

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:

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

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

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

$$\text{Especial} = \{ '\backslash n' , '\backslash t' , ' ' \}$$

- Expresiones regulares de los tokens a reconocer:

$$\text{Cadena} = "(^") * "$$

$$\text{Entero} = (-)? N +, \text{Decimal} = (-)? N + '.' N + \rightarrow \text{Numero} = (-)? N + ('.' N +)?$$

(Para evitar un posible autómata **no determinista**).

$$\text{Id} = (L | '_' ) ( L | N | '_' ) *$$

$$\text{C. Línea} = '#' (^ \backslash n ) *$$

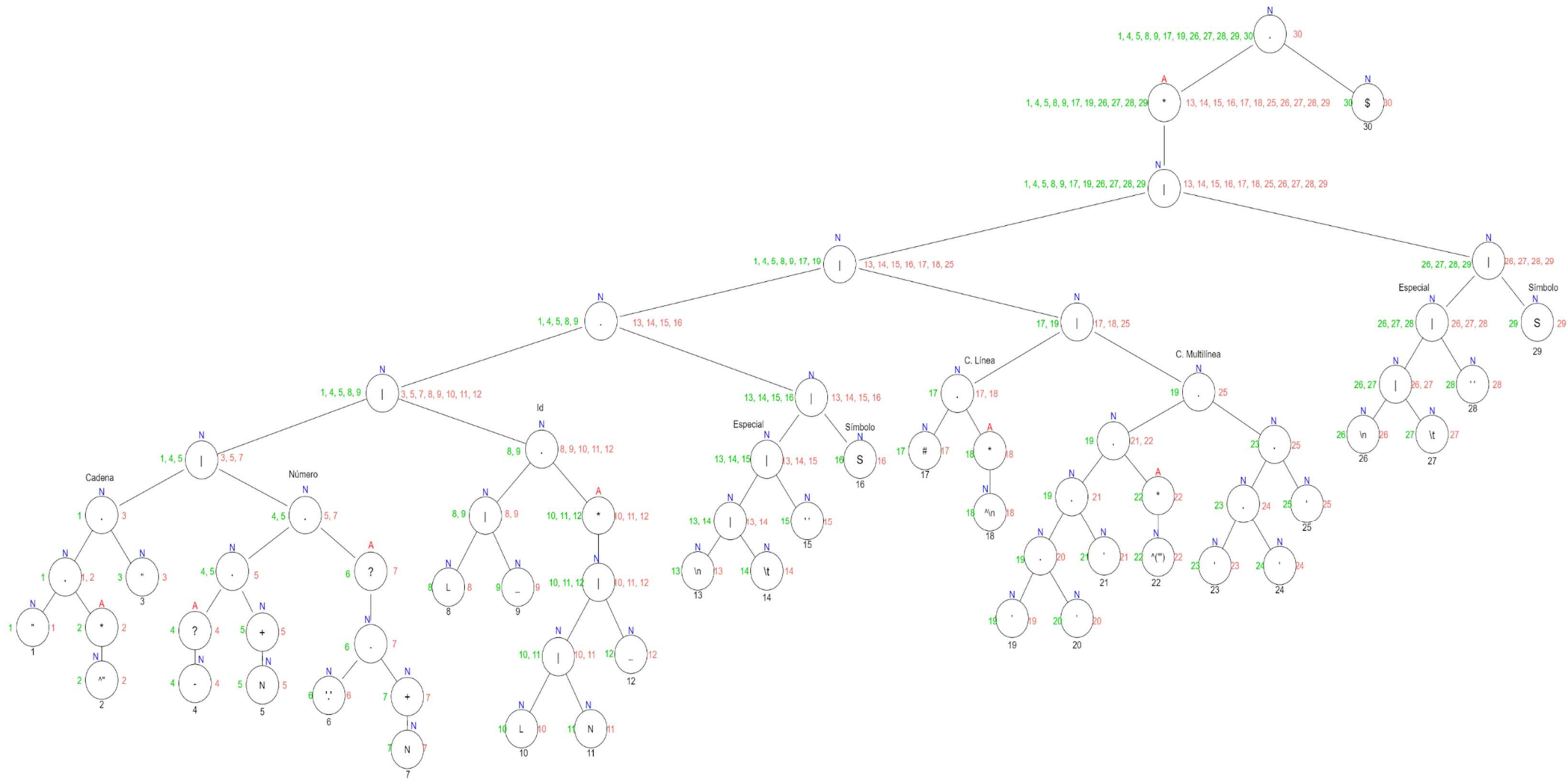
$$\text{C. Multilínea} = ''' [ ^ ( ' ' ) ] * '''$$

$$\text{Símbolo} = S$$

- Expresión regular:**

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

- **Árbol binario:**



- Tabla Follow Pos:

HOJA	VALOR	SIGUIENTE
1	“	2, 3
2	^”	2, 3
3	“	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	‘ ‘	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	‘	21
21	‘	22, 23
22	^ (”)	22, 23
23	‘	24
24	‘	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:**

[illegible]

- Autómata finito determinista:

