Faculdade Anhanguera de Jundiaí

2- Minimização de AFD e Conversão AFD -> GR

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1

A)

P1, 0 = P0 P2, 0 = P,0

P1, 1 = P2 P2, 1 = P1

P1	X	
P2	X	
	P0	P1

G= (V,T,P,S)

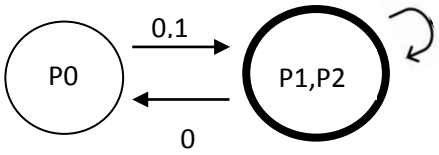
P0=X; P1=Y; P2=Z

V= X,Y,Z

P = X -> 0Y| 1Z

y -> 0X| 1Z | ∑

Z -> 0X| 1Y| ∑



1

B)

Q1	⊗	
Q2	X	X
	Q0	Q1

Q1,A = Q1 Q0,A =Q2 (Q1,Q2)

Q0=X; Q1=Y; Q2=Z

T = (A, C)

P= X-> aZ| cY, Y-> aY| cX| ∑, Z->aZ|cY

C)

Q1	
	Q0

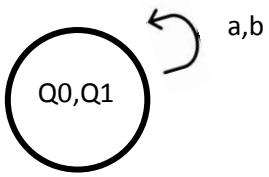
Q0,A= Q0 Q1,A = Q1

Q0,B= Q1 Q0,B = Q1

V(X,Y)

T(A,B)

P = X -> aX| b Y| ∑, Y -> bY|aY| ∑

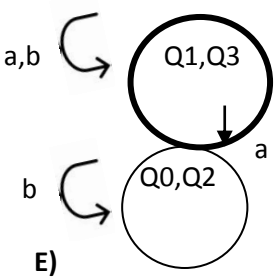


D)

Q1	X		
Q2		X	
Q3	X		X
	Q0	Q1	Q2

Q0,A= Q1 Q2,A = Q3
Q0,B = Q2 Q2,B = Q2

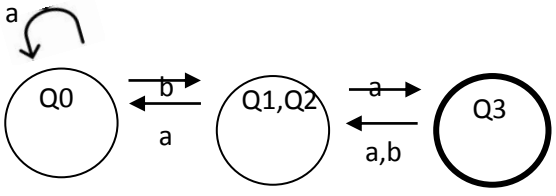
Q1, A = Q1 Q3,A= Q3
Q1, B = Q1 Q3,B= Q1
V=A,B,C,D
T (a,b)
P= A -> aB|bC, B-> aB|bB->|∑, C-> aD|bC, D-> aD|bB| ∑

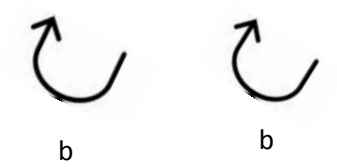


E)

Q1	X		
Q2	⊗	X	
Q3	X	⊗	X
	Q0	Q1	Q2

Q0,Q2
Q1,Q3
Q0,A = Q0 Q2,A=Q3 Q1,A =Q0 Q3,A= Q3
Q0,B= Q2 Q2,B= Q2 Q1,B= Q1 Q3,B=Q1
Q0=A; Q1=B; Q2=C; Q3=D
V= A,B,C,D
T = (a,b)
P= A-> aB|bC, B-> aB | bB| ∑, C-> aD|bC, D-> aD| bB| ∑



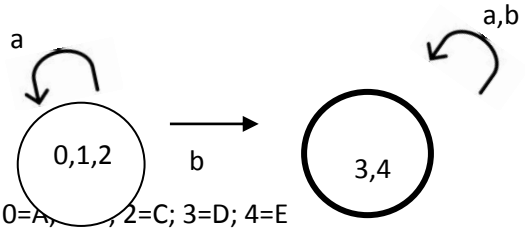


F)

1				
2				
3	X	X	X	
4	X	X	X	
	0	1	2	3

(4,3)
4A=3 3A = 4 (3,4)
4B= 4 3B= 3 (4,3)
(2,0)
2A = 1 0A = 1 (1,1)
2B = 4 0B= 3 (4,3)

(2,1)
2A = 1 1A = 2 (1,2)
2B = 4 1B= 4 (4,4)
(1,0)
1A = 2 0A = 1 (2,1)
1B= 4 0B = 3 (4,3)



