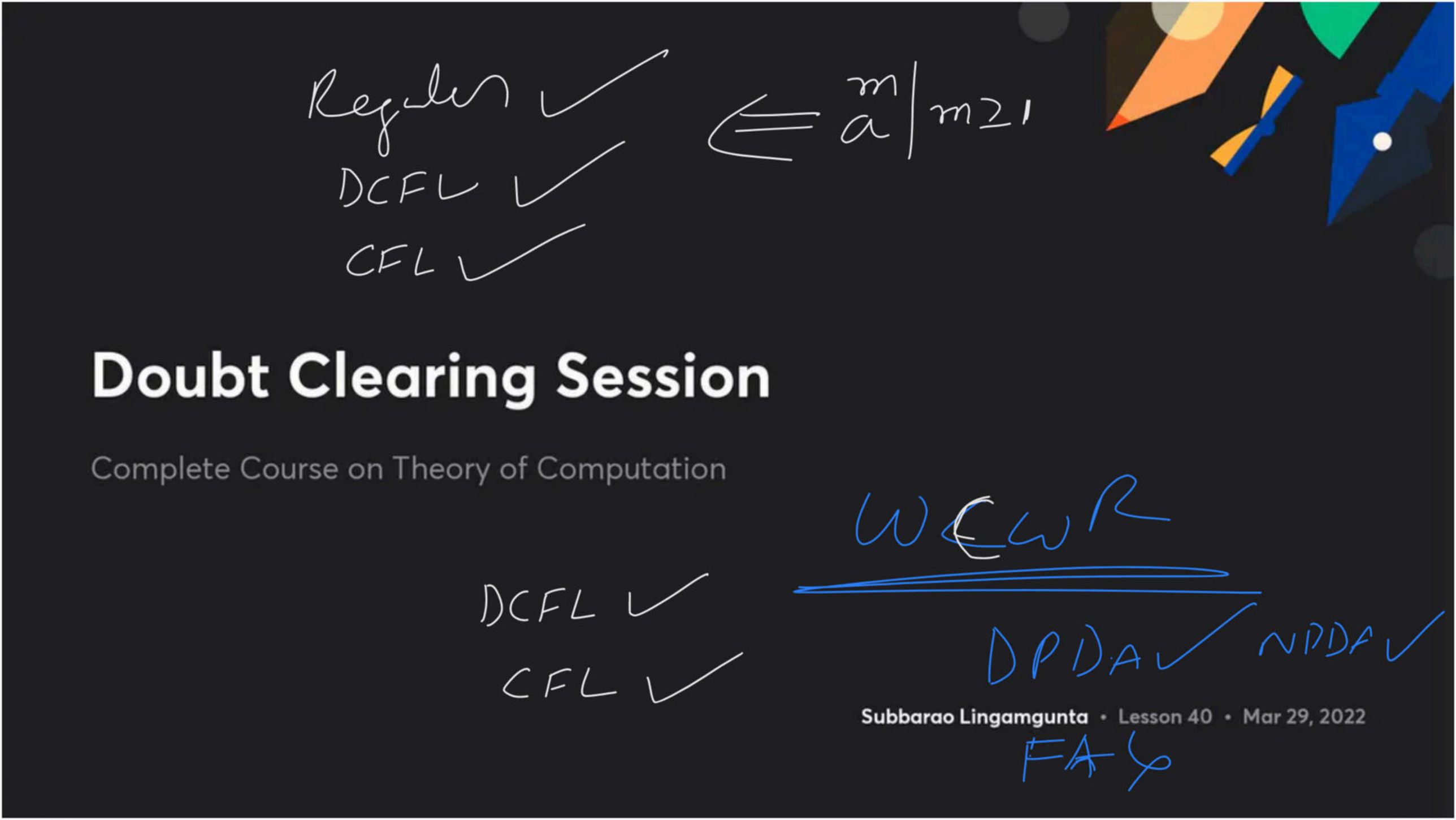

Regular ✓
DCFL ✓
CFL ✓
$\Leftarrow a^m \mid m \geq 1$
Doubt Clearing Session
Complete Course on Theory of Computation
DCFL ✓
CFL ✓
WCWR
DPDA ✓
NPDA ✓
Subbarao Lingamgunta • Lesson 40 • Mar 29, 2022
FA's

