CSE - 331

Automata & computability

Assignment 01

Part A (1-9)

submitted by,

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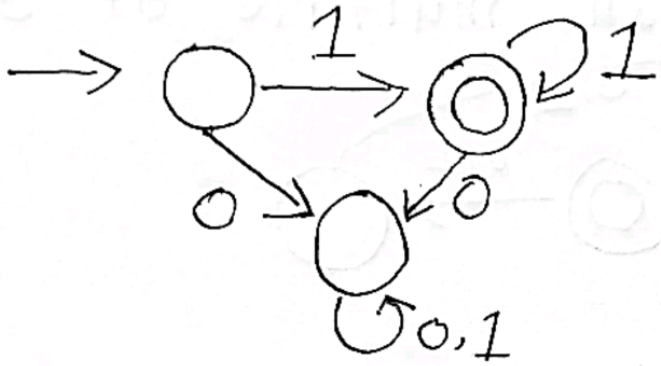
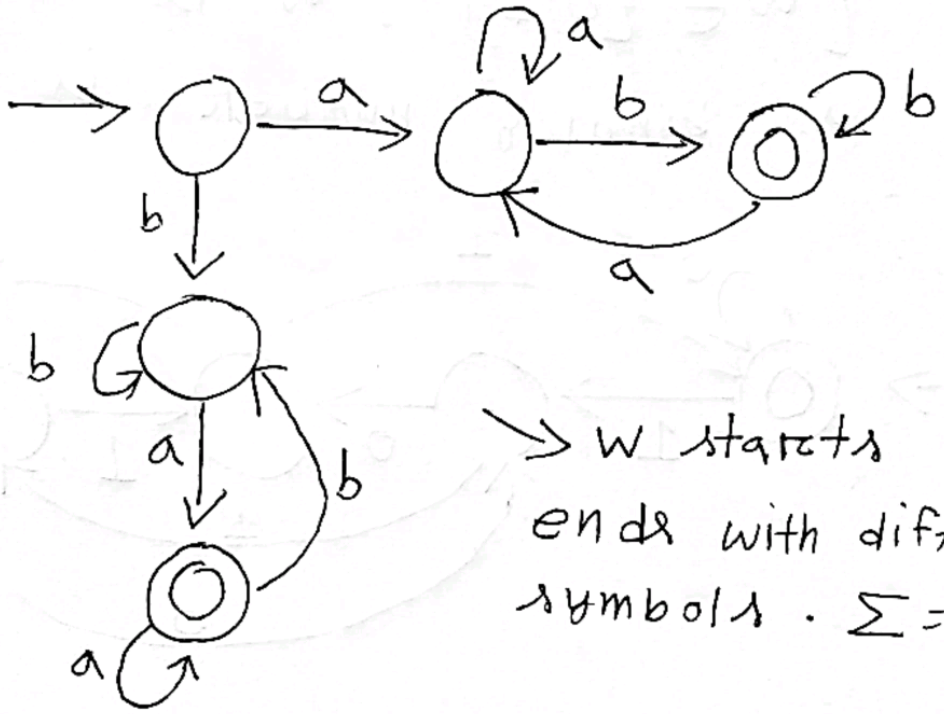
(1) (b) w doesn't contain 01, $\Sigma = \{0, 1\}$

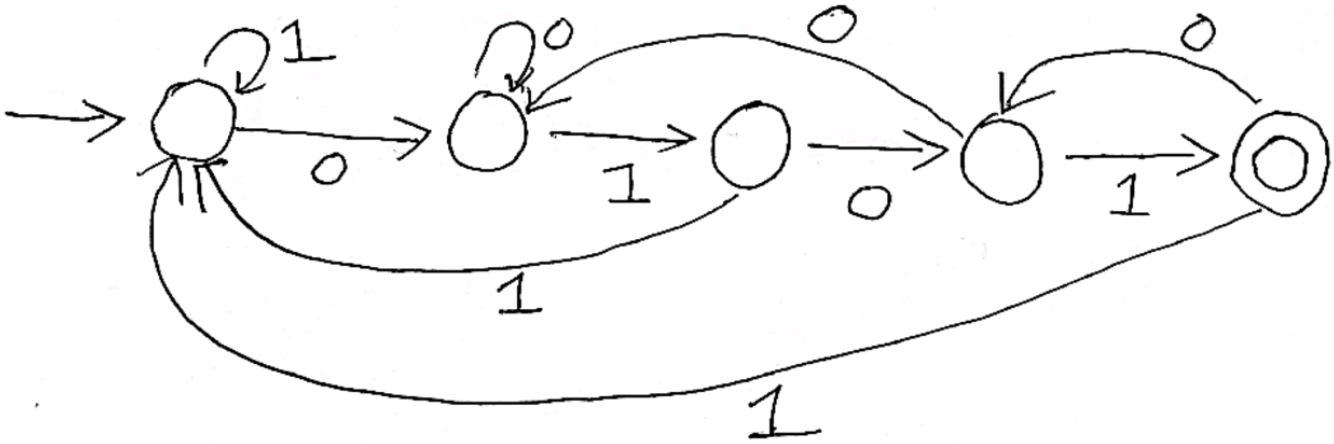


(2) (a)

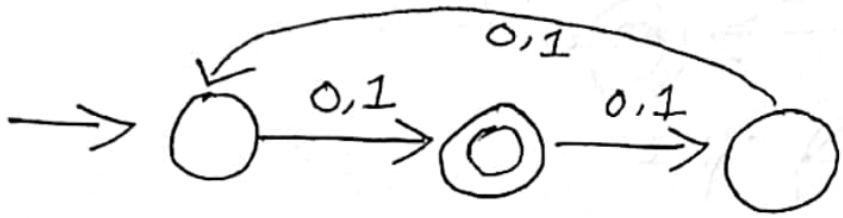


→ w starts and ends with different symbols. $\Sigma = \{a, b\}^*$

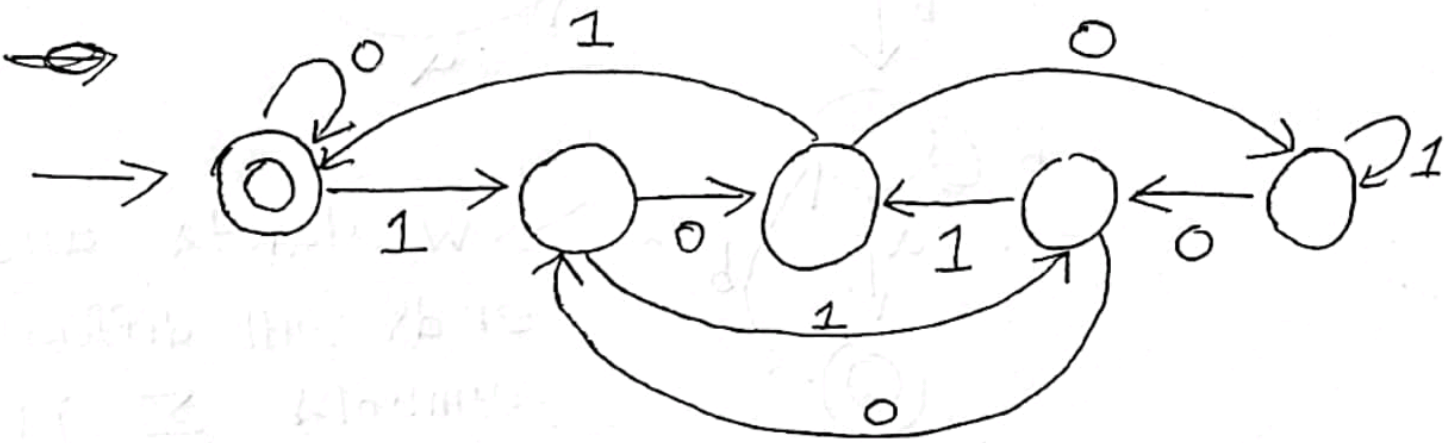
(3) (a) w ends with '0101', $\Sigma = \{0, 1\}$



