

Q3) Construct regular expression defining each of the following language over the alphabet $\Sigma = \{a, b\}$.

Ans) a) All word having even length
 $(Catb)Catb)$

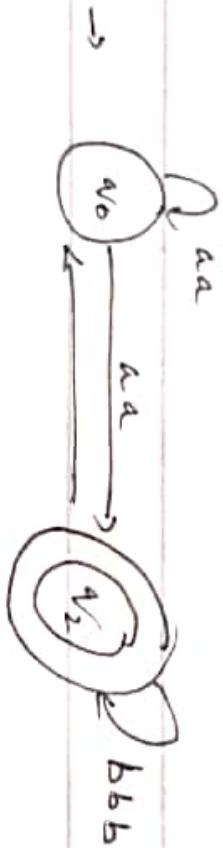
b) All words having atleast three 'a' and two 'b'.
 $(a+ b) (aaa)^+ (bb)^+ (atb)^+$

c) All words having at least double 'a' or triple 'b'.
 $(atb) (aaa)^+ (atb)^+ (atb)$

d) All word starts with double a or quadruple b.
 $aa (atb)^+ bbbb (atb)$

Build an FA accepting the language L of strings defined over $\Sigma = \{a, b\}$, having quadruple a 's or triple b 's.

An FA which has quadruple a 's or triple b 's.



Draw a transition table for the diagram given in figure 2. (-) is the starting state and (+) is the ending state.

States	a	b
1-	2	6
2	3	x
3+	x	4
4	x	5+
5+	x	x
6	10	7
7	4	8
8	9	9
9+	4	4
10	4	11
11+	4	4
x	x	x
4	4	4

Moss

ALPs depends only on the present state.

1 APs.

Mossy

Since the ALPs change when the state changes and the state change is synchronous with the enabling clock edge ALP, change asynchronously with the enabling clock edge.

the enabling clock edge ALP, change synchronously.

with clock edge (iii) A counter is

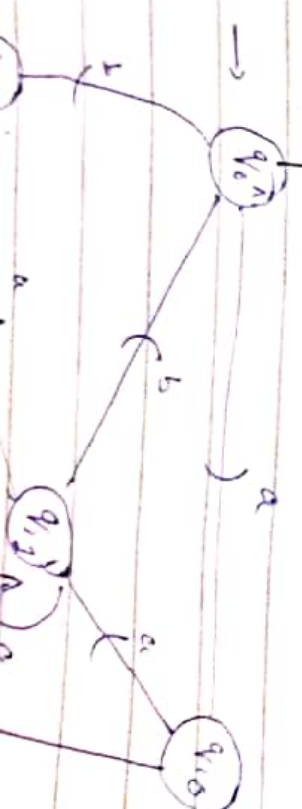
A counter is a not a Mossy Machine.
Mossy Machine.

Distinguish between Moore and Mealy machine and convert the following Mealy machine to Moore in figure 1.

State	a	a'	state	b	opp
q_0	q_1	0	q_3	0	0
q_1	q_2	1	q_2	1	1
q_2	q_3	0	q_3	0	0
q_3	q_3	1	q_0	1	1

Moore transition table

Moore	a	b	o/p
q_0	$q_{1,0}$	$q_{3,0}$	—
q_1	$q_{3,1}$	$q_{2,1}$	—
q_2	$q_{3,0}$	$q_{3,0}$	—
q_3	$q_{3,1}$	$q_{0,1}$	0
$q_{3,1}$		$q_{0,1}$	1



NAME * Khushal Khan

ID * 13721

SUBJECT * Compiler Construction

PROGRAM * RS-CS

Build on FA accepting the language L of strings, defined over $\Sigma = \{a, b\}$, beginning with and ending in some letters.

The language " L " may be expressed by regular expression $(a+ba+ba)^*a+ba+ba$.
As language L may be accepted by the following FA

