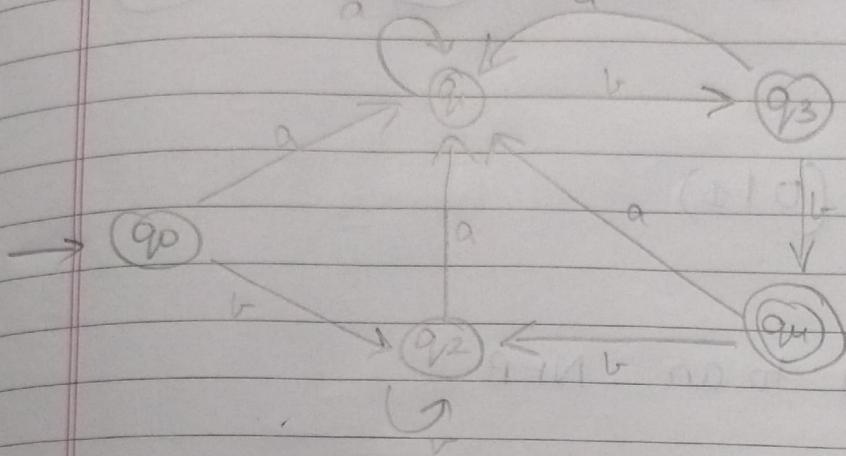


Ans 1

## Minimize DFA

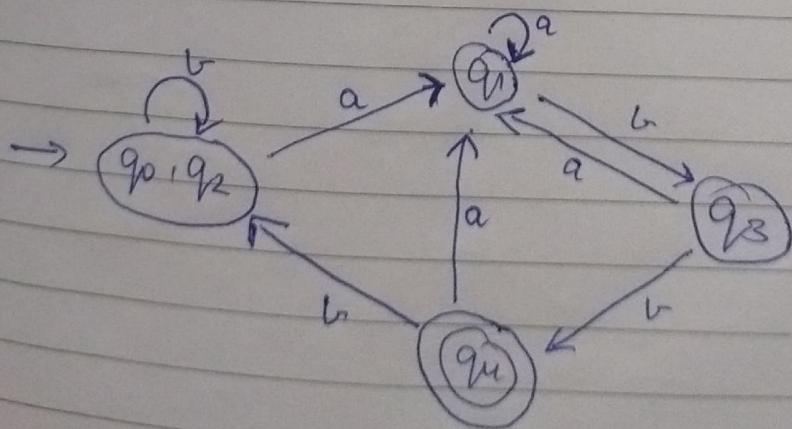


$\xrightarrow{a} q_0 \xrightarrow{b}$	$q_0$	$a$	$b$
	$q_1$	$q_1$	$q_2$
	$q_2$	$q_3$	$q_3$
	$q_3$	$q_1$	$q_2$
*	$q_4$	$q_1$	$q_2$

Compare all states  
and arrange  
accordingly.

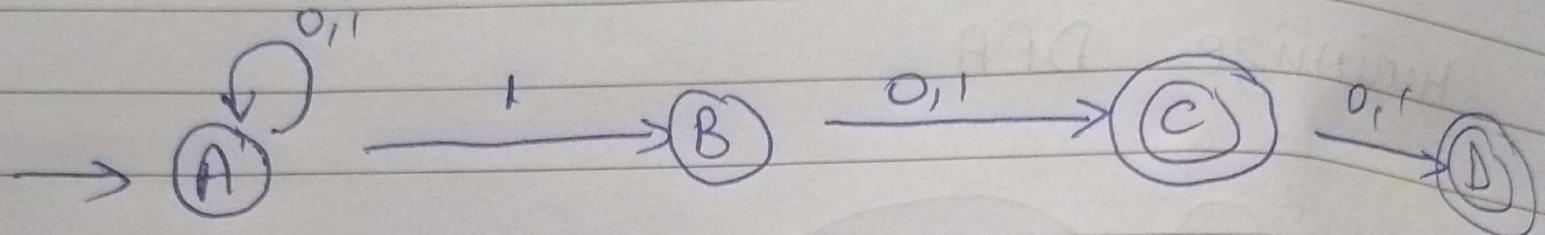
$$\{q_0, q_1, q_2, q_3\} \quad \{q_4\}$$

