

Draw the following DFA Using table filling algorithm where A is the start state the start C, F & Z are final states

δ	0	1
\rightarrow A	B	E
B	C	F
* C	D	H
D	E	H
E	F	I
* F	G	B
G	H	B
H	I	C
* I	A	E

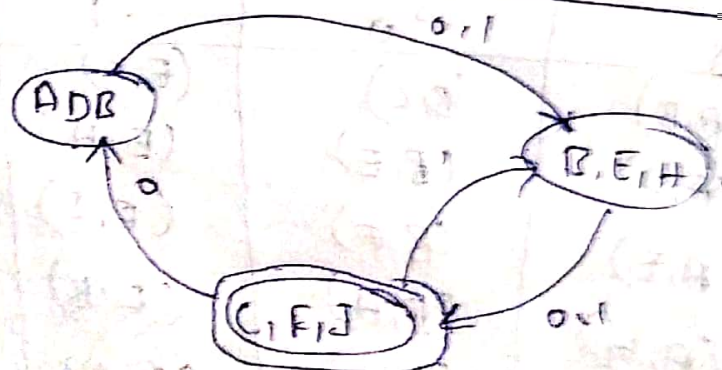
B							
C	X	X					
D			X				
E			X				
F	X	X		X	X		
G			X			X	
H			X			X	
I	X	X		X	X		X
	A	B	C	D	E	F	G

δ	0	1
(A, B)	(B, C)	(E, F)
(A, D)	(B, E)	(E, H)
(A, E)	(B, F)	(E, I)
(A, G)	(B, H)	(E, B)
(A, H)	(B, I)	(E, C)
(B, D)	(C, E)	(F, H)
(B, E)	(C, F)	(F, I)

(B, G)	(C, H)	(F, B)
(B, H)	(C, I)	(F, C)
(C, F)	(D, G)	(H, B)
(C, I)	(D, A)	(H, E)
(D, E)	(E, F)	(H, I)
(D, G)	(E, H)	(H, R)
(D, H)	(E, I)	(H, C)
(E, G)	(E, H)	(H, I, B)
(E, H)	(F, I)	(I, C)
(F, I)	(G, A)	(B, F)
(G, H)	(H, I)	(B, C)

iii)

	δ	0	1
ADB	{ (A, D) (A, G)	(B, E) (B, H)	(E, H) (E, B)
BEH	{ (B, E) (B, H) (E, I)	(E, H) (C, F) (C, I)	(H, B) (F, I) (F, C)
(C, F)	(C, F) (C, I) (F, I)	(F, I) (D, I) (D, A) (H, A)	(I, C) (H, B) (H, E) (B, E)



② Consider the DFA - given by the following transition table

δ	0	1
q_1	q_2	q_3
q_2	q_3	q_5
q_3	q_4	q_3
q_4	q_3	q_5
q_5	q_2	q_5

q_2	X		
q_3	X	X	
q_4	X	X	X
q_5		X	X

$q_1 \quad q_2 \quad q_3 \quad q_4$

δ	0	1
(q_1, q_2)	(q_2, q_3)	(q_3, q_5)
(q_2, q_4)	(q_2, q_3)	(q_3, q_5)
(q_2, q_5)	(q_3, q_3)	(q_5, q_5)
(q_3, q_4)	(q_4, q_3)	(q_3, q_5)
(q_3, q_5)	(q_4, q_2)	(q_3, q_5)

(q_2, q_4) (q_3, q_3) (q_5, q_5)
 (q_3, q_5) (q_4, q_2) (q_3, q_3)

