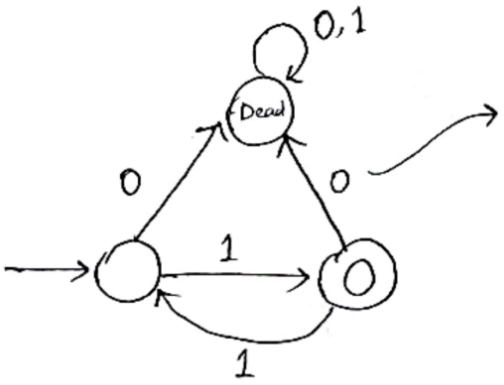
Section 05 : MHB Sir

$L_1 = \{ w : w = 1^m$, where m is odd$\}$

$L_2 = \{ w : w$ doesn't contain any $y \in L_1$ as a substring$\}$

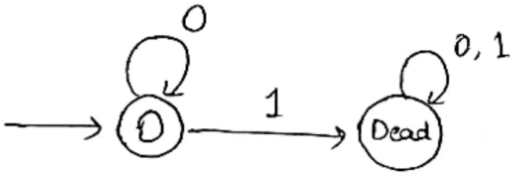
Solve:

b) DFA for L_1:



Since $W = 1^m$, and it is not substring, getting 0 will violate the condition.

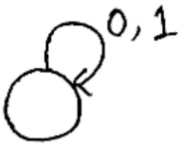
c) DFA for L_2:



Since L_2 ~~can't~~ can't contain any substring of L_1, now, if we want to have even numbers of 1s, for example, to get '11', we have to get '1' first. One getting a '1' actually violates the condition

for (d) you may use cross product, But it will take lots of time.

d) $L = L_1 \cap L_2$: (and)



if asked for $L_1 \cup L_2$: (or)