$L = \{ w w^R \mid w \in (a+b)^* \}$

DPDA ✗

NPDA ✓

$E(NPDA) > E(DPDA)$

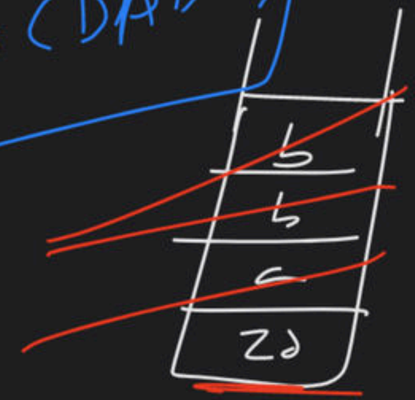
~~Regular~~

~~DCFL~~

CFL

$b, a \mid ab$

$a, b \mid ba$



① $a, z_0 \mid z_0 a$

② $b, z_0 \mid z_0 b$

③ $a, a \mid aa$

④ $b, b \mid bb$

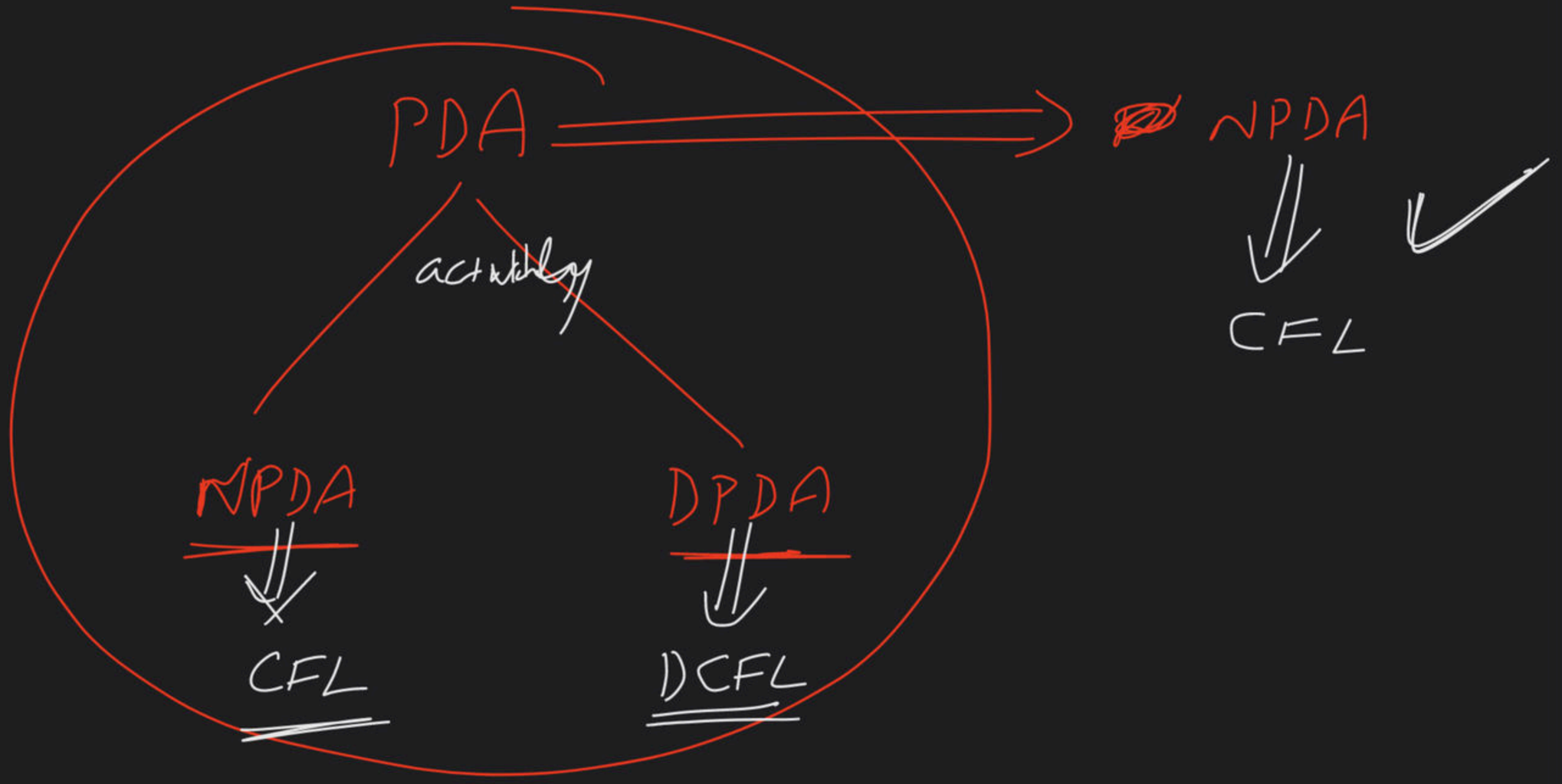
$a, a \mid \epsilon$

$b, b \mid \epsilon$

$\delta(S_1, a, a) \rightarrow \epsilon$

$\delta(S_1, a, a) \rightarrow aa$