$$\{q_0, q_2\} \quad \{q_1\} \quad \{q_3\} \quad \{q_4\}$$



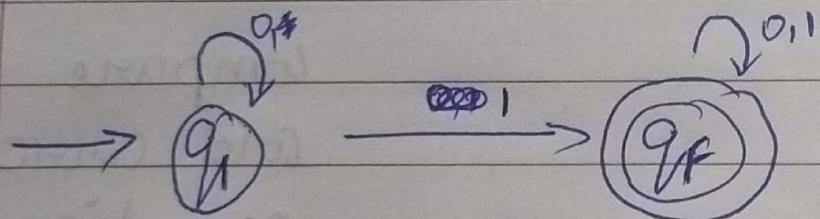
Minimize DFA

2) NFA to Regular Expression



$$(0|1)^* + (0|1)(0|1)$$

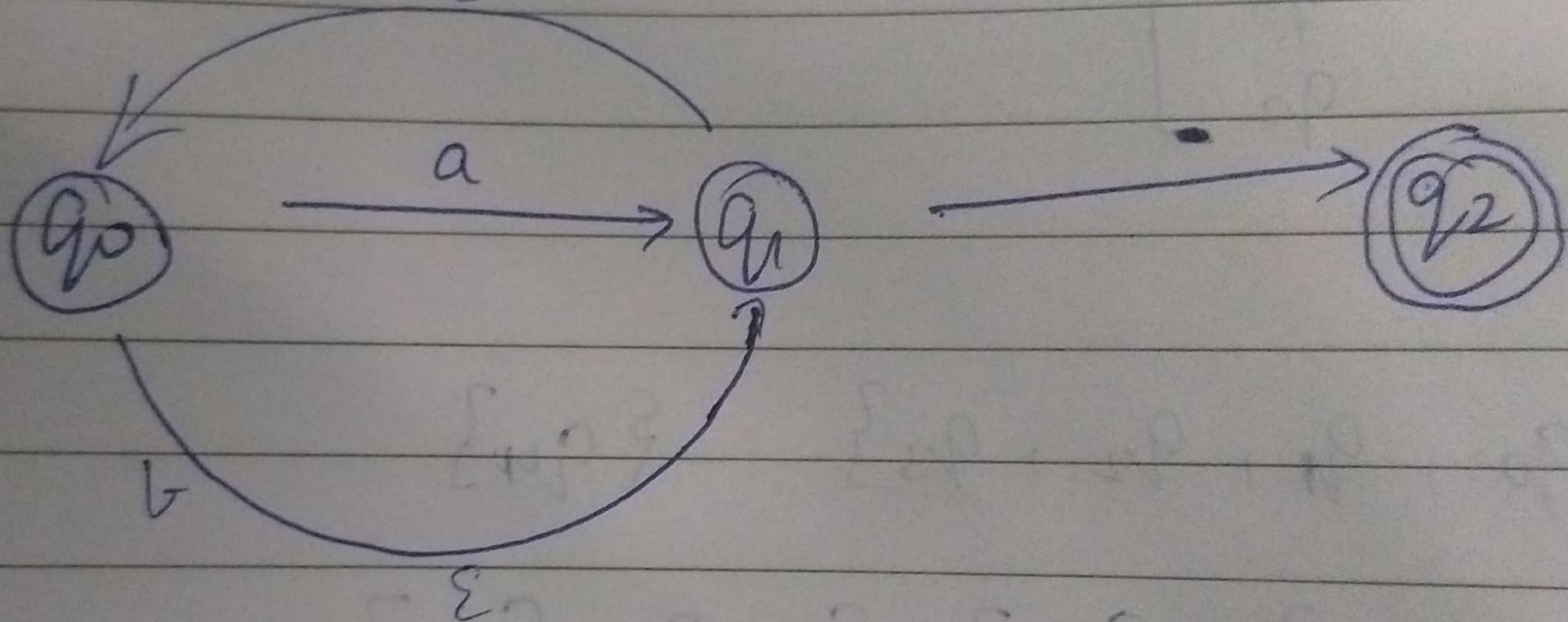
3) (0+1) \* + (0+1) to an NFA



4)