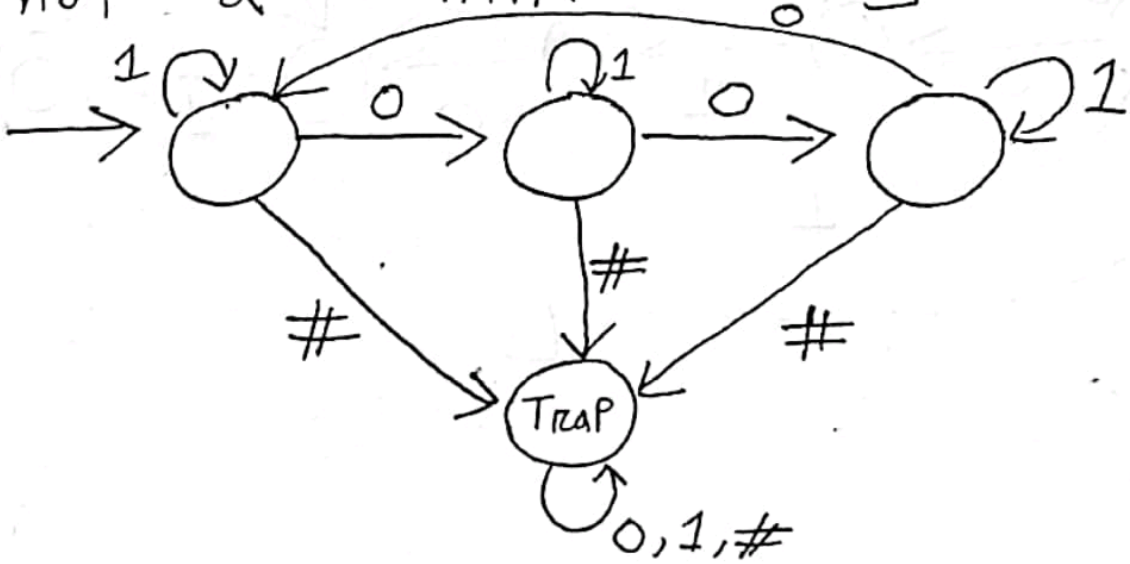
④ $\{w \in \{0,1\}^* :$ the length of w is one more than multiple of 3.



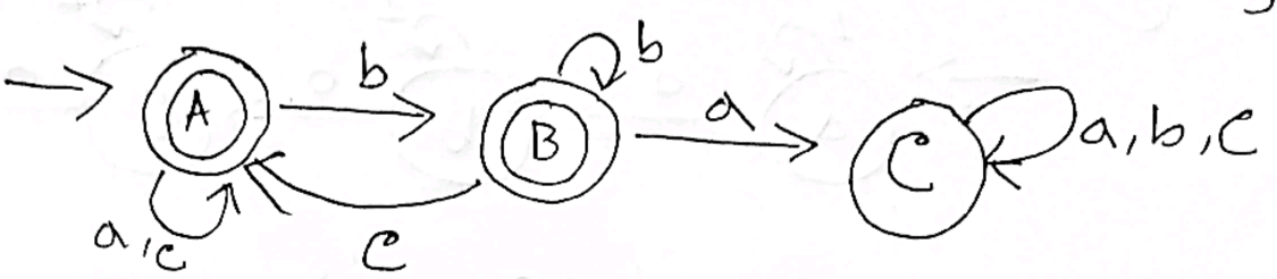
⑤ $\{w \in \{0,1\}^* :$ w is interpreted as a binary number, is divisible by 5.



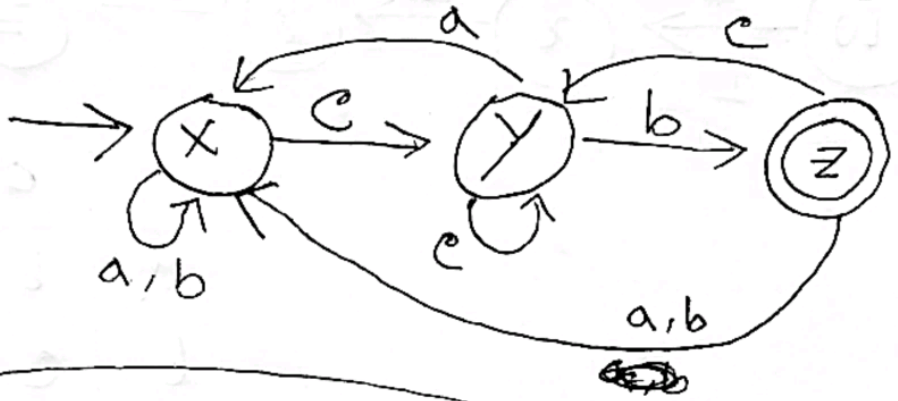
⑥ $\{w \in \{0,1,\#\}^* :$ w doesn't contain # and the number of 0s in w is not a multiple of 3$\}$

