Regular lang ⇒ Lang accepted by FA (DFA/NFA)

Compliment the lang accepted by DFA

$A^c = U - A$ (toggle the F & NF states)

You may or ~~cannot~~ may not compliment the lang by using NFA (Avoid)

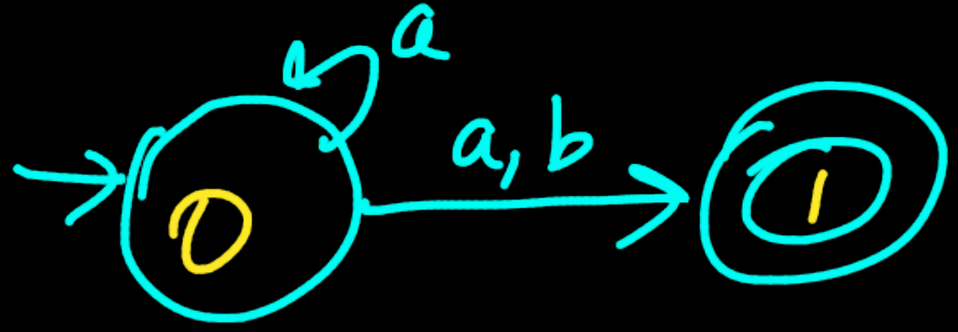
NFA $\rightarrow$ NFA$^c$

$L \rightarrow L^c$ ? X

Never complement a NFA

1)


Compliment the NFA



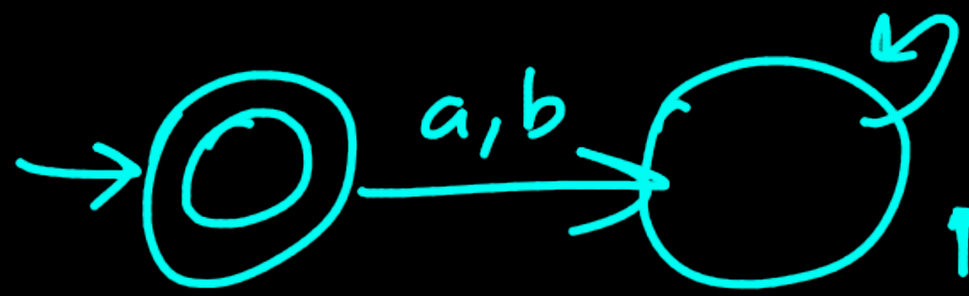

$L = \{\lambda, a, aa, aaaaa, \ldots\}$

$L = \{a, b, aa, ab, aaaaaa, aaab, \ldots\}$

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

aaaa

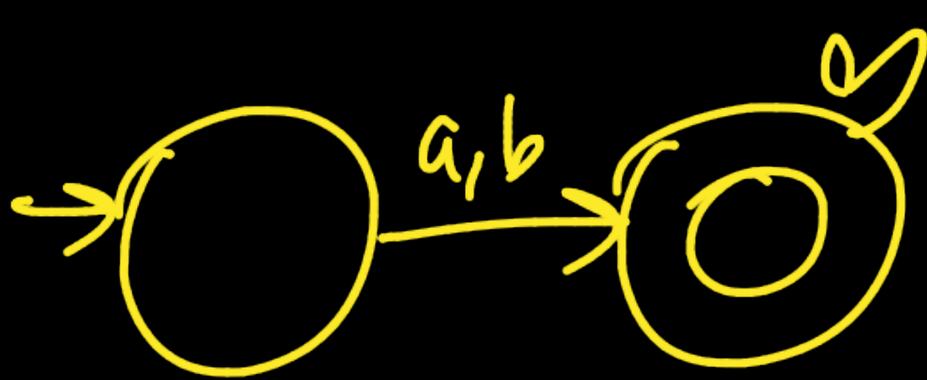
1)




$L_1 = \{\lambda\}$

DFA

Compliment the NFA



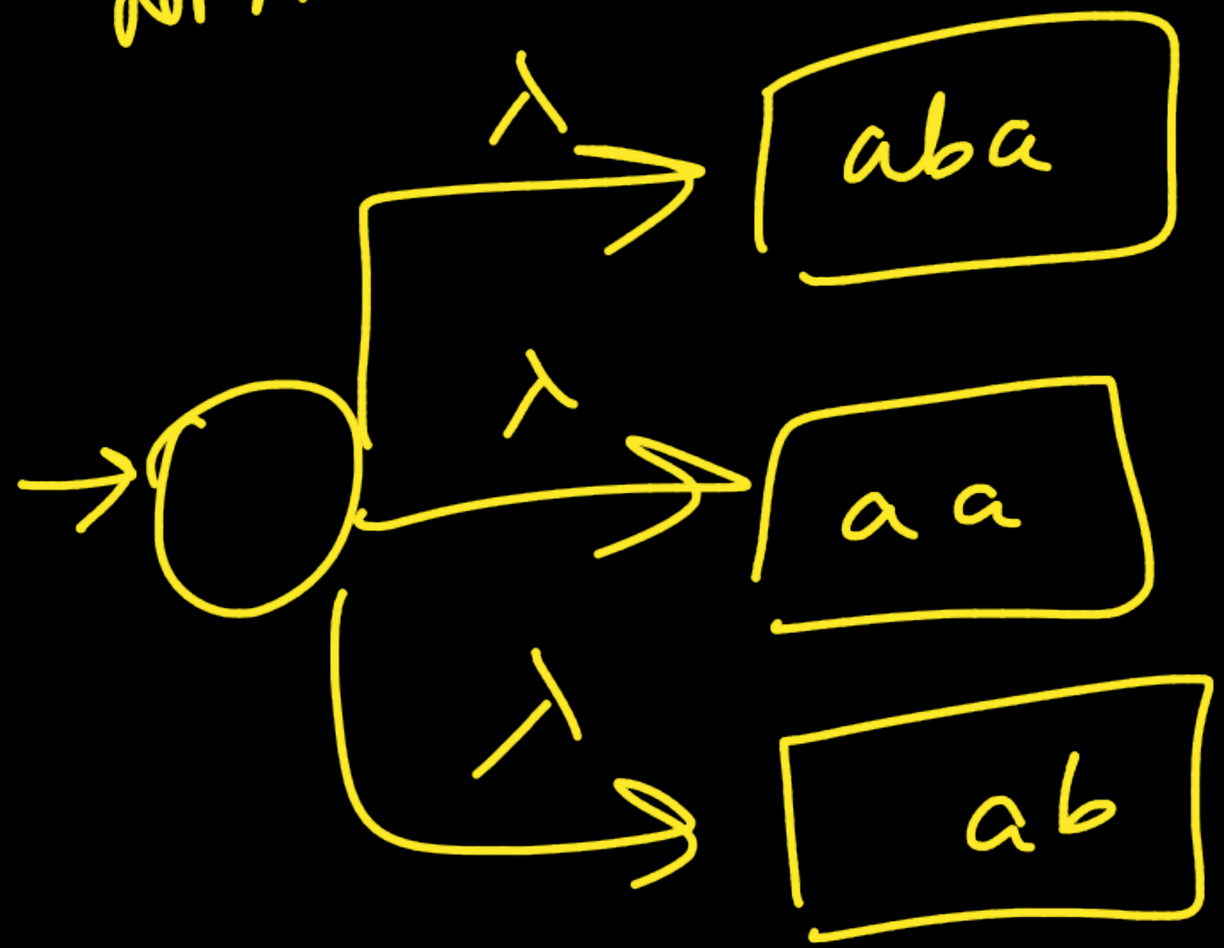

$L = \{a, b, aa., bb.$
a is b
$(a+b)^+$

Union

↙ ↓

DFA NFA