$$a(b+c)^* b$$

$\varepsilon$



Ques b

Regular expression for one 'a' over  $\Sigma = \{a, b, c\}$

sols  $(b+c)^* a (b+c)^*$

accepted strings

a

ba

ca

bca

cab

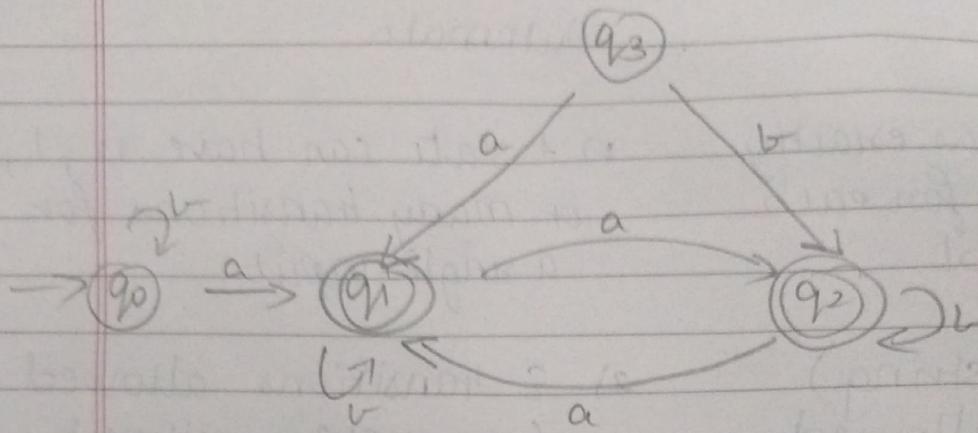
bac

acb



Scanned with OKEN Scanner

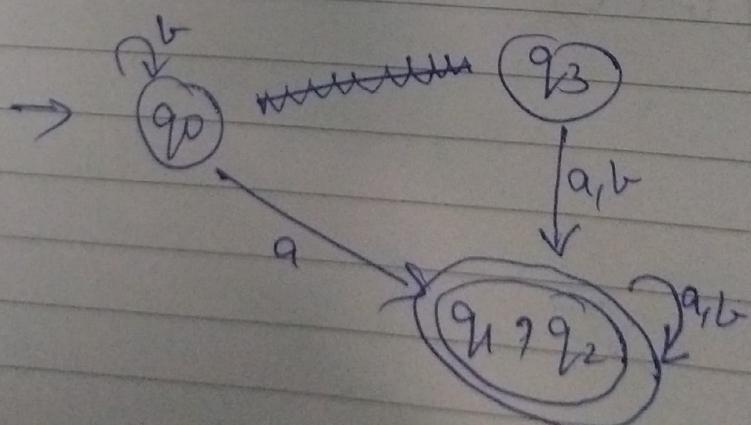
## 3 Minimize DFA

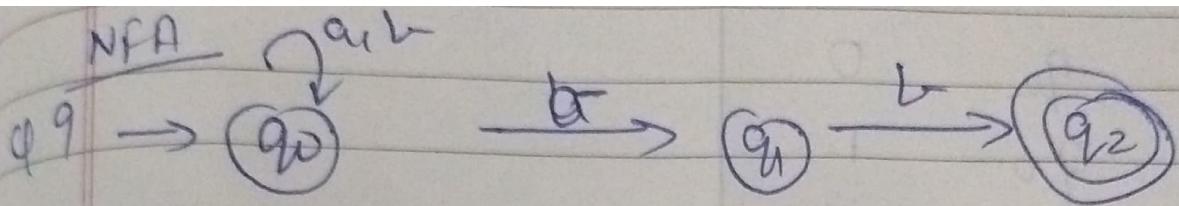


a	b	
$\rightarrow q_0$	$q_1$	$q_0$
$\rightarrow q_1$	$q_2$	$q_1$
$\rightarrow q_2$	$q_1$	$q_2$
$q_3$	$q_1$	$q_2$

