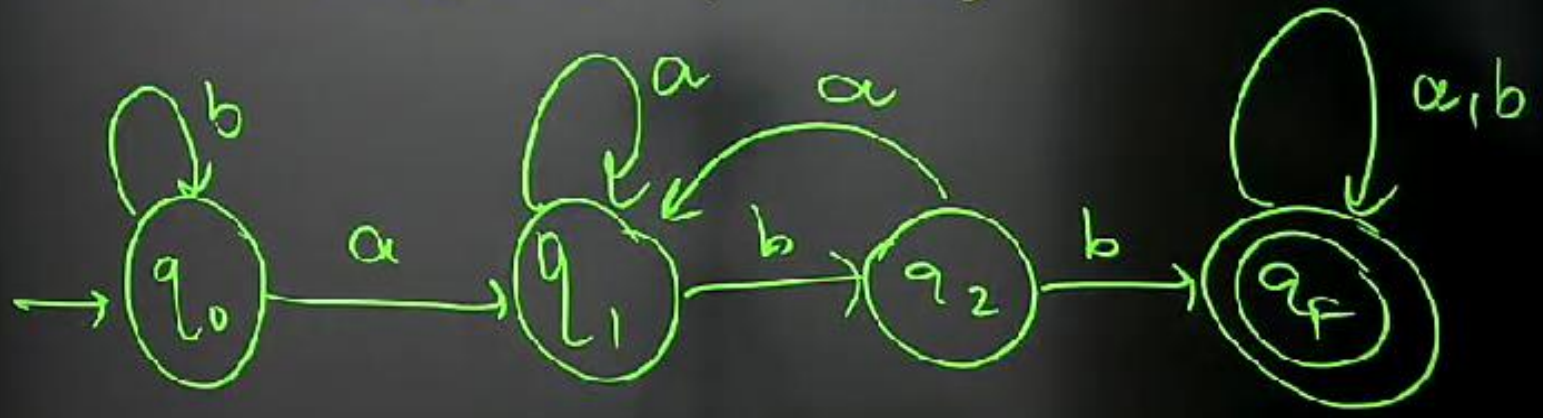
Hw — All strings having Substring is abb will be accepted

(*) Never a Dead State

$(a+b)^*.abb.(a+b)^*$

abb



Note:

$|w| = n$

DFA

$|\theta|_{max} = n+2$ ✗

$|\theta|_{min} = n+2$ ✓

(*) ending with so: - so string / substring

$|w| = n$ | $|\theta| = n+1$

(*) FSM → Start & end with same symbol.

