)
      lambda
      R1 (7)
      lambda
      E1 (3)
      lambda
    )
  S (22)
    ID
    S1 (26)

```




```

P (50)
  B (36)
    S (23)
      ALERT
      (
        E (1)
          R (4)
            U (8)
              V (12)
                ID
                V1 (21)
                  lambda
                U1 (11)
                  lambda
                R1 (7)
                  lambda
                E1 (3)
                  lambda
              )
            ;
          P (50)
            B (36)
              S (23)
                ALERT
                (
                  E (1)
                    R (4)
                      U (8)
                        V (12)
                          ID
                          V1 (21)
                            lambda
                          U1 (11)
                            lambda
                          R1 (7)
                            lambda
                          E1 (3)
                            lambda
                        )
                      ;

```

P (52)
lambda

Prueba 3 correcta

```
-----  
----- código -----  
-----  
let number x;  
let number z;  
let boolean b;  
  
alert ('PdL');  
input (esto_es_un_nombre_de_variable_global_de_tipo_entero);  
input (z);  
alert (z);  
x=z;  
alert (z-1);  
b=b&&b;if (b)  
x =  
  x + 6  
  - z  
  + 1  
  - (2  
  - y  
  + 6);  
-----  
----- tokens -----  
-----  
<reservedWord,let>  
<reservedWord,number>  
<ID,1>  
<separator,semicolon>  
<reservedWord,let>  
<reservedWord,number>  
<ID,2>  
<separator,semicolon>  
<reservedWord,let>  
<reservedWord,boolean>  
<ID,3>  
<separator,semicolon>  
<reservedWord>alert>  
<separator,openPar>  
<chain,"PdL">  
<separator,closePar>  
<separator,semicolon>  
<reservedWord,input>  
<separator,openPar>  
<ID,4>  
<separator,closePar>  
<separator,semicolon>  
<reservedWord,input>  
<separator,openPar>
```

```

<ID,4>
<separator,closePar>
<separator,semicolon>
<reservedWord,alert>
<separator,openPar>
<ID,4>
<separator,closePar>
<separator,semicolon>
<ID,4>
<asigOp,equal>
<ID,4>
<separator,semicolon>
<reservedWord,alert>
<separator,openPar>
<ID,4>
<aritOp,minus>
<wholeConst,1>
<separator,closePar>
<separator,semicolon>
<ID,4>
<asigOp,equal>
<ID,4>
<logOp,and>
<ID,4>
<separator,semicolon>
<reservedWord,if>
<separator,openPar>
<ID,4>
<separator,closePar>
<ID,4>
<asigOp,equal>
<ID,4>
<aritOp,plus>
<wholeConst,6>
<aritOp,minus>
<ID,4>
<aritOp,plus>
<wholeConst,1>
<aritOp,minus>
<separator,openPar>
<wholeConst,2>
<aritOp,minus>
<ID,5>
<aritOp,plus>
<wholeConst,6>
<separator,closePar>
<separator,semicolon>
-----
----- ts -----

```

```

-----
Contenido Tabla Simbolos # 0 :
* LEXEMA : 'x'
  ATRIBUTOS :
* LEXEMA : 'z'
  ATRIBUTOS :
* LEXEMA : 'b'
  ATRIBUTOS :
* LEXEMA : 'esto_es_un_nombre_de_variable_global_de_tipo_entero'
  ATRIBUTOS :
* LEXEMA : 'y'
  ATRIBUTOS :
-----

----- parse -----
-----
Descendente 50 35 38 50 35 38 50 35 39 50 36 23 1 4 8 15 11 7 3 50 36 24 50 36 24 50 36
23 1 4 8 12 21 11 7 3 50 36 22 26 1 4 8 12 21 11 7 3 50 36 23 1 4 8 12 21 10 14 11 7 3
50 36 22 26 1 4 8 12 21 11 7 2 4 8 12 21 11 7 3 50 34 1 4 8 12 21 11 7 3 22 26 1 4 8 12
21 9 14 10 12 21 9 14 10 13 1 4 8 14 10 12 21 9 14 11 7 3 11 7 3 52
-----

