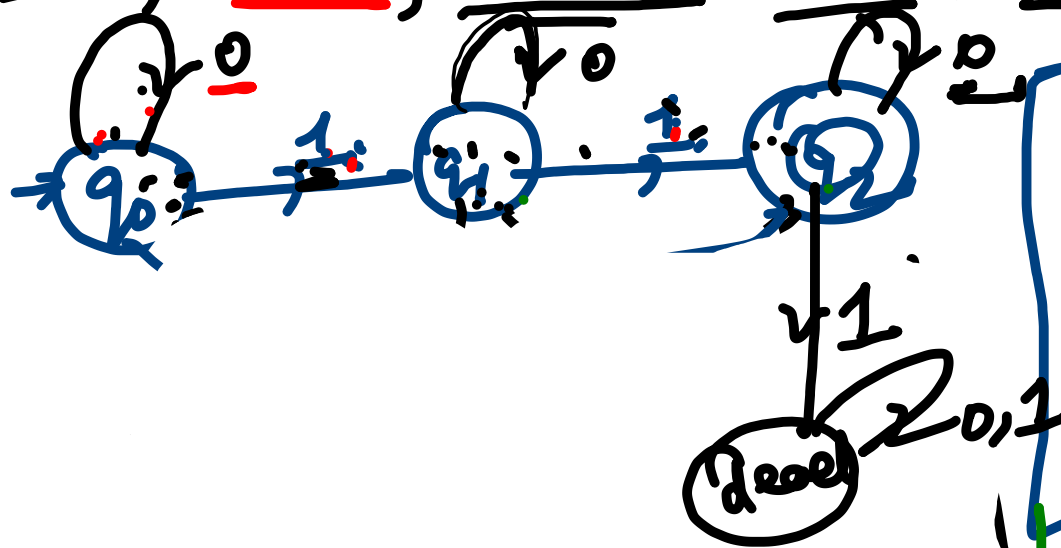


Construct a DFA that accepts  
Exactly 2's  $\{0,1\}$   $q_0(0,1)$   
 $q_1(0,1)$   
 $q_2 \rightarrow \text{D}$

$\{ \overset{\checkmark}{1}1, \overset{\checkmark}{0}\overset{\checkmark}{1}1, \overset{\checkmark}{0}\overset{\checkmark}{1}\overset{\checkmark}{0}1, \overset{\checkmark}{1}01, \overset{\checkmark}{1}10, - \overset{\checkmark}{0}, \overset{\checkmark}{1} \}$



Note :- Every  
 state has everytrans  
 - that is with  
 every 0/1 symbol

Single I/P  $\rightarrow$  single 0/1

Atleast 2 1's

{ 0, 1 }

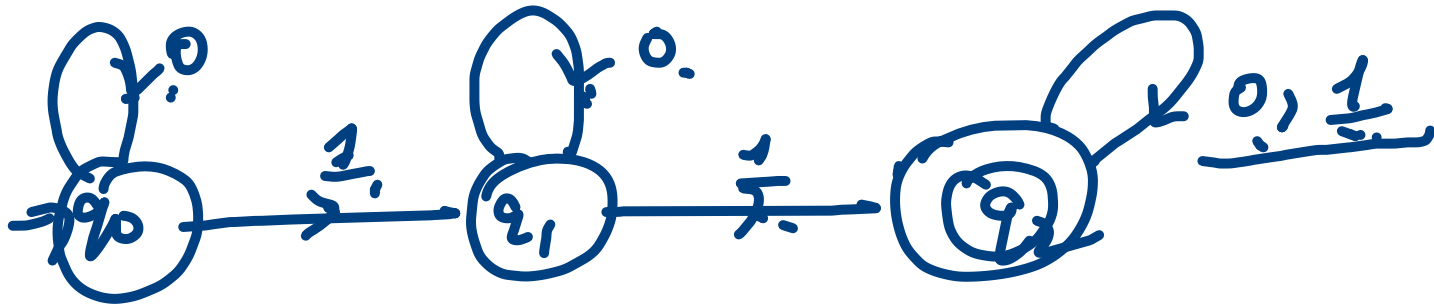
$q_0 \rightarrow 0, 1$

$q_1 \rightarrow 1, 0$

$q_2 \rightarrow$

{  $\overset{\checkmark}{1}1, \overset{\checkmark}{0}11, \underline{101}, 110, 111, \underline{1011}, 1101, \dots$  }

$11000000 \dots$  }  $0101$



loops 0, 1

Any no of 0's, 1's  
" combination of 0's & 1's

0101 10110011 . ↑

20's

Imp  
Note:-

Atmost 2 1's

$\{0, 1\}$

$q_0 \rightarrow 1, 0$

$q_1 \rightarrow 1, 0$

$q_2 \rightarrow 0, 1$

$\{ \underline{1}, \underline{0}, \underline{1}, \underline{0}, \underline{10}, \underline{11}, \underline{011}, \underline{110}, \underline{101}, \underline{001}, \underline{11000}, \underline{00011}, \underline{00000} \}$

Initial  
state becomes  
your final state

