DEFINICION DE LENGUAJE.

- L = cualquier teclado que entra
- N = números que entran
- p = punto (.)
- a = asterisco (*)
- d = diagonal /
- R = palabra reservada
- c = comillas (“”)

EXPRESION REGULAR:

(c. L+. c | N+. (N+ | p. N+) | L | d. (d. L+ | a. L+. a. d) | L+. R)

RESOLUCION POR EL METODO DEL ARBOL:

AGREGAMOS FINALIZACION A LA EXPRESION REGULAR

(c. L+. c | N+. (N+ | p. N+) | L | d. (d. L+ | a. L+. a. d) | L+. R). $

DIBUAMOS EL ARBOL ASOCIADO A LA EXPRESION

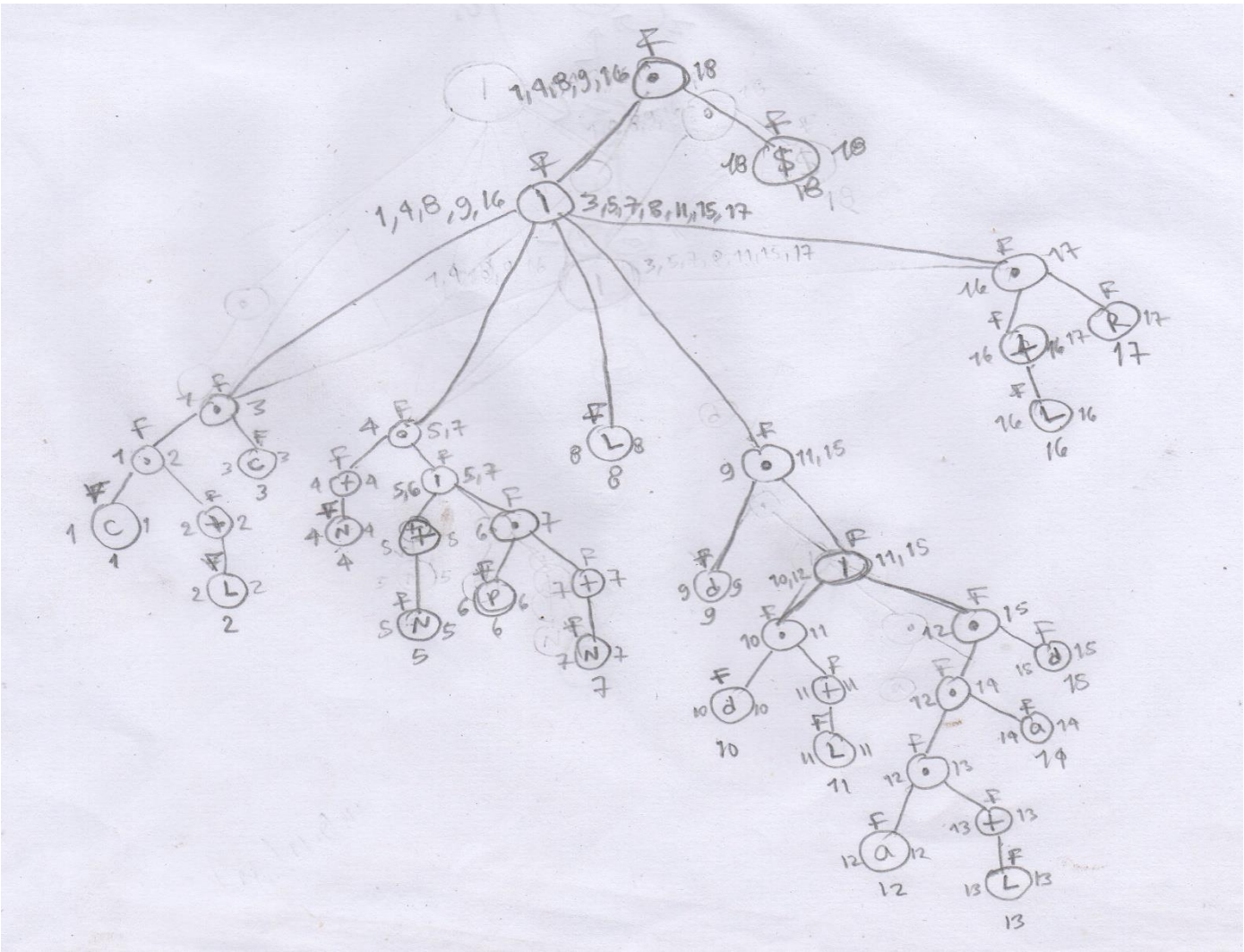


TABLA DE SIGUIENTES

numero	alfabeto	Siguiente(no.)
1	c	2
2	L	2,3
3	c	18
4	N	4,5,6
5	N	5,18
6	p	7
7	N	7,18
8	L	18
9	d	10,12
10	d	11
11	L	11,18
12	a	13
13	L	13,14
14	a	15
15	d	18
16	L	16,17
17	R	18
18	$	--

TABLA DE TRANSICION

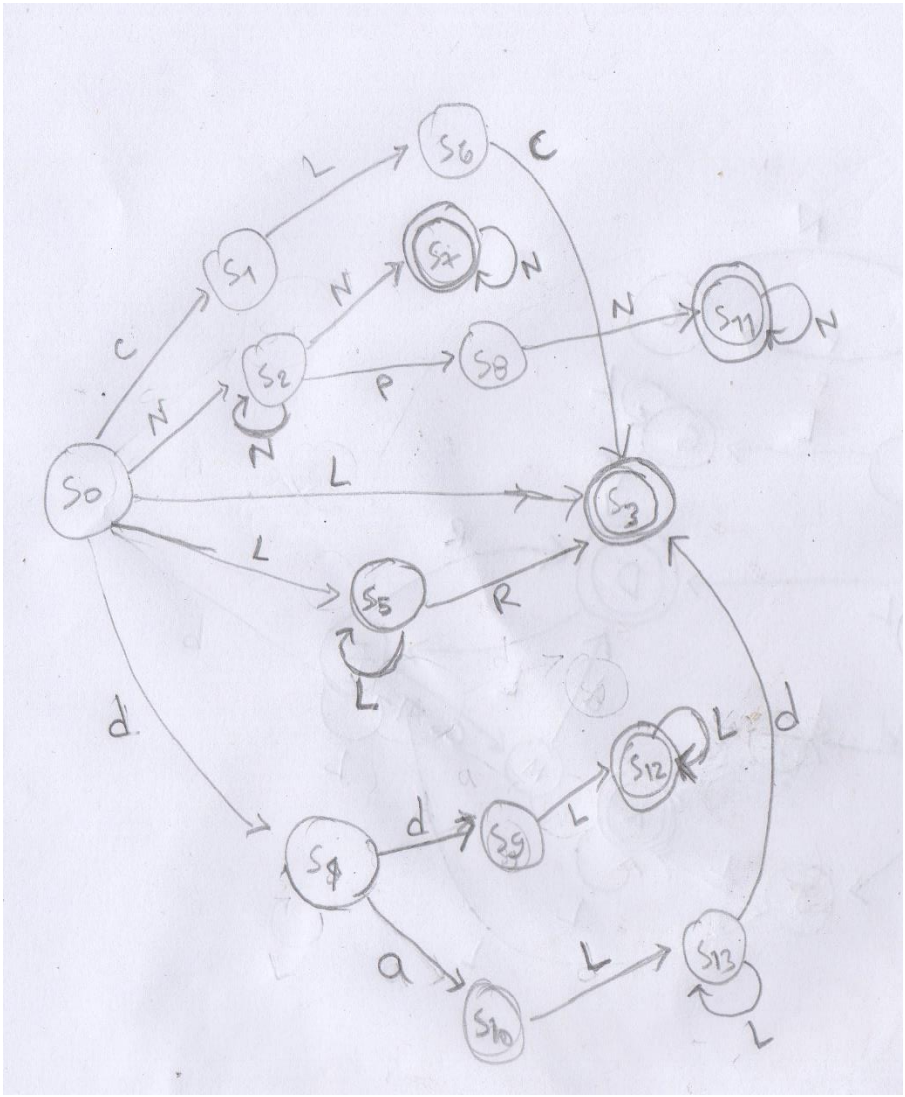
Estados	siguientes	Transición
S0 = {1,4,8,9,16}	Sig(1) = {2} --> S1	d(S0, c)= S1
	Sig(4) = {4,5,6} --> S2	d(S0, N)= S2
	Sig(8) = {18} --> S3	d(S0, L)= S3
	Sig(9) = {10,12} --> S4	d(S0, d)= S4
	Sig(16) = {16,17} --> S5	d(S0, L)= S5
S1={2}	Sig(2) = {3} --> S6	d(S1, L)= S6
S2={4,5,6}	Sig(4) = {4,5,6} -->S2	d(S1, N)= S2
	Sig(5) = {5,18} --> S7	d(S2, N)= S7
	Sig(6) ={7} ---->S8	d(S2, p)= S8
S4={10,12}	Sig(10) = {11} --> S9	d(S4, d)= S9
	Sig(12) = {13} --> S10	d(S4, a)= S10
S5={16,17}	Sig(16) = {16,17} --> S5	d(S5, L)= S5
	Sig(17) = {18} --> S3	d(S5, R)= S3
S6={3}	Sig(3) = {18} --> S3	d(S6, c)= S3
S7={5,18}	Sig(5) = {5,18} --> S7	d(S7, N)= S7
S8={7}	Sig(7) = {7,18} --> S11	d(S8, N)= S11
S9={11}	Sig(11) = {11,18} --> S12	d(S9, L)= S12
S10={13}	Sig(13) = {13,14} --> S13	d(S10, L)= S13
S11={7,18}	Sig(7) = {7,18} --> S11	d(S11, N)= S11
S12={11,18}	Sig(11) = {11,18} --> S12	d(S12, L)= S12
S13={13,14}	Sig(13) = {13,14} --> S13	d(S13, L)= S13
	Sig(14) = {15} --> S14	d(S13, a)= S14
S14={15}	Sig(15) = {18} --> S3	d(S14, d)= S3

