UNIVERSIDAD DE SAN CARLOS DE GUATEMALA FACULTAD DE INGENIERÍA ESCUELA DE CIENCIAS Y SISTEMAS LENGUAJES FORMALES Y DE PROGRAMACIÓN B-SEGUNDO SEMESTRE 2,021.



MÉTODO DEL ÁRBOL Y AFD – PROYECTO 2

TAREA 3

NOMBRE: Elías Abraham Vasquez Soto

CARNÉ: 201900131

Alfabeto a usar en la expresión regular:

$$N = \{0, 1, 2, 3, 4, 5, 6, 7, 8, 9\}$$

$$L = \{a, b, c, ..., z, A, B, C, ..., Z\}$$

$$S = \{ ' = ', '[', ']', ', ', ';', '\{', '\}', '(', ')' \}$$

$$Especial = \{ ' \setminus n', ' \setminus t', ' ' \}$$

Expresiones regulares de los tokens a reconocer:

Entero = (-)? N +, Decimal = (-)? N+'.' N+ \rightarrow Numero = (-)? N + ('.'N +)? (Para evitar un posible autómata **no determinista**).

Id =
$$(L | '_-') (L | N | '_-') *$$

C. Linea = $'#' (^\n) *$

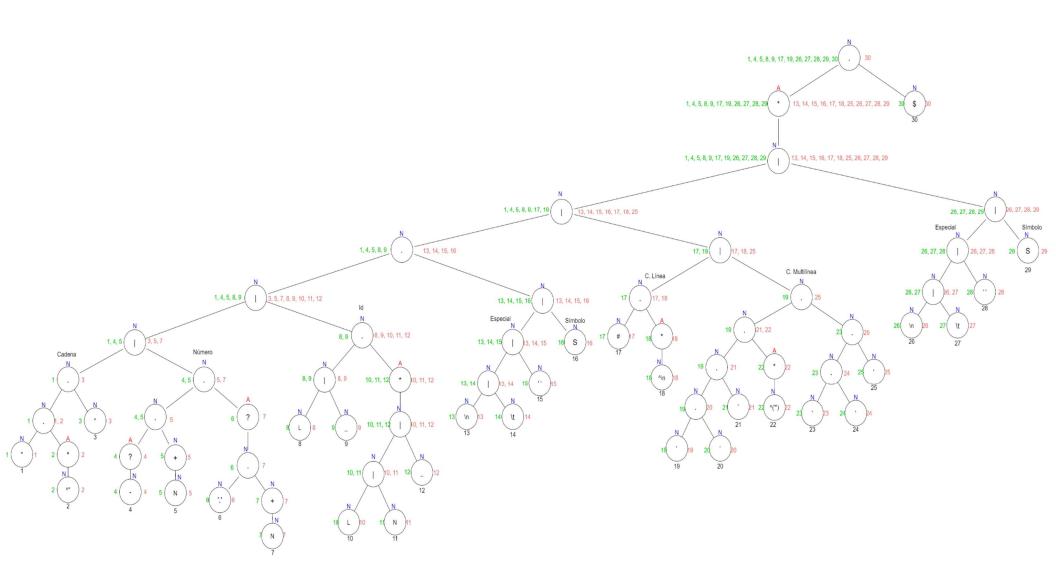
C. Multilinea = $''' [^(''')] *'''$

Símbolo = S

• Expresión regular:

{ [(Cadena | Numero | Id)(Especial | Símbolo) | C. Iínea | C. multilínea | Especial | Símbolo]* }\$

• Árbol binario:



• Tabla Follow Pos:

НОЈА	VALOR	SIGUIENTE								
1	ű	2, 3								
2	۸"	2, 3								
3	ű	13, 14, 15, 16								
4	-	5								
5	N	5, 6, 13, 14, 15, 16								
6		7								
7	N	7, 13, 14, 15, 16								
8	L	10, 11, 12, 13, 14, 15, 16								
9	_	10, 11, 12, 13, 14, 15, 16								
10	L	10, 11, 12, 13, 14, 15, 16								
11	N	10, 11, 12, 13, 14, 15, 16								
12	_	10, 11, 12, 13, 14, 15, 16								
13	\n	1, 4, 5, 8, 9, 17, 19, 26, 27, 28, 29, 30								
14	\t	1, 4, 5, 8, 9, 17, 19, 26, 27, 28, 29, 30								
15	6 6	1, 4, 5, 8, 9, 17, 19, 26, 27, 28, 29, 30								
16	S	1, 4, 5, 8, 9, 17, 19, 26, 27, 28, 29, 30								
17	#	1, 4, 5, 8, 9, 17, 18, 19, 26, 27, 28, 29, 30								
18	^\n	1, 4, 5, 8, 9, 17, 18, 19, 26, 27, 28, 29, 30								
19		20								
20	4	21								
21	4	22, 23								
22	^("")	22, 23								
23	6	24								
24	1	25								
25		1, 4, 5, 8, 9, 17, 19, 26, 27, 28, 29, 30								
26	\n	1, 4, 5, 8, 9, 17, 19, 26, 27, 28, 29, 30								
27	\t	1, 4, 5, 8, 9, 17, 19, 26, 27, 28, 29, 30								
28		1, 4, 5, 8, 9, 17, 19, 26, 27, 28, 29, 30								
29	S	1, 4, 5, 8, 9, 17, 19, 26, 27, 28, 29, 30								
30	\$	-								

• Tabla de transiciones:

ESTADO	"	۸"	-	N	•	L	_	\n	\t	"	S	#	^\n	6	^\("")	Aceptación
q0={1, 4, 5, 8, 9, 17, 19, 26, 27, 28, 29, 30}	q1	-	q2	q3	-	q4	q4	q0	q0	q0	q0	q5	-	q6	-	Aceptación
q1={2, 3}	q7	q1	-	-	-	-	-	-	-	-	-	-	-	-	-	
q2={5}	-	-	-	q3	-	-	-	-	-	-	-	-	-	-	-	
q3={5, 6, 13, 14, 15, 16}	-	-	-	q3	q8	-	-	q0	q0	q0	q0	-	-	-	-	
q4={10, 11, 12, 13, 14, 15, 16}	-	-	-	q4	-	q4	q4	q0	q0	q0	q0	-	-	-	-	
q5={1, 4, 5, 8, 9, 17, 18, 19, 26, 27, 28, 29, 30}	q1	-	q2	q3	-	q4	q4	q0	q0	q0	q0	q5	q5	q6	-	Aceptación
q6={20}	-	-	-	-	-	-	-	-	-	-	-	-	-	q9	-	
q7={13, 14, 15, 16}	-	-	-	-	-	-	-	q0	q0	q0	q0	-	-	-	-	
q8={7}	-	-	-	q10	-	-	-	-	-	-	-	-	-	-	-	
q9={21}	-	-	-	-	-	-	-	-	-	-	-	-	-	q11	-	
q10={7, 13, 14, 15, 16}	-	-	-	q10	-	-	-	q0	q0	q0	q0	-	-	-	-	
q11={22, 23}	-	-	-	-	-	-	-	-	-	-	-	-	-	q12	q11	
q12={24}	-	-	-	-	_	-	-	-	-	-	-	-	-	q13	-	
q13={25}	-	-	-	-	-	-	-	-	-	-	-	-	-	q0	-	

• Autómata finito determinista:

