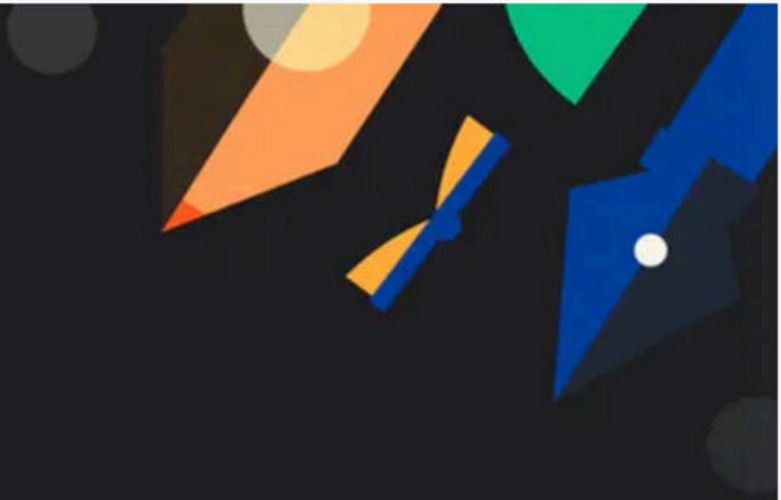


# Doubt Clearing Session

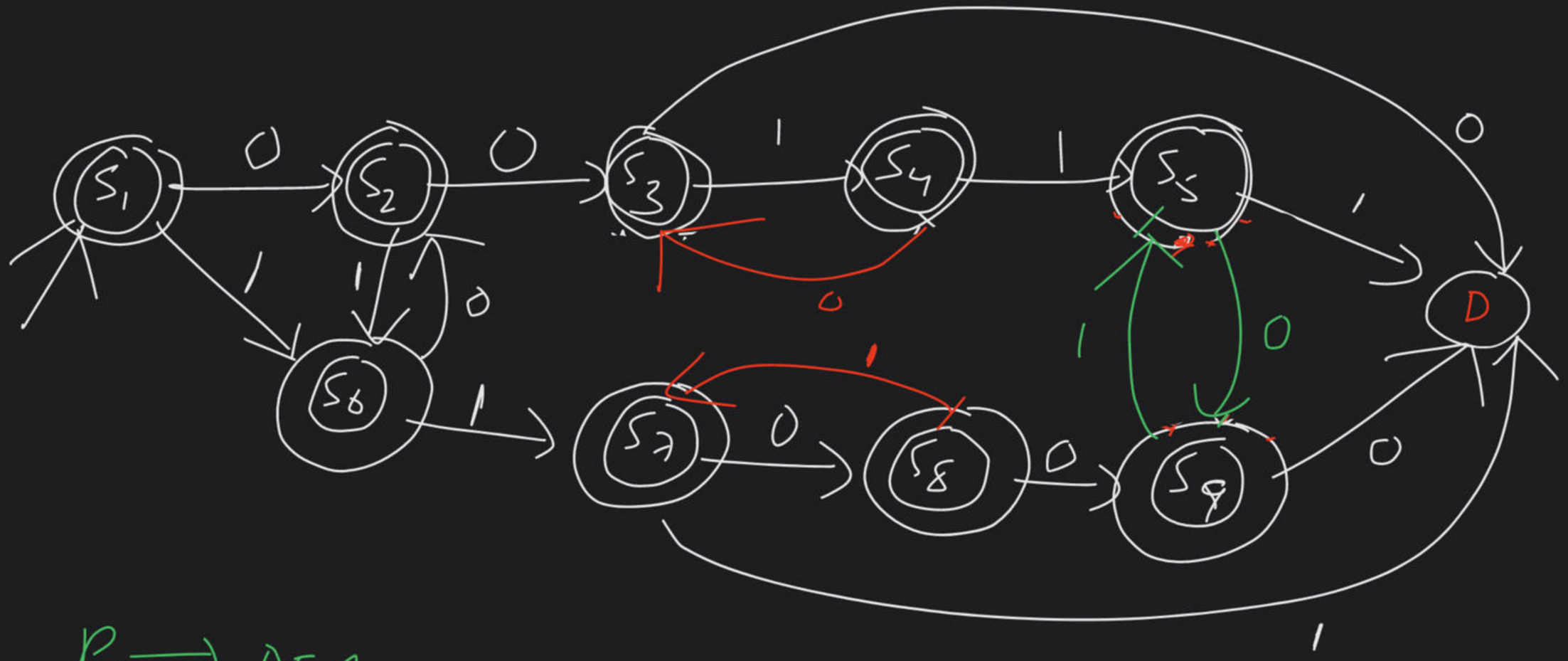
Complete Course on Theory of Computation

**Subbarao Lingamgunta** • Lesson 12 • Feb 17, 2022

CM-DFA $L = \{$ Set of all strings of 0's & 1's where each string contain atmost one pair of 11 && atmost one pair of 00 $\}$.

$\Longrightarrow \in, 0, 1, 00, 11, 010, 101, 01010101, 101010,$

$1100, 0011, \cancel{000}\ \cancel{111}, 01, 10,$

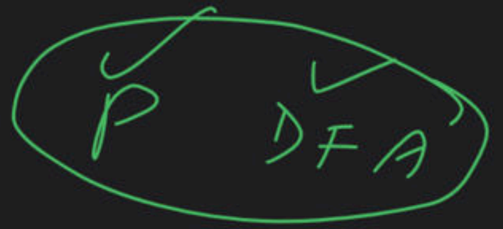


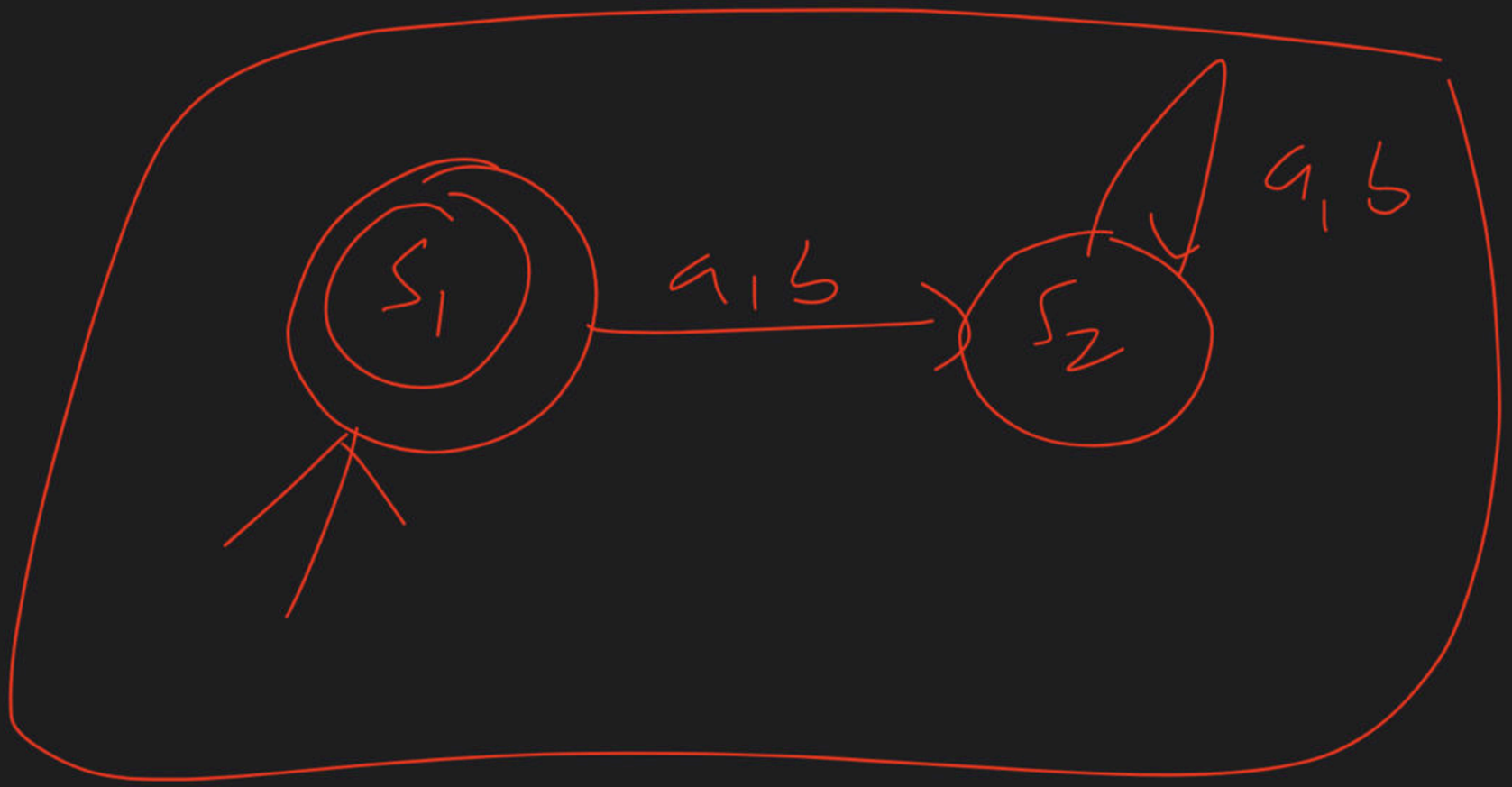

P ⟹ DFA

DFA ⟹ P

RE ⟹ DFA

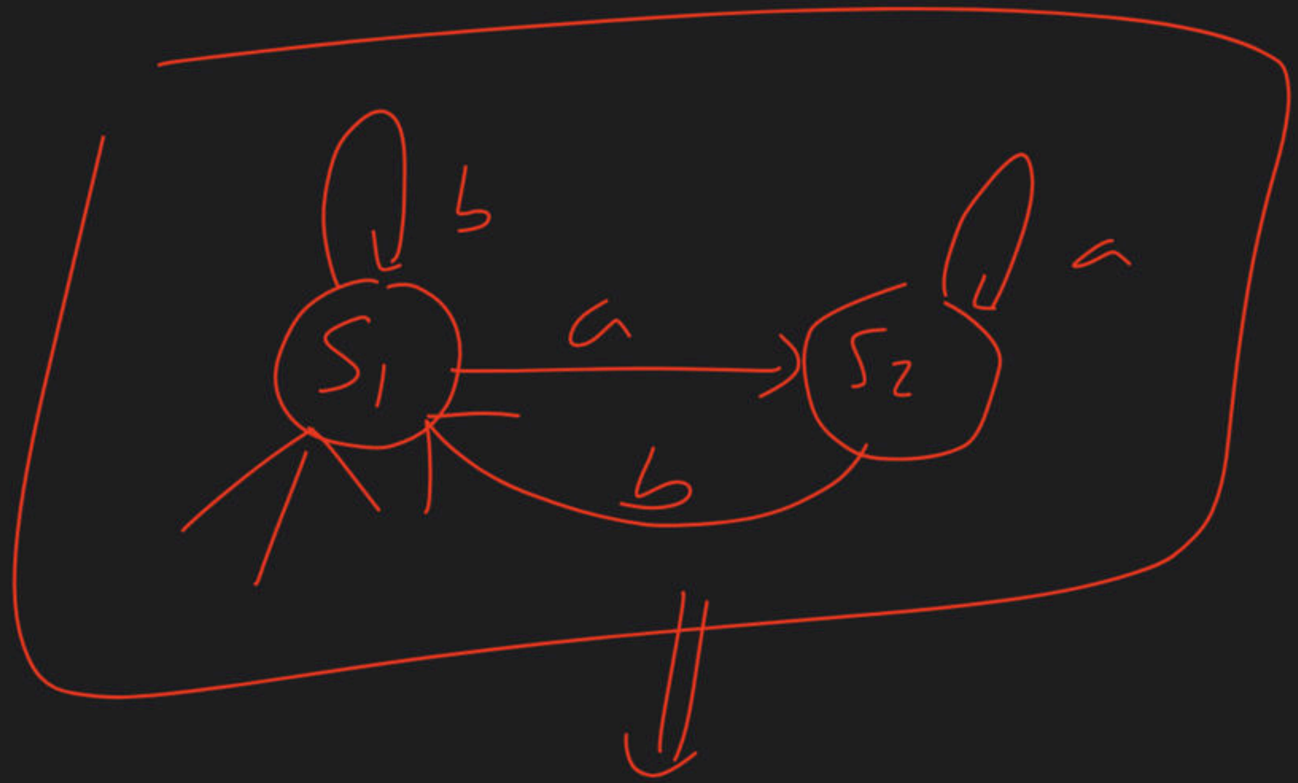
DFA ⟹ RE






$L = \{\epsilon\}$

Language non-empty but accepted string is $\epsilon$ (empty string)

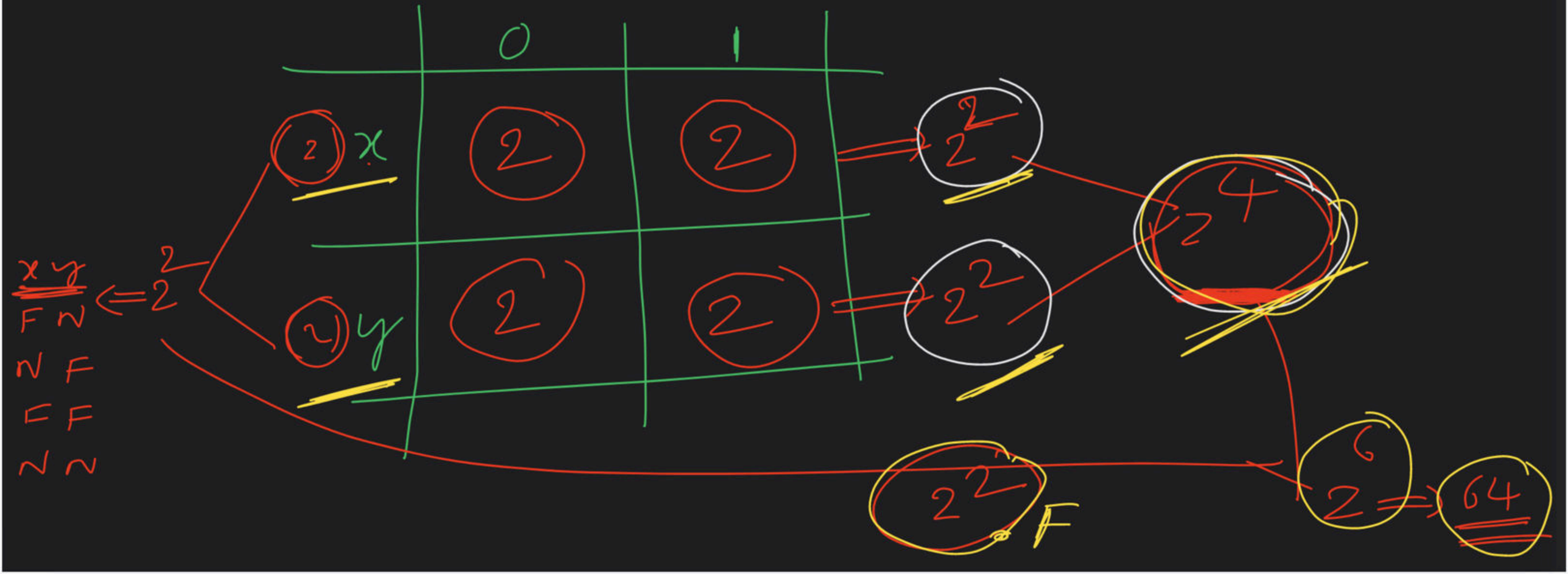


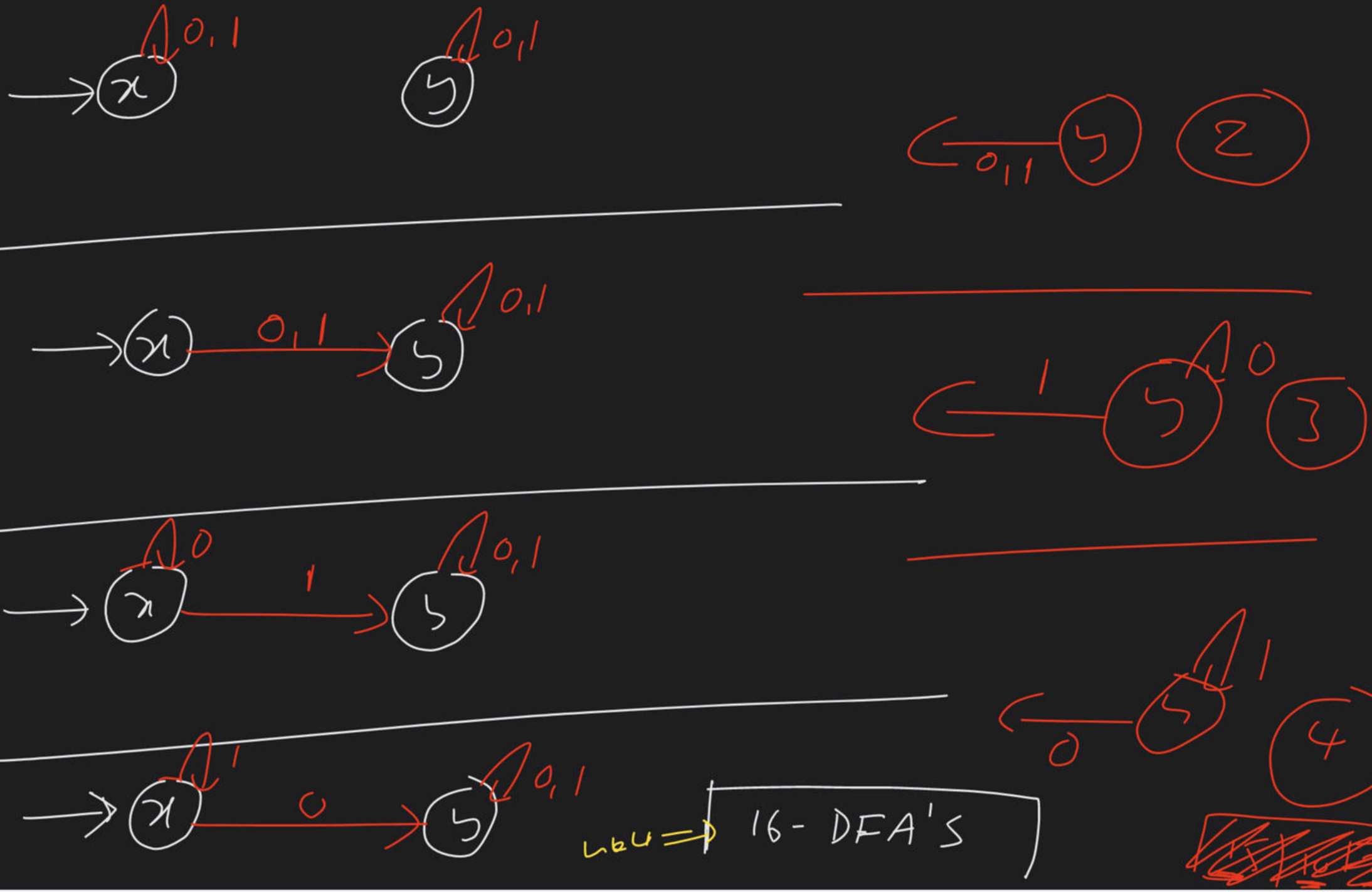

no final state will accept

$\Downarrow$

$L = \phi \Rightarrow \{\}$

How many DFA's possible with 2-states (x & y) where x is initial state, over the alphabet {0,1}.




0,1
0,1
0,1
0,1
0
1
0,1
1
0
0,1
16- DFA's

Thanks

Dedicated Hats

# 16 - DFA's

2 - states as final = 16

1 - state as final ⟹ $x \Rightarrow 16$, $y \Rightarrow 16$ } 32

0 - states as final ⟹ 16

64

How many possible DFA's are there with 3-states $x, y$ & $z$ where $x$ is initial and $\Sigma = \{0, 1\}$