----- errors -----
-----

```

Árbol resultado de:**Gramática:** D:\Universidad\3\Procesador de Lenguaje\Practical\VisorArbSt\trys\gramtica.txt**Parse:** D:\Universidad\3\Procesador de Lenguaje\Practical\VisorArbSt\trys\parse1.txt

```

P (50)
  B (35)
    LET
    T (38)
      NUMBER
    ID
    ;
  P (50)
    B (35)
      LET
      T (38)
        NUMBER
      ID
      ;
    P (50)
      B (35)
        LET
        T (39)
          BOOLEAN
        ID
        ;
      P (50)
        B (36)
          S (23)
            ALERT
            (
              E (1)
                R (4)
                  U (8)
                    V (15)
                      CAD
                    U1 (11)
                      lambda
                  R1 (7)
                    lambda
                E1 (3)

```

```

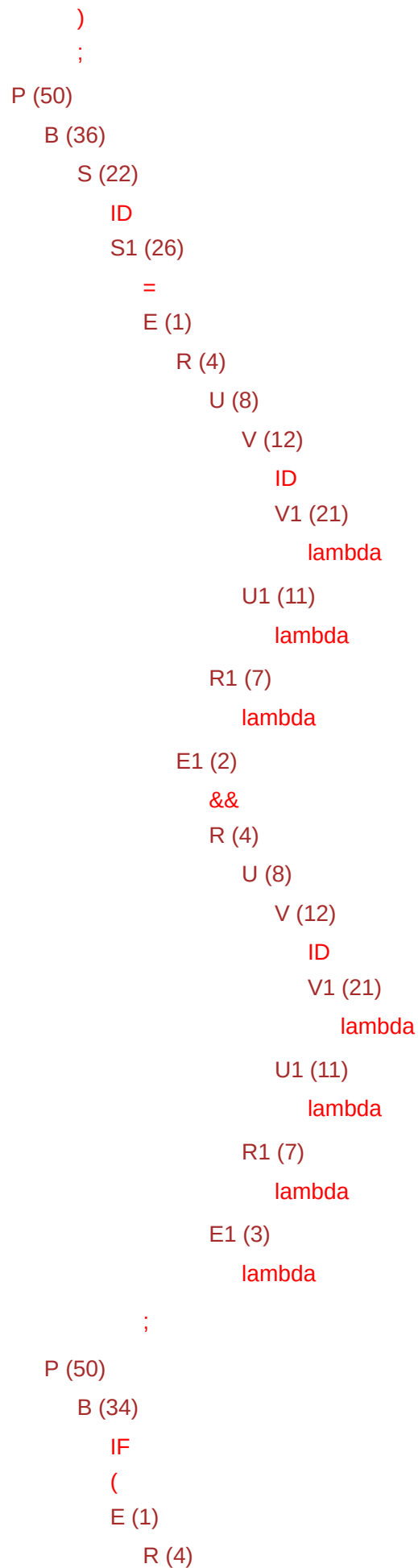
        lambda
    )
;
P (50)
    B (36)
        S (24)
            INPUT
            (
                ID
            )
            ;
P (50)
    B (36)
        S (24)
            INPUT
            (
                ID
            )
            ;
P (50)
    B (36)
        S (23)
            ALERT
            (
                E (1)
                    R (4)
                        U (8)
                            V (12)
                                ID
                                V1 (21)
                                    lambda
                                    U1 (11)
                                        lambda
                                        R1 (7)
                                            lambda
                                            E1 (3)
                                                lambda
                                            )
                                        ;
                                    P (50)
                                        B (36)

```

```

S (22)
  ID
  S1 (26)
    =
    E (1)
      R (4)
        U (8)
          V (12)
            ID
            V1 (21)
              lambda
            U1 (11)
              lambda
            R1 (7)
              lambda
            E1 (3)
              lambda
          ;
        P (50)
          B (36)
            S (23)
              ALERT
              (
                E (1)
                  R (4)
                    U (8)
                      V (12)
                        ID
                        V1 (21)
                          lambda
                        U1 (10)
                          -
                          V (14)
                            ENT
                            U1 (11)
                              lambda
                            R1 (7)
                              lambda
                            E1 (3)
                              lambda