$\Sigma = (a, b)$

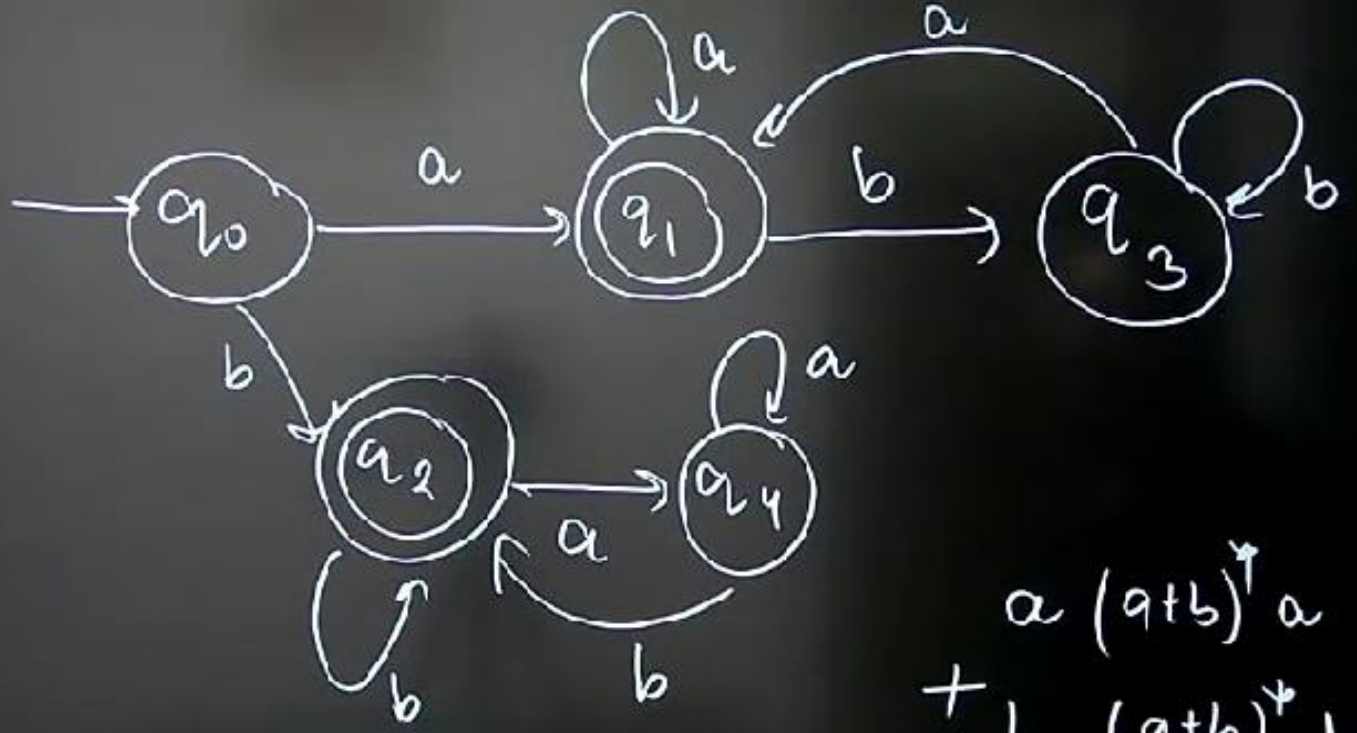
a ~~/~~ a

b --- b

a / b / ~~c~~

abX aba

baX bab



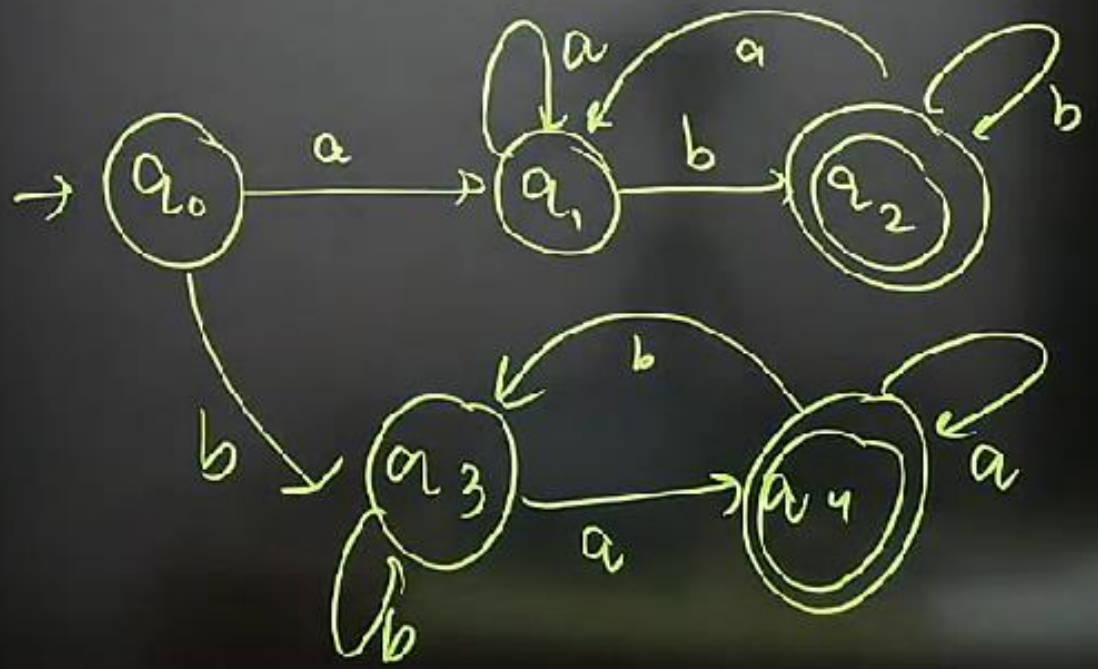
$a(a+b)^* a$

$+ \; b(a+b)^* b$

Starting & Ending with different symbol.