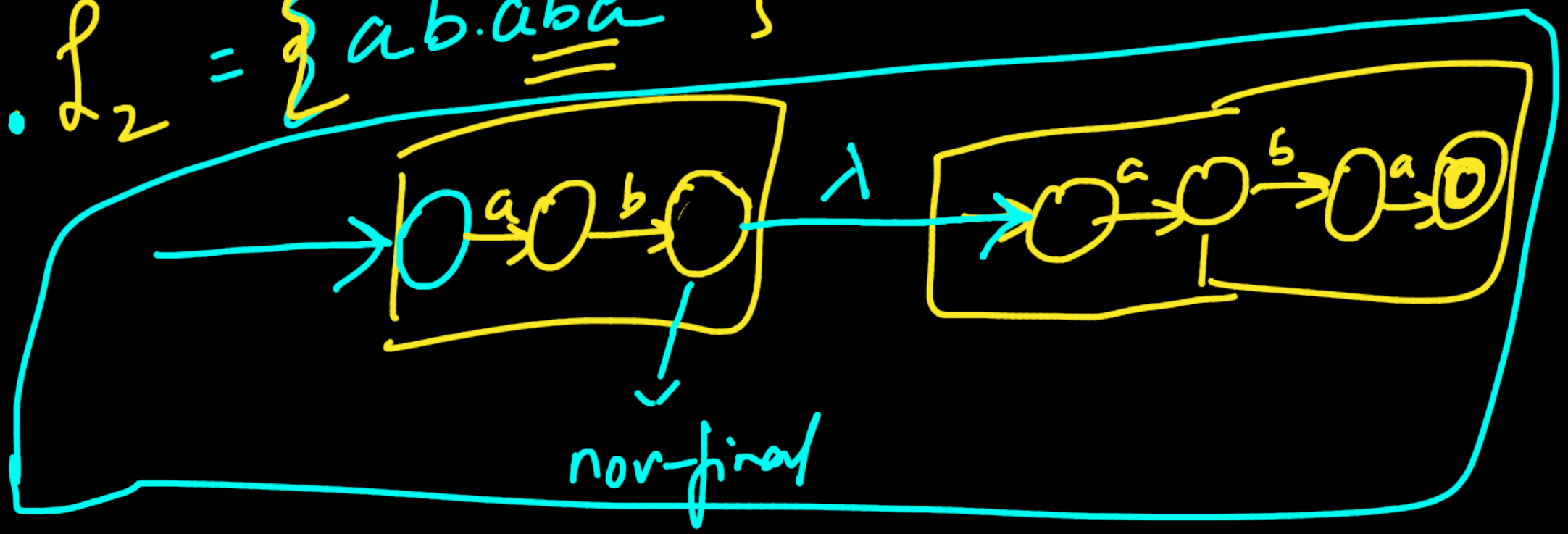
$L = \{aba, aa, ab\}$



# Concatenation

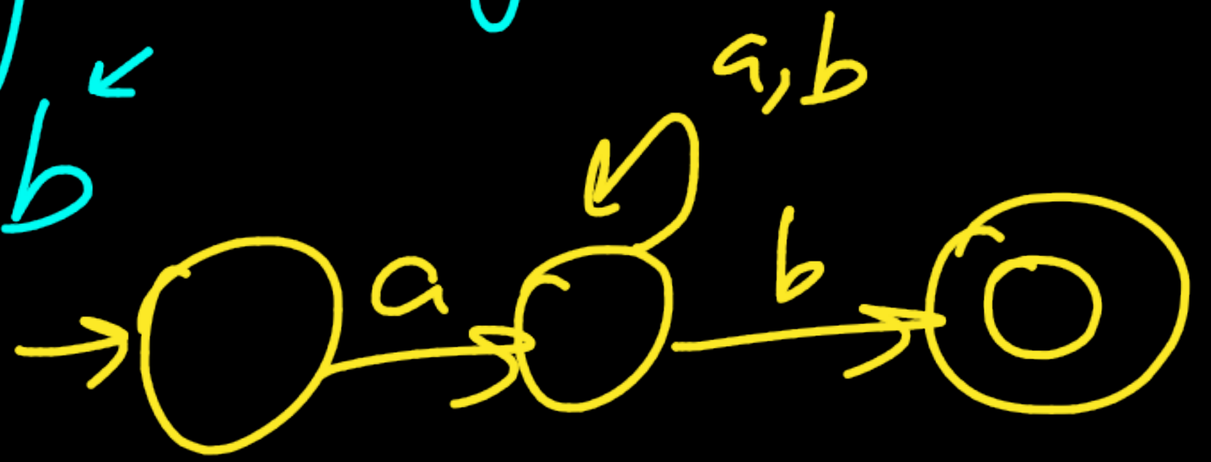
$L_1 = \{ ab \}$ $\quad L_2 = \{ aba \}$