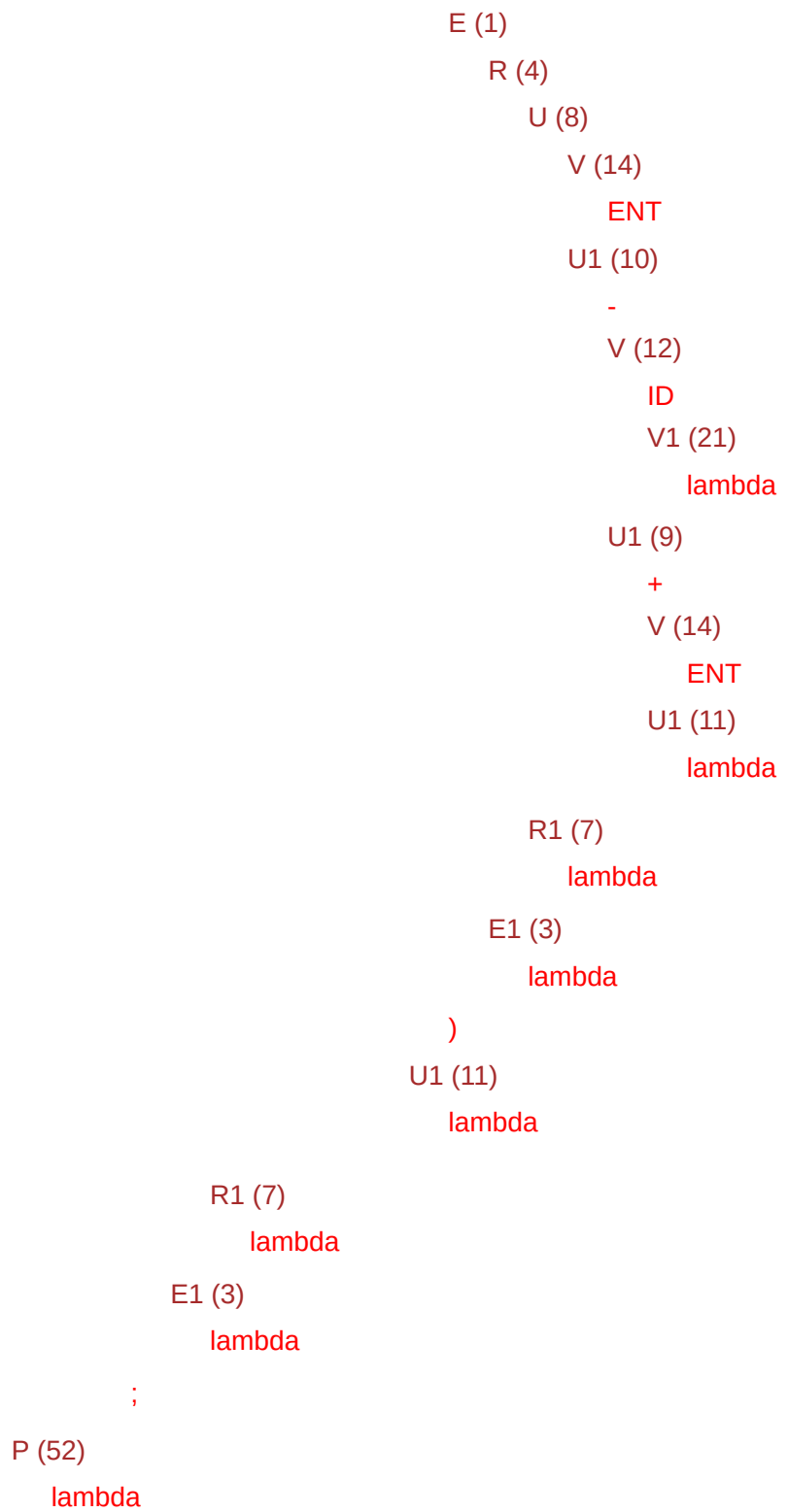
```

```

      U (8)
      V (12)
      ID
      V1 (21)
      lambda
      U1 (11)
      lambda
      R1 (7)
      lambda
      E1 (3)
      lambda
    )
  S (22)
  ID
  S1 (26)
  =
  E (1)
  R (4)
  U (8)
  V (12)
  ID
  V1 (21)
  lambda
  U1 (9)
  +
  V (14)
  ENT
  U1 (10)
  -
  V (12)
  ID
  V1 (21)
  lambda
  U1 (9)
  +
  V (14)
  ENT
  U1 (10)
  -
  V (13)
  (

```



Prueba 4 incorrecta

```
-----  
----- codigo -----  
-----  
let number x;  
let number z;  
let boolean b;  
  
alert ('PdL');  
input (esto_es_un_nombre_de_variable_global_de_tipo_entero);  
input (z);  
aler;  
x=z;  
alert (z-1);  
b=b&&b;if (b)  
x =  
  x + 6  
  - z  
  + 1  
  - (2  
  - y  
  + 6);  
-----  
----- tokens -----  
-----  
<reservedWord,let>  
<reservedWord,number>  
<ID,1>  
<separator,semicolon>  
<reservedWord,let>  
<reservedWord,number>  
<ID,2>  
<separator,semicolon>  
<reservedWord,let>  
<reservedWord,boolean>  
<ID,3>  
<separator,semicolon>  
<reservedWord>alert>  
<separator,openPar>  
<chain,"PdL">  
<separator,closePar>  
<separator,semicolon>  
<reservedWord,input>  
<separator,openPar>  
<ID,4>  
<separator,closePar>  
<separator,semicolon>  
<reservedWord,input>  
<separator,openPar>
```

```

<ID,4>
<separator,closePar>
<separator,semicolon>
<ID,5>
<separator,semicolon>
<ID,5>
<asigOp,equal>
<ID,5>
<separator,semicolon>
<reservedWord>alert>
<separator,openPar>
<ID,5>