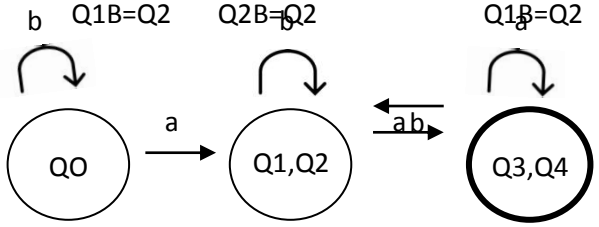
0=A; 1=B; 2=C; 3=D; 4=E
V= A,B,C,D,E
T = (d,e)
P= A-> aA|bD, B-> aC| bE C-> aB|bE, D-> aE| bD| ∑, E -> aD|bE| ∑

G)

Q1	⊗			
Q2	⊗			
Q3	X	X	X	
Q4	X	X	X	
	Q0	Q1	Q2	Q3

(Q2,Q0)
Q2A=Q4 Q0A=Q1
Q2B=Q2 Q0B=Q0
(Q1,Q2)
Q1A=Q3 Q2A=Q4
Q1B=Q2 Q2B=Q2

(Q4,Q3)
Q4A=Q3 Q3A=Q3
Q4B=Q2 Q3B=Q2
(Q1,Q0)
Q1A=Q3 Q0A=Q1
Q1B=Q2 Q0B=Q0



Q0=A; Q1=B; Q2=C; Q3=D; Q4=E
V= A,B,C,D,E
T = (d,e)
P= A-> aB|bC, B-> aD| bC C-> aE|Bc|∑ , D-> aD| bC|, E -> aD|bC

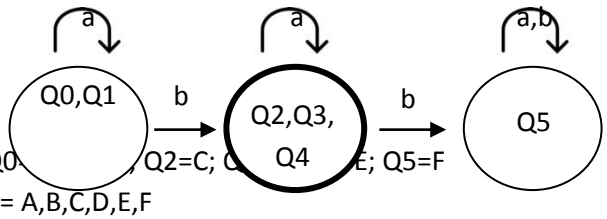
H)

Q1					
Q2	X	X			
Q3	X	X			
Q4	X	X			
Q5	⊗	⊗	X	X	X
	Q0	Q1	Q2	Q3	Q4

(Q1,Q0)
Q1A = Q0 Q0A=Q1
Q1B= Q3 Q0B=Q2
(Q4,Q3)
Q4A= Q4 Q3A= Q4
Q4B=Q5 Q3B= Q5

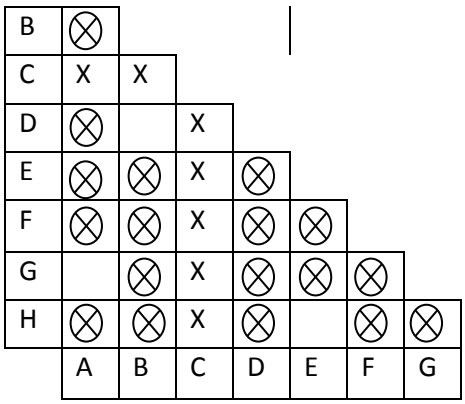
(Q5,Q1)
Q5A=Q5 Q1A= Q0
Q5B=Q5 Q1B= Q3
(Q3,Q2)
Q3A= Q4 Q2A =Q4
Q3B= Q5 Q2B= Q5

(Q4,Q2)
Q4A= Q4 Q2A =Q4
Q4B= Q5 Q2B= Q5
(Q5,Q0)
Q5A=Q5 Q0A=Q1
Q5B=Q5 Q0B=Q2



Q0 , Q2=C; Q E; Q5=F
V= A,B,C,D,E,F
T = (c,d,e)
P= A-> aB|bC, B-> aA | bD, C-> aE|bF, D-> aE| Bf, E-> aE|bF, F-> aF|bF|∑

I)



*(B,a)
S(B,0) g , S(a,o) = B
S(b,I) =C , S(A,0)= F

* (D,a)
S(D,0)= C , S (a,0)=B

*9(D,B)
S(D,0)=C , S (B,0) =G

*(E,A)
S(E,0)=H , S(A,0)=B
S(E,I)=F , S(A,I)=E

*(E,B)
S(E,O)=H ,S (B,0)= G
S(E,I)=F , S(B,I)= C

*(E,D)

*9B,A)
S(E,O)=H ,S(A,O)=B
S(B,I0=F , (A,I)=F

*(A,B)
S(E,O)=H S (B,O)=G
S(E,I)=F S (B,O)=G
S(E,I)=F S (B,I)=C

*(E,D)
S(E,O)=H S (D,O)=C

*(F,A)
S(F,I0=G , S (A,I)=F

*(F,B)
S(F,O)=G ,S(O,O)=C

*(F,E)
S(F,I)= G, S(E,O)=L
S(F,I)=G , (E,I)=F

*(G,A)
S(G,O)=G S(A,O) B S(G,L)=E

*(G,B)
S(G,O)=G S (B,O)=G S (G,I)=E
(G,D) S (G,O) = G S (G,I)=E

A(F,E)

S(E,O)=G S(E,O)=L
S(E,I)=G S (E,I)

*(G,A)
(G,O)=G S (A,O) S(G,L)=E S (B,I)=F

*(G,B)
S(G,O) S (B,O)=G S (G,I)=E S (B,I)

(G,E) S(G,O)=G S(e,o)= H S(G,I)=E

S (G,O)=G S (H,I) =C S (G,I) =E

*(G,E)
S(G,O) = G S (E,O)=G
S (G,I)=E S (E,I)=G

*(H,A)
S(H,O)=G S (A,O)=B
S(H,I) =C S (B,O)=C

*(H,B)
S(H,O)= G S (B,O)=G

*(H,B)
S(H,O)=G S (B,O)=G
S(H,I)=C S (B,I) =C

*(H,B)
S(H,O)=G S (I,O) ´=C

*(H,E)
S(H,O)=G S (E,O)=H
S(H,I) =C S (E,I)=C

*(H,F) S (F,I) =G
S(H,I)=C S (F,I)=G

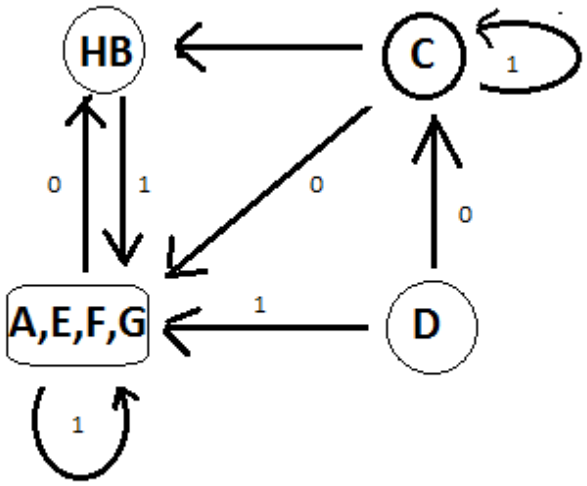
*(H,G) S (H,O) =G S (G,O)
V=A,B,C,D,E,F,G,H

T=0,1
P=A→0B|1F,
B→0G|1C|,
C→0A|1C|∑,
D→0C|1G|,
E→0H|1F,
F→0|1G,
G→0G|1E,
H→0G|1C;

S(H,I)=C S (B,I)=C

*(H,I)
S(H,O)=G S (E,O)=H

S(H,I)=C S (F,I)=C
S(H,I)=C S (A,I)=E



J)

1	⊗				
2	⊗				
3	⊗	⊗	⊗		
4	⊗	⊗	⊗		
5	X	X	X	X	X
	0	1	2	3	4

(4,0)
4A = 5 0A=1
4B = 5 0B= 2

(4,1)
4A= 5 1A = 3
4B= 5 1B = 4

(4,2)
4A= 5 2A = 4
4B = 5 2B = 3

(4,3)
4A= 5 3A= 5
4B= 5 3B= 5

(3,0)
3A= 5 0A=1
3B= 5 0B= 2

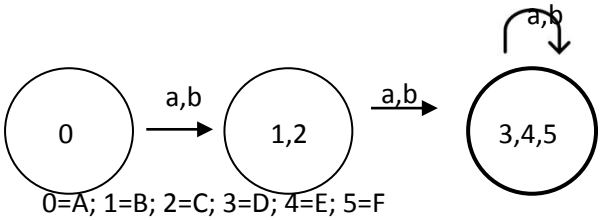
(3,1)
3A= 5 1A = 3
3B= 5 1B = 4

(3,2)
3A= 5 2A = 4
3B= 5 2B = 3

(2,0)
2A = 4 0A=1
2B = 3 0B= 2

(2,1)
2A = 4 1A = 3
2B = 3 1B = 4

(1,0)
1A = 3 0A=1
1B = 4 0B= 2



0=A; 1=B; 2=C; 3=D; 4=E; 5=F

V= A,B,C,D,E, F

T = (f)

P= A-> aB|bC, B-> aD| bE C-> aE|bD, D-> aF| bF, E -> aF|bF, F-> aF|bF| ∑