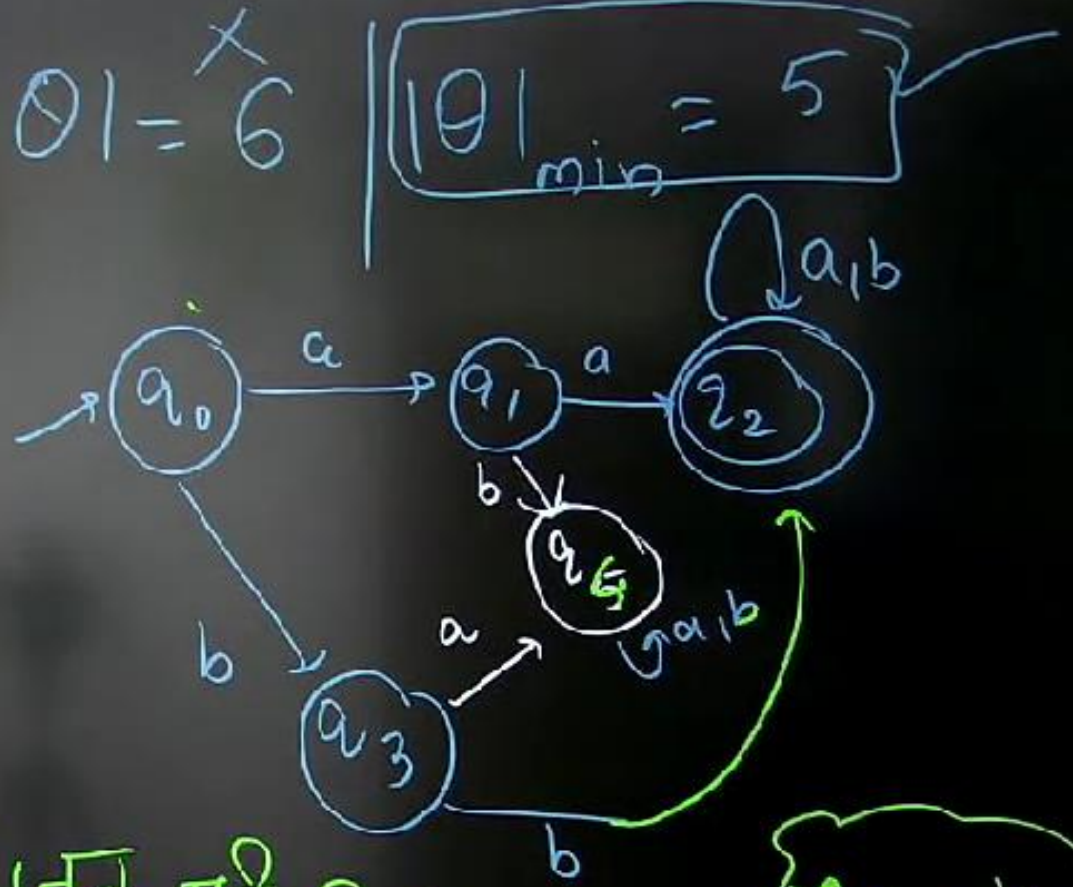
$a\,(a+b)^*\,b$

$b\,(a+b)^*\,a$



$|101| = 6$ ✗ | $|\theta|_{min} = 5$

* All strings are accepted which Starts with either aa Or bb