$L_1 . L_2 = \{ ab.aba \}$



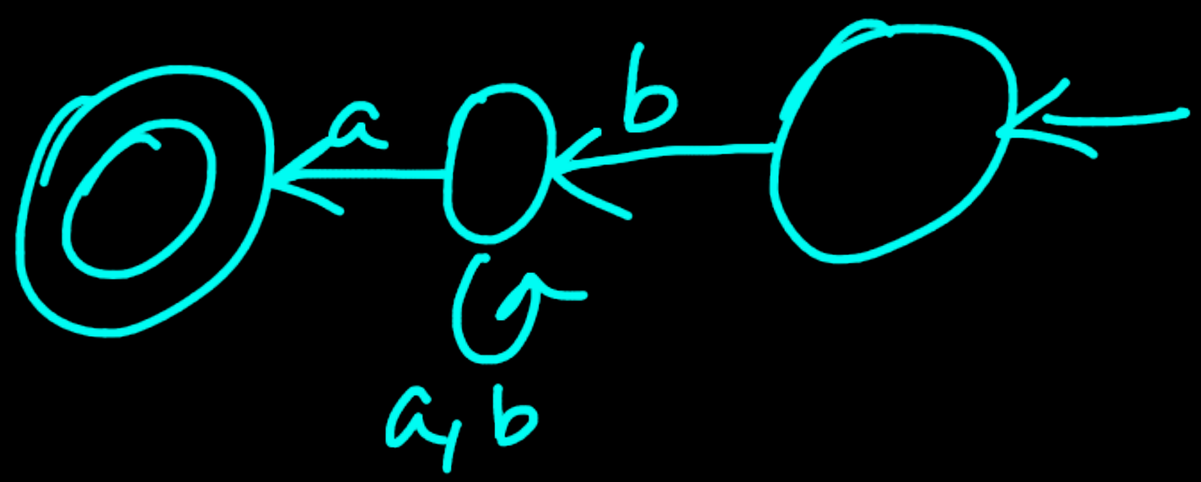
# Reversal of a lang

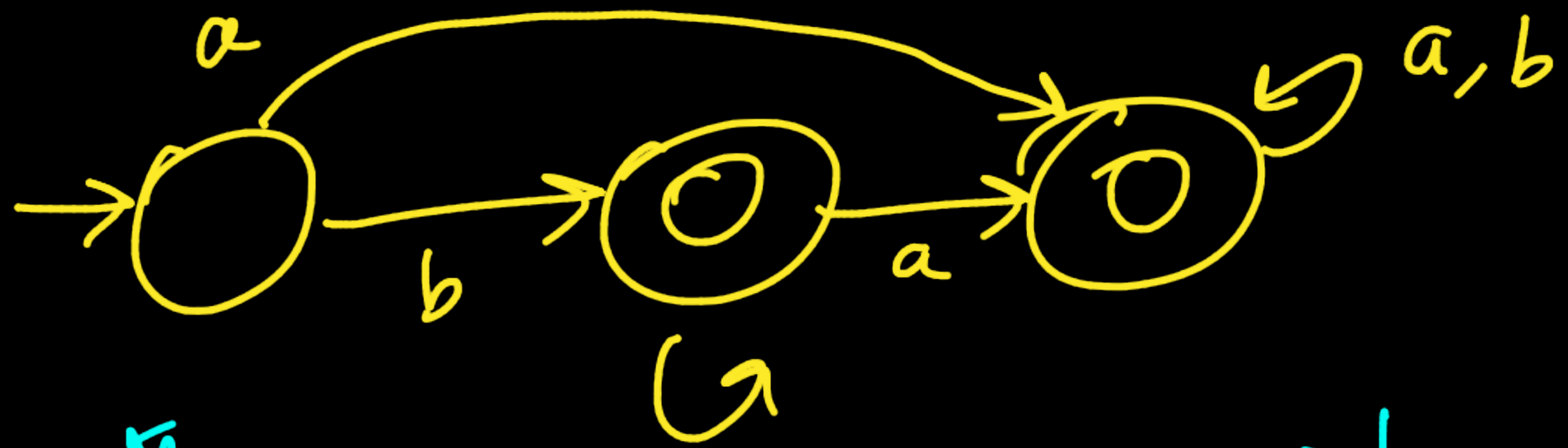
$L = a^{\leftarrow} w b^{\leftarrow}$