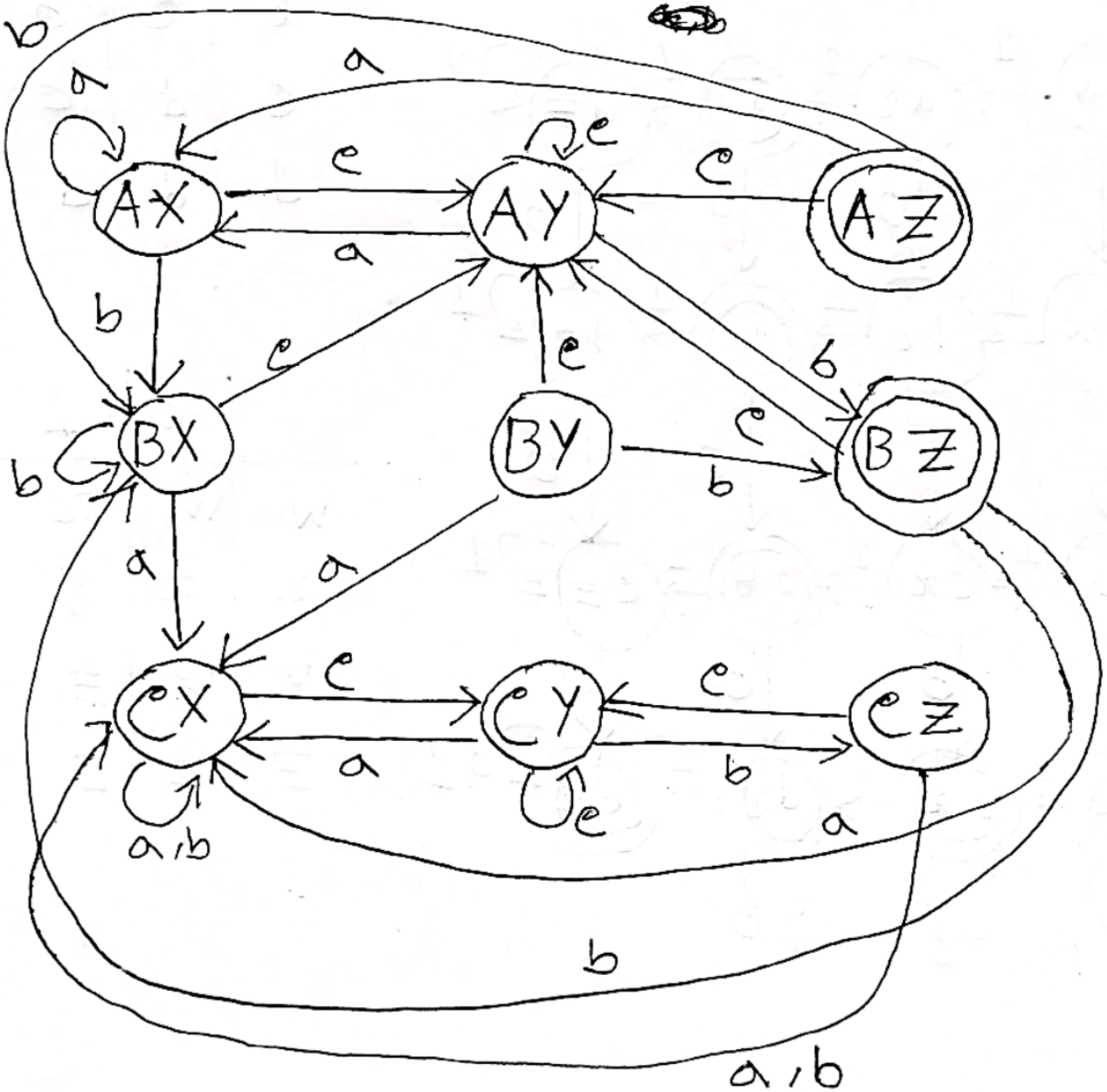


(7) w doesn't contain 'ba', $\Sigma = \{a, b, c\}$

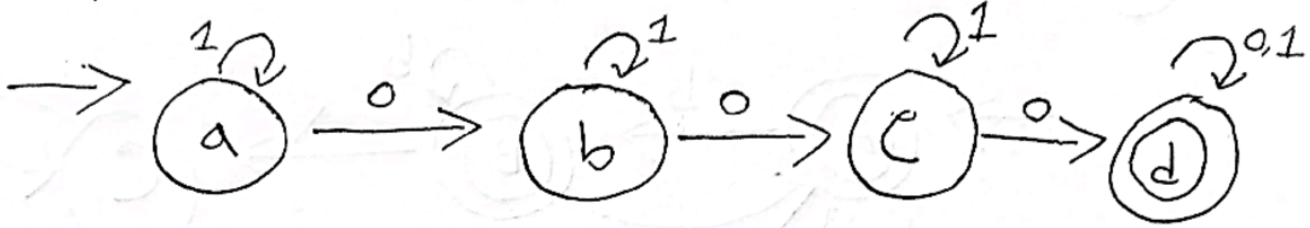


w ends with 'cb' $\Sigma = \{a, b, c\}$

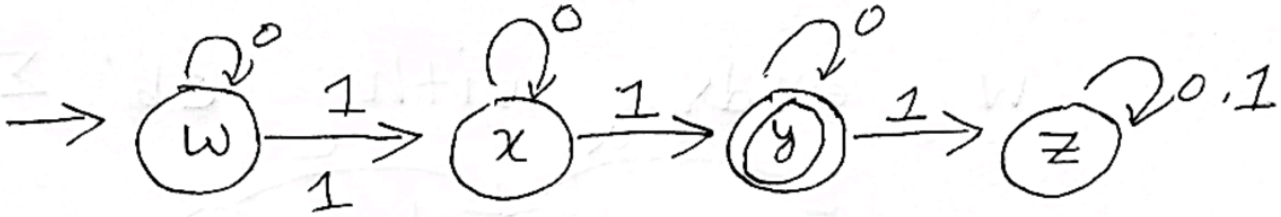




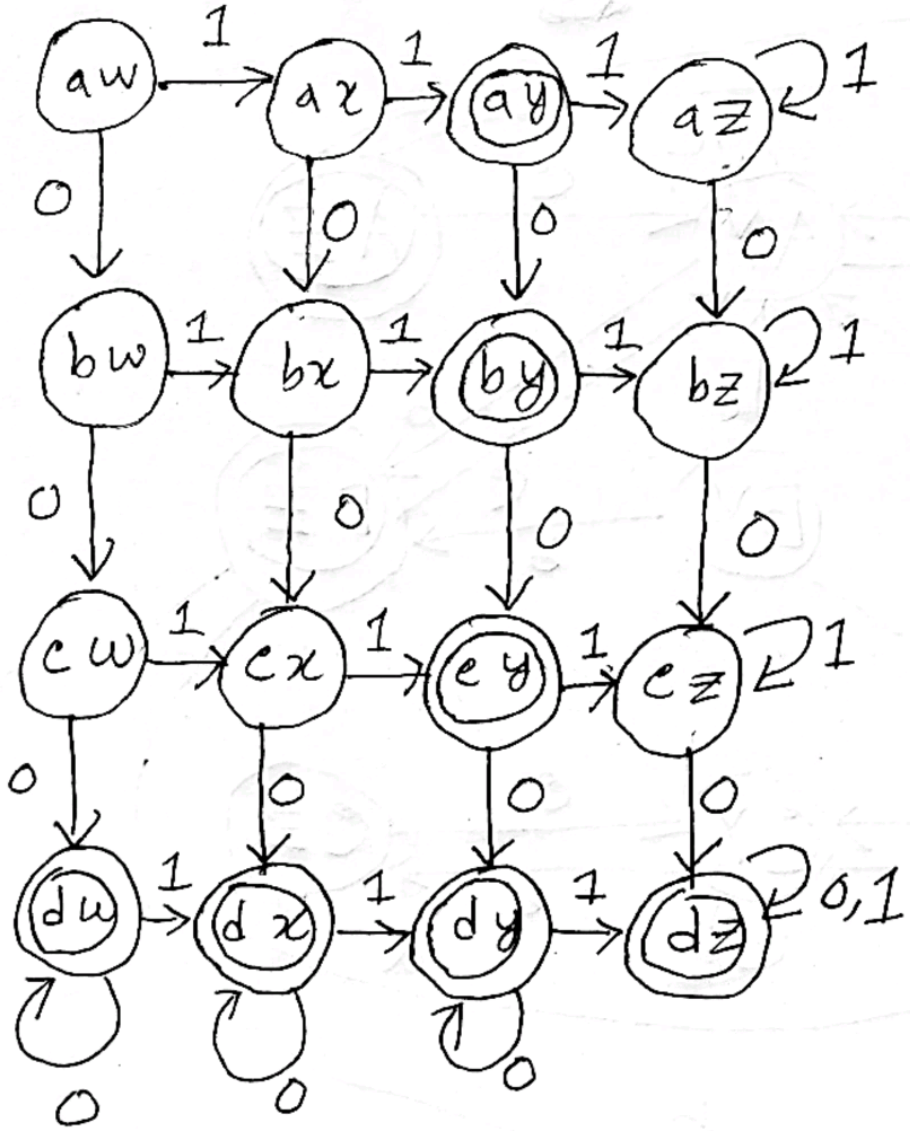
(8) at least three 0's,



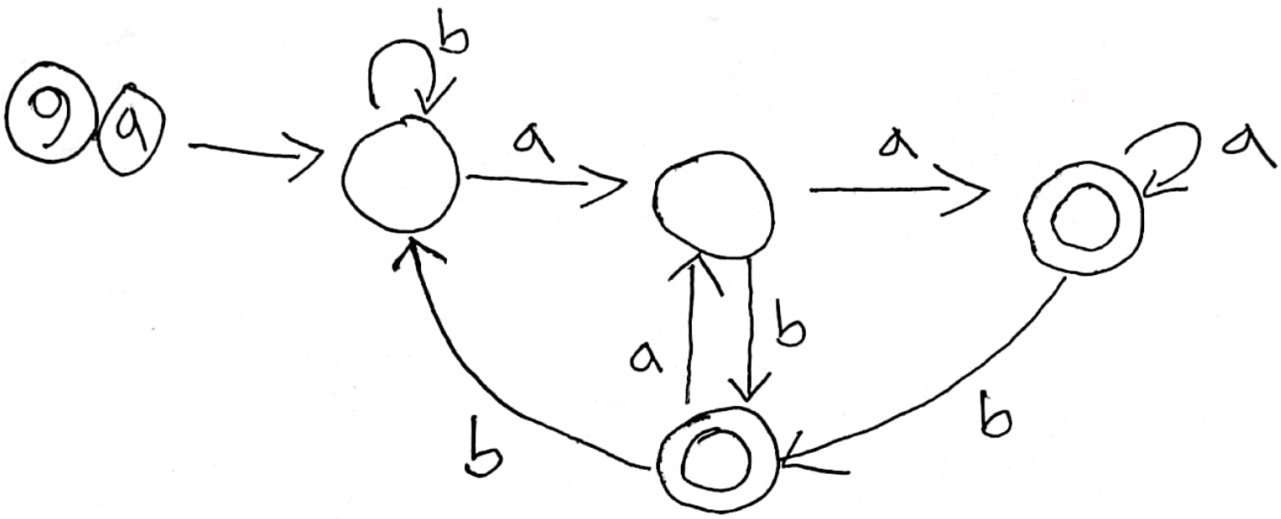
exactly two 1's,



	0	1
a	b	a
b	c	b
c	d	c
d	d	d



	0	1
w	w	x
x	x	y
y	y	z
z	z	z



DFA of strings where the second last symbol is a. $\Sigma = \{a, b\}$