या $aa\ (a+b)^*$ / $bb\ (a+b)^*$

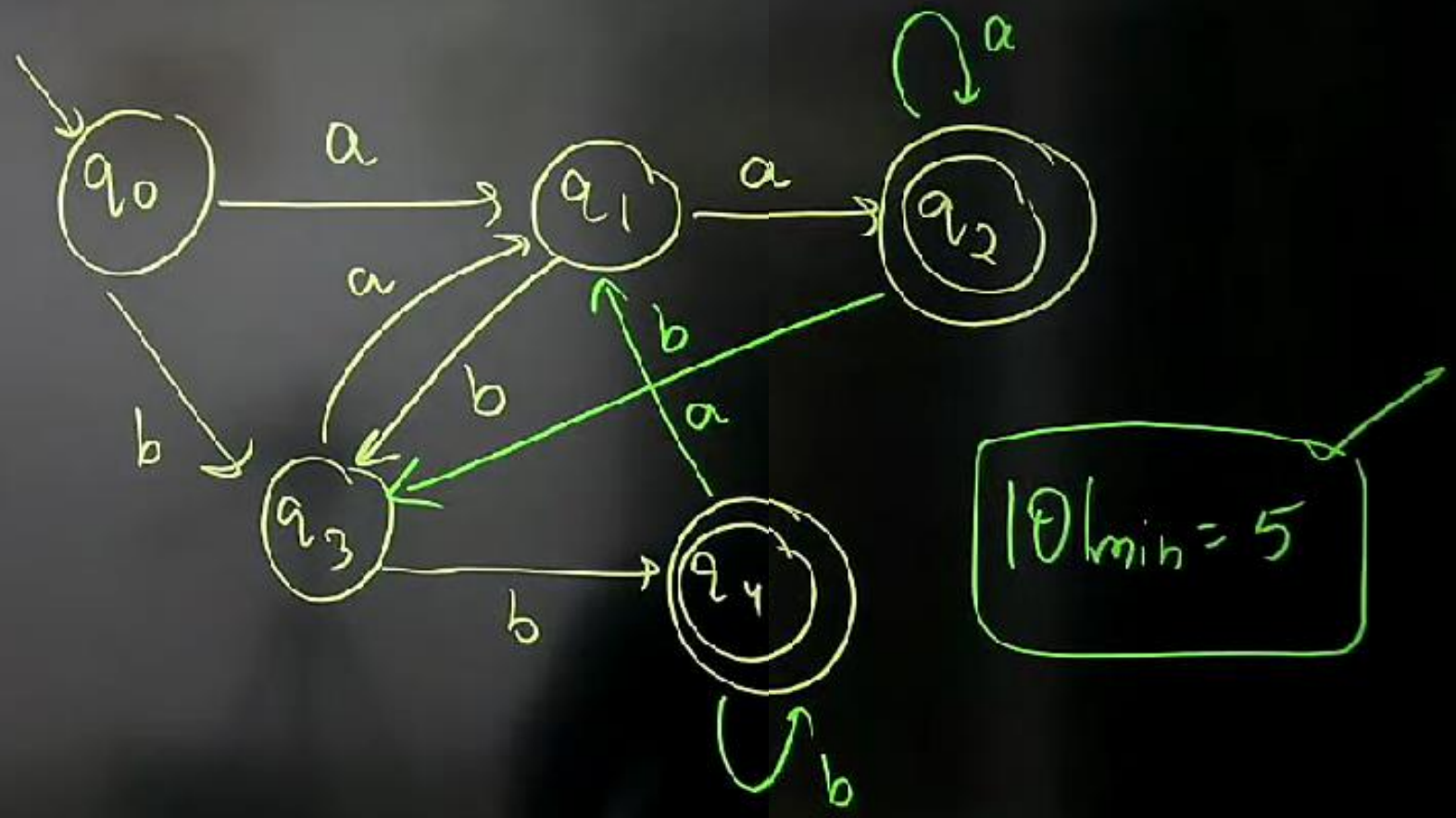
aa
bb
aaa
aab
bba
bbb

(+) जब भी Final State का termination Point पूरे string पर कोई influence नहीं करता merge them