<aritOp,minus>
<wholeConst,1>
<separator,closePar>
<separator,semicolon>
<ID,5>
<asigOp,equal>
<ID,5>
<logOp,and>
<ID,5>
<separator,semicolon>
<reservedWord,if>
<separator,openPar>
<ID,5>
<separator,closePar>
<ID,5>
<asigOp,equal>
<ID,5>
<aritOp,plus>
<wholeConst,6>
<aritOp,minus>
<ID,5>
<aritOp,plus>
<wholeConst,1>
<aritOp,minus>
<separator,openPar>
<wholeConst,2>
<aritOp,minus>
<ID,6>
<aritOp,plus>
<wholeConst,6>
<separator,closePar>
<separator,semicolon>

```

```

-----
----- ts -----
-----

```

Contenido Tabla Simbolos # 0 :
* LEXEMA : 'x'

```

    ATRIBUTOS :
* LEXEMA : 'z'
    ATRIBUTOS :
* LEXEMA : 'b'
    ATRIBUTOS :
* LEXEMA : 'esto_es_un_nombre_de_variable_global_de_tipo_entero'
    ATRIBUTOS :
* LEXEMA : 'aler'
    ATRIBUTOS :
* LEXEMA : 'y'
    ATRIBUTOS :

```

```

-----
----- parse -----
-----

```

```

-----
----- errors -----
-----

```

ErrorSintactico: Error en regla S1

Prueba 5 incorrecta

```

-----
----- codigo -----
-----

```

```

let number a;
let number b;
let number int;
alert ('Introduce el primer operando');
input (a);
('Introduce el segundo operando');
input (b);
function number operacion (number num1, number num2)
{
let number res;
res = num1-num2;
return res;
}
int = operacion (a, b);
alert (int);

```

```

-----
----- tokens -----
-----

```

```

<reservedWord,let>
<reservedWord,number>
<ID,1>
<separator,semicolon>
<reservedWord,let>
<reservedWord,number>
<ID,2>
<separator,semicolon>

```