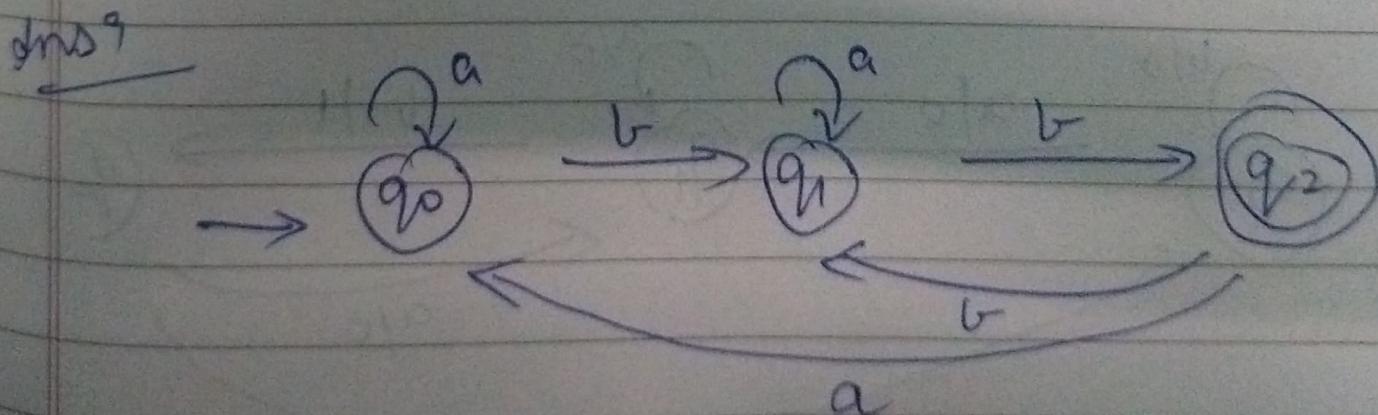
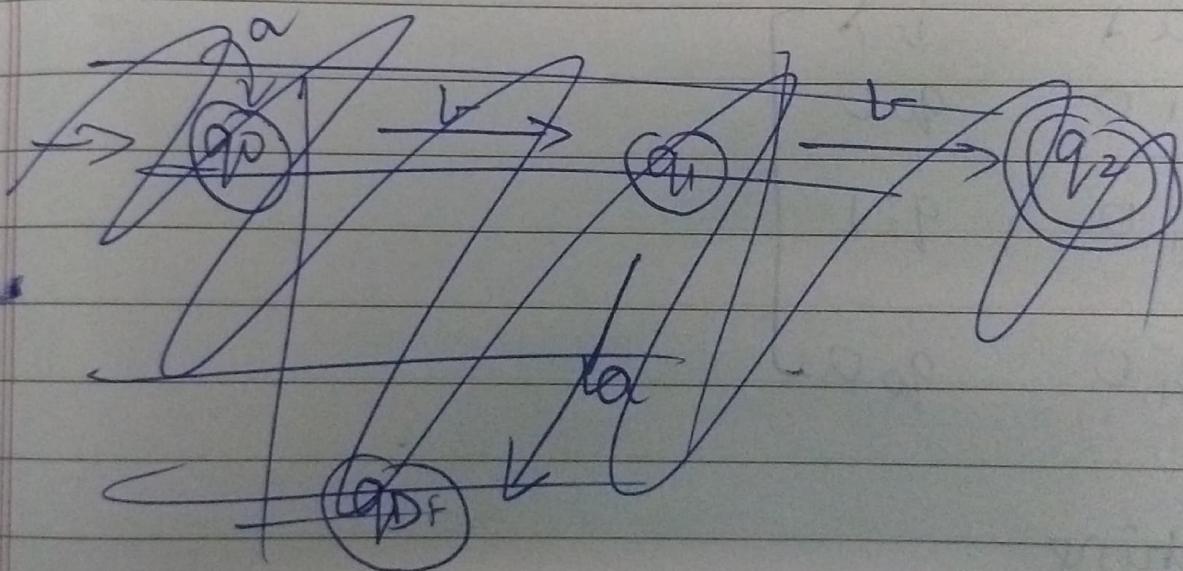
$\{q_0, q_3\}$        $\{q_1, q_2\}$

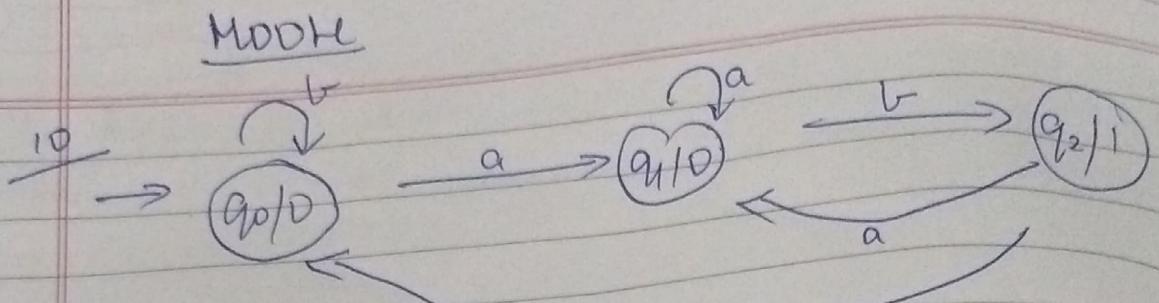
$\{q_0\}$      $\{q_3\}$      $\{q_1, q_2\}$





into DFA





Moore T.T

	a	b	a
q0	q1	q0	0
q1	q1	q2	0
q2	q1	q0	1

Mealy T.T

	a/x	b/x
q0	q1/0	q0/0
q1	q1/0	q2/1
q2	q1/0	q0/0

Mealy Machine