20:38

* End with aa or bb

$(a+b)^*bb$ or $(a+b)^*aa$



$|\theta|_{min} = 5$

min string Possible

$\Sigma = (a, b)$

$|w| = 2$

ε X

a X

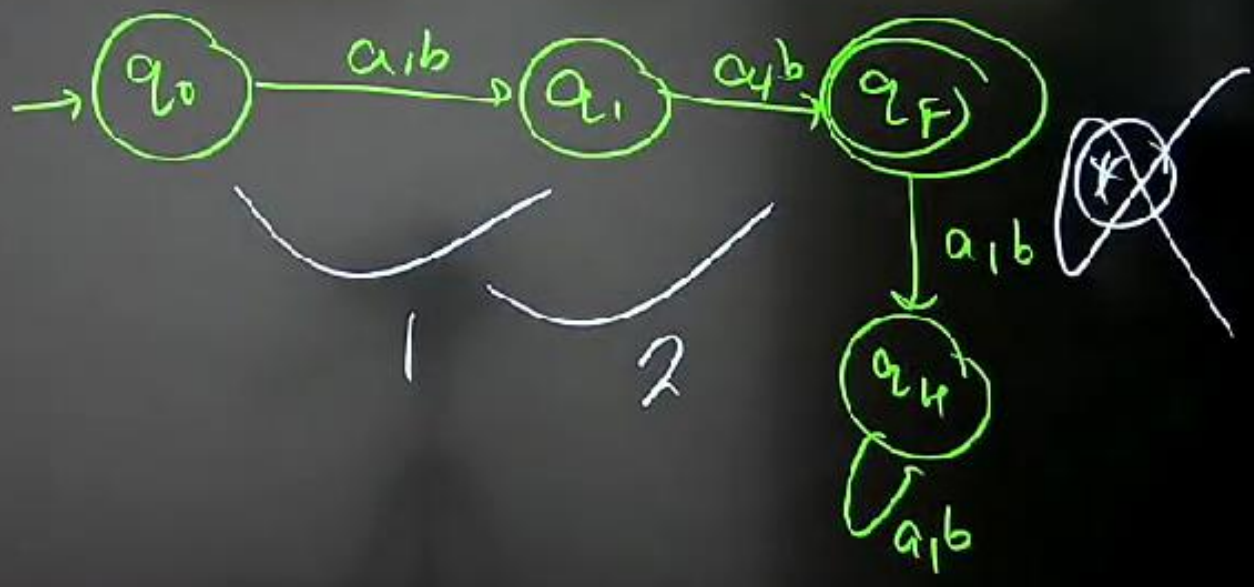
b X

aa ✓

bb ✓

ab ✓

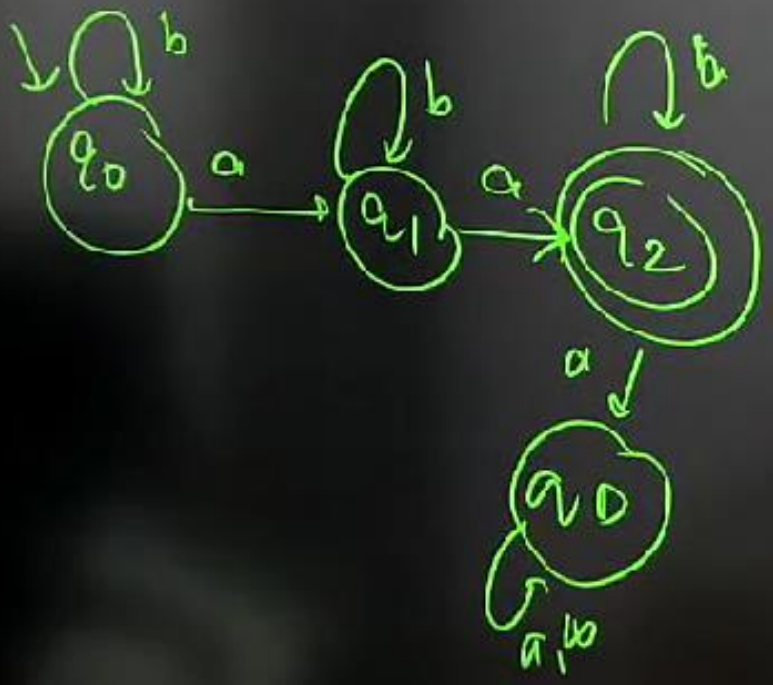
ba ✓



$\forall\ |w|_a$

↓

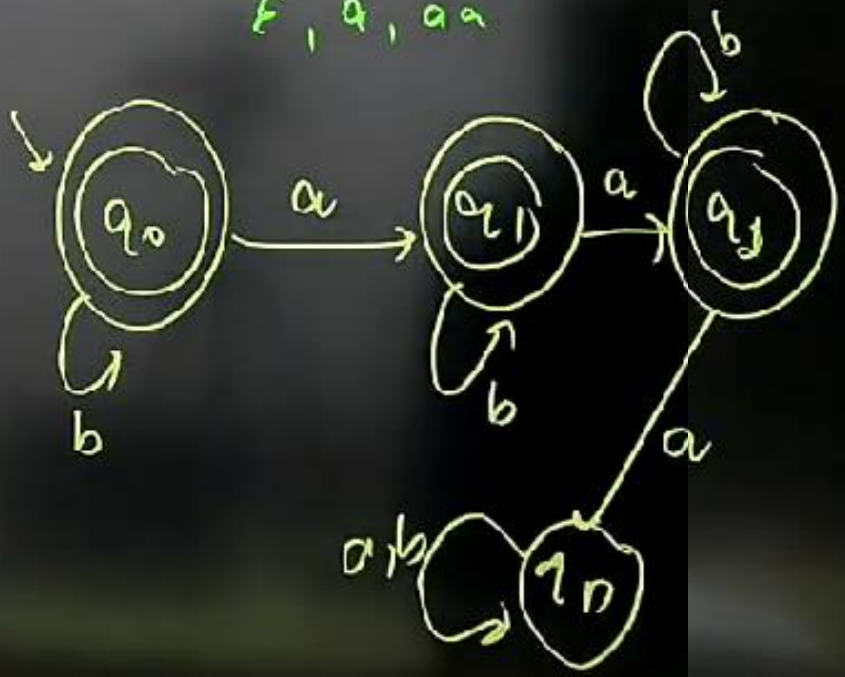
No. of a's = 2



$|w|_a \leq 2$

a's less than or equal to 2 times

ε, a, aa



H.W

$|w|_a \geq 2$

More than or equal to 2 times

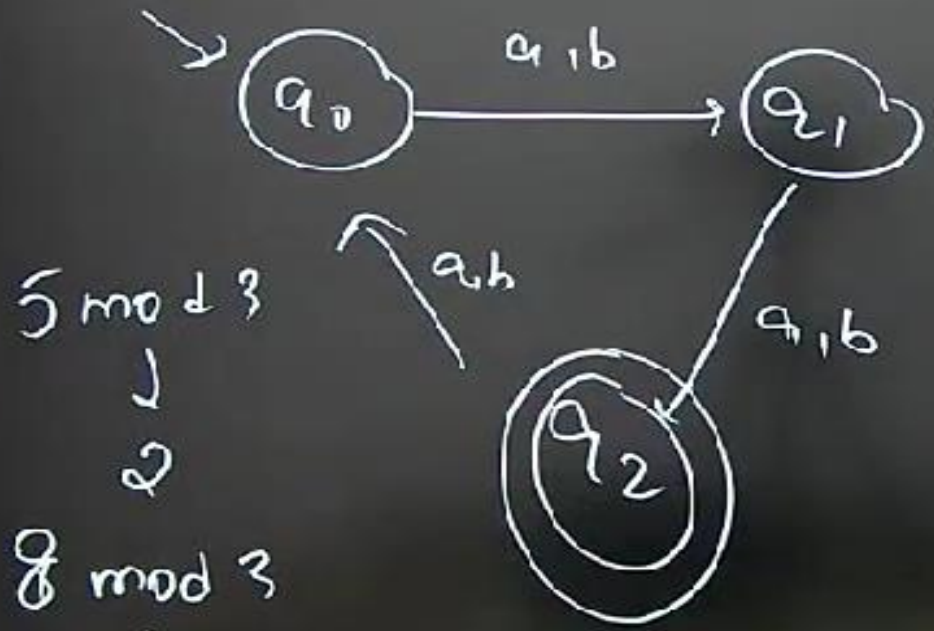
#

$|w| = 2 \bmod 3$

n

2

$\longrightarrow$ $|0| \rightarrow n$



5 mod 3

↓

2

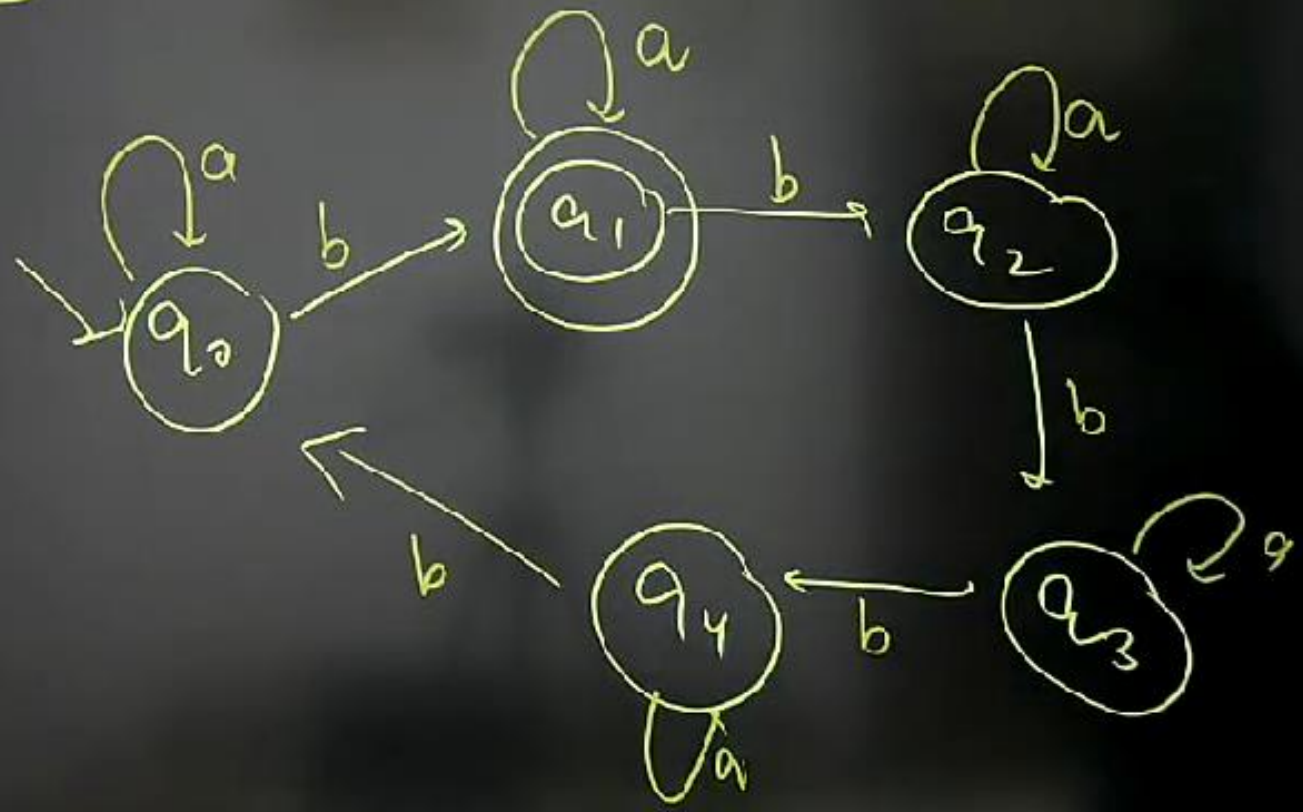
8 mod 3

↓

2

$|N|_b = 1 \bmod 5$

$|\theta| = n = 5$



H.W

$|w|_a = 3 \bmod 4$

$|\Theta| = n = 4$

$a \rightarrow$

$|w|_{ab} = 1 \bmod 2$

ab ab ab ab ab ab