```

<reservedWord,let>
<reservedWord,number>
<ID,3>
<separator,semicolon>
<reservedWord>alert>
<separator,openPar>
<chain,"Introduce el primer operando">
<separator,closePar>
<separator,semicolon>
<reservedWord,input>
<separator,openPar>
<ID,3>
<separator,closePar>
<separator,semicolon>
<separator,openPar>
<chain,"Introduce el segundo operando">
<separator,closePar>
<separator,semicolon>
<reservedWord,input>
<separator,openPar>
<ID,3>
<separator,closePar>
<separator,semicolon>
<reservedWord,function>
<reservedWord,number>
<ID,4>
<separator,openPar>
<reservedWord,number>
<ID,5>
<separator,colon>
<reservedWord,number>
<ID,6>
<separator,closePar>
<separator,openBraque>
<reservedWord,let>
<reservedWord,number>
<ID,7>
<separator,semicolon>
<ID,7>
<asigOp,equal>
<ID,7>
<aritOp,minus>
<ID,7>
<separator,semicolon>
<reservedWord,return>
<ID,7>
<separator,semicolon>
<separator,closeBraque>
<ID,7>

```

```

<asigOp,equal>
<ID,7>
<separator,openPar>
<ID,7>
<separator,colon>
<ID,7>
<separator,closePar>
<separator,semicolon>
<reservedWord>alert>
<separator,openPar>
<ID,7>
<separator,closePar>
<separator,semicolon>
-----
----- ts -----
-----

Contenido Tabla Simbolos # 0 :
* LEXEMA : 'a'
  ATRIBUTOS :
* LEXEMA : 'b'
  ATRIBUTOS :
* LEXEMA : 'int'
  ATRIBUTOS :
* LEXEMA : 'operacion'
  ATRIBUTOS :
* LEXEMA : 'num1'
  ATRIBUTOS :
* LEXEMA : 'num2'
  ATRIBUTOS :
* LEXEMA : 'res'
  ATRIBUTOS :
-----
----- parse -----
-----

----- errors -----
-----

ErrorSintactico: Error en regla P
  Prueba 6 incorrecta
-----
----- codigo -----
-----

let number a;
let number b;
let boolean bbb;
a = 3;
b = a;
let boolean c;

```



```

c = a == b;
if (c) b = 3333
a = a + b;
alert (a);
alert(b);
-----
----- tokens -----
-----
<reservedWord,let>
<reservedWord,number>
<ID,1>
<separator,semicolon>
<reservedWord,let>
<reservedWord,number>
<ID,2>
<separator,semicolon>
<reservedWord,let>
<reservedWord,boolean>
<ID,3>
<separator,semicolon>
<ID,3>
<asigOp,equal>
<wholeConst,3>
<separator,semicolon>
<ID,3>
<asigOp,equal>
<ID,3>
<separator,semicolon>
<reservedWord,let>
<reservedWord,boolean>
<ID,4>
<separator,semicolon>
<ID,4>
<asigOp,equal>
<ID,4>
<relOp,equals>
<ID,4>
<separator,semicolon>
<reservedWord,if>
<separator,openPar>
<ID,4>
<separator,closePar>
<ID,4>
<asigOp,equal>
<wholeConst,3333>
<ID,4>
<asigOp,equal>
<ID,4>
<aritOp,plus>

```

```

<ID,4>
<separator,semicolon>
<reservedWord>alert>
<separator,openPar>
<ID,4>
<separator,closePar>
<separator,semicolon>
<reservedWord>alert>
<separator,openPar>
<ID,4>
<separator,closePar>
<separator,semicolon>
-----
----- ts -----
-----
Contenido Tabla Simbolos # 0 :
* LEXEMA : 'a'
  ATRIBUTOS :
* LEXEMA : 'b'
  ATRIBUTOS :
* LEXEMA : 'bbb'
  ATRIBUTOS :
* LEXEMA : 'c'
  ATRIBUTOS :
-----
----- parse -----
-----
-----
----- errors -----
-----
ErrorSintactico: Error en regla R2

```