DEFINICION FORMAL DE AFD >>> EN ESTE CASO OBTUVIMOS UN NO DETERMINISTA.

A = (Q, ∑, à, S0, F)

1. estados: Q = {S0, S1, S2, S3, S4, S5, S6, S7, S8, S9, S10, S11, S12, S13}
2. Estado inicial = S0
3. Alfabeto: ∑ = {N, L, p, c, d, a, R}
4. Estado final: F = {S7, S11, S3, S12}
5. Función de transición:

Transición
d(S0, c)= S1
d(S0, N)= S2
d(S0, L)= S3
d(S0, d)= S4
d(S0, L)= S5
d(S1, L)= S6
d(S1, N)= S2
d(S2, N)= S7
d(S2, p)= S8
d(S4, d)= S9
d(S4, a)= S10
d(S5, L)= S5
d(S5, R)= S3
d(S6, c)= S3
d(S7, N)= S7
d(S8, N)= S11
d(S9, L)= S12
d(S10, L)= S13
d(S11, N)= S11
d(S12, L)= S12
d(S13, L)= S13
d(S13, a)= S14
d(S14, d)= S3



CONVERTIMOS NUESTRO AFND A UNO AFD Y LLEVARLO A SU FORMA MINIMA.

TABLA DE ESTADOS, AGRUPANDO ESTADO DE ACEPTACION Y NO ACEPTACION

∑			Estados no aceptación										Estados aceptación			
	S0	S1	S2	S4	S5	S6	S8	S9	S10	S13	S14		S3	S7	S11	S12
N	S2		S2, S7				S11							S7	S11	
L	S3	S6			S5	S6		S12	S13	S13			S5			S12
c	S1					S3										
d	S4			S9							S3					
a				S10						S14						
R					S3											
p			S8													
$																

NUEVA TABLA DE TRANSICION AGRUPANDO ESTADOS QUE COINCIDAN.

∑			Estado no aceptación							Estado aceptación		
	A = S0	C = S8	L = 14	E = S4	F = S5, s13	G = S6	H = S1	I = S9	J = S10	K = S12	B =S2, S7, S11	D = S3
N	S2	S11									S2	
L	S3				S5	S6	S6	S12	S13	S13		S5
c	S1					S3						
d	S4		S3	S9								
a				S10						S14		
R					S3							
p												S8
$												

DEFINICION FORMAL DE AFD (simplificado)

A = (Q, ∑, à, SÐ, F)

1. estados: Q = {A, B, C, D, E, F, G, H, I, J, K, L}
2. Estado inicial = A
3. Alfabeto: ∑ = {N, L, p, c, d, a, R}
4. Estado final: F = {B, D, K}
5. Función de transición:

Transición
d(A, c)= H
d(A, N)= B
d(A, L)= D
d(A, d)= E
d(B, N)= B
d(B, p)= C
d(C, N)= B
d(D, L)= F
d(E, d)= I
d(E, a)= J
d(F, L)= F
d(F, R)= D
d(F, a)= M
d(G, L)= G
d(G, c)= D
d(H, L)= G
d(I, L)= K
d(J, L)= F
d(K, L)= K
d(K, a)= L
d(L, d)= D