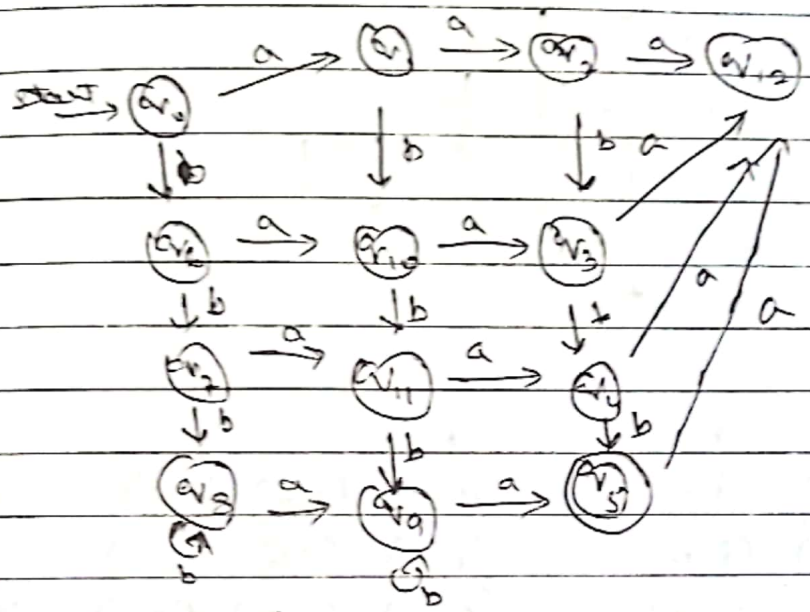
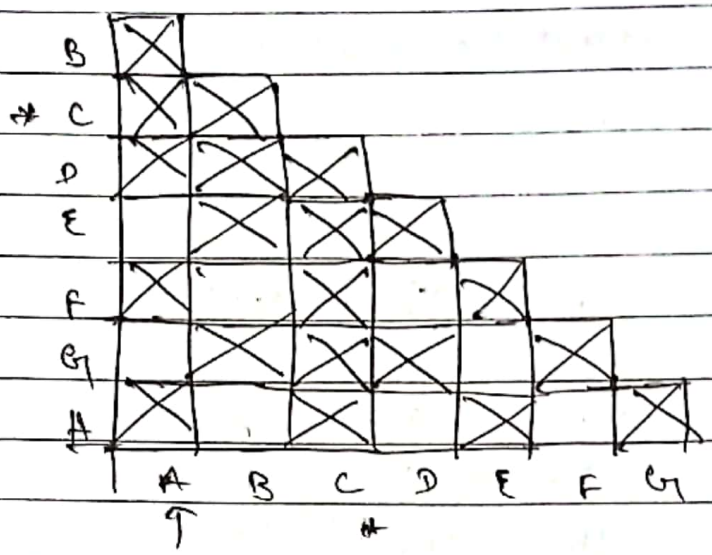
(2) Draw a DFA to accept the language $L = \{ w \mid n_b(w) \geq 3 \}$.

=>



(3)

δ	a	b
→ A	B	F
B	G	C
* C	A	C
D	C	G
E	H	F
F	C	G
G	G	E
H	G	C



	δ	a	b		δ	a	b	
X	(A B)	(B G)	(F C)		(F G)	(C G)	(G E)	X
X	(A D)	(B C)	(F G)		(F H)	(C G)	(G C)	
	(A E)	(B H)	(F F)		(G H)	(G G)	(E C)	X
X	(A F)	(B C)	(F G)					
	(A G)	(B G)	(F E)					
X	(A H)	(B G)	(F C)					
X	(B D)	(G C)	(C G)					
X	(B E)	(G H)	(C F)					
	(B F)	(G G)	(C G)					
X	(B G)	(G G)	(C E)					
	(B H)	(G G)	(C C)					
X	(D E)	(C H)	(G F)					
	(D F)	(C C)	(G G)					
X	(D G)	(C G)	(G E)					
	(D H)	(C G)	(G C)					
X	(E F)	(H C)	(F G)					
	(E G)	(H G)	(F E)					
X	(E H)	(H G)	(F C)					

δ	a	b
(AE)	(BH)	(FF)
(AG)	(BG)	(FE)
(BF)	(GC)	(EG)
(BH)	(GG)	(CC)
(DF)	(CE)	(GG)
(DH)	(EG)	(GC)
(EG)	(HG)	(FE)
(FH)	(CG)	(GC)

A = E = G

B = F = H

D = F = H

A = E = G

F = H

δ	a	b
A	B	B
B	A	C
D	C	A