$E(DFA) = E(NFA)$


PDA
NPDA
CFL
NPDA
DPDA
CFL
DCFL

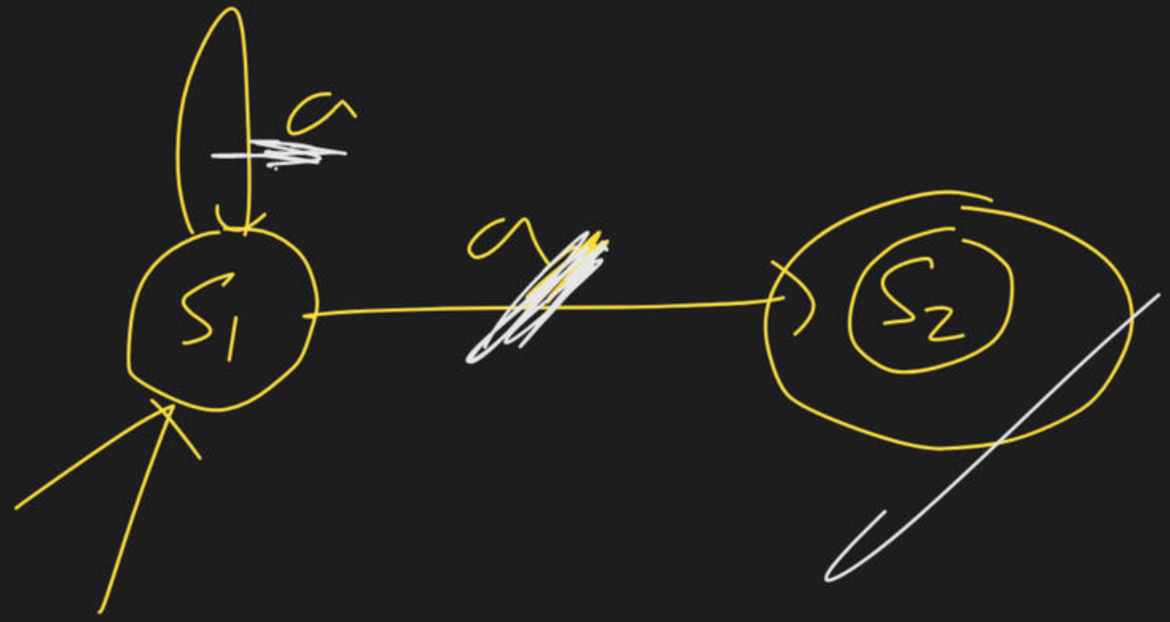
Expressive power

FA $<$ DPDA $<$ NPDA $<$ TM

$\equiv$ $\equiv$

DFA, NFA, ϵ-NFA

DTM, NTM


a
a
S_1
S_2

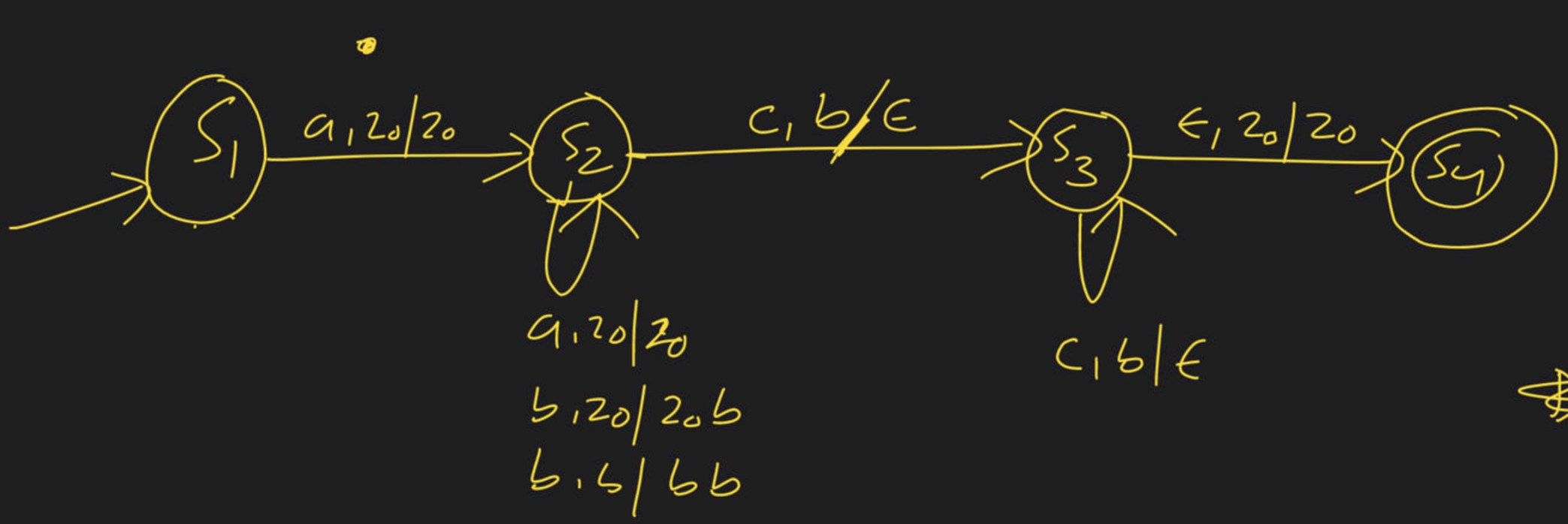
$L = \{ a^m b^n c^n \mid m, n \geq 1 \}$

CFL $\rightleftharpoons$ PDA

~~Regular~~

DCFL ✓

CFL ✓



Sep

~~DCFL~~

CFL

(a)

$L = \{ a^m b^m c^n \mid m, n \geq 1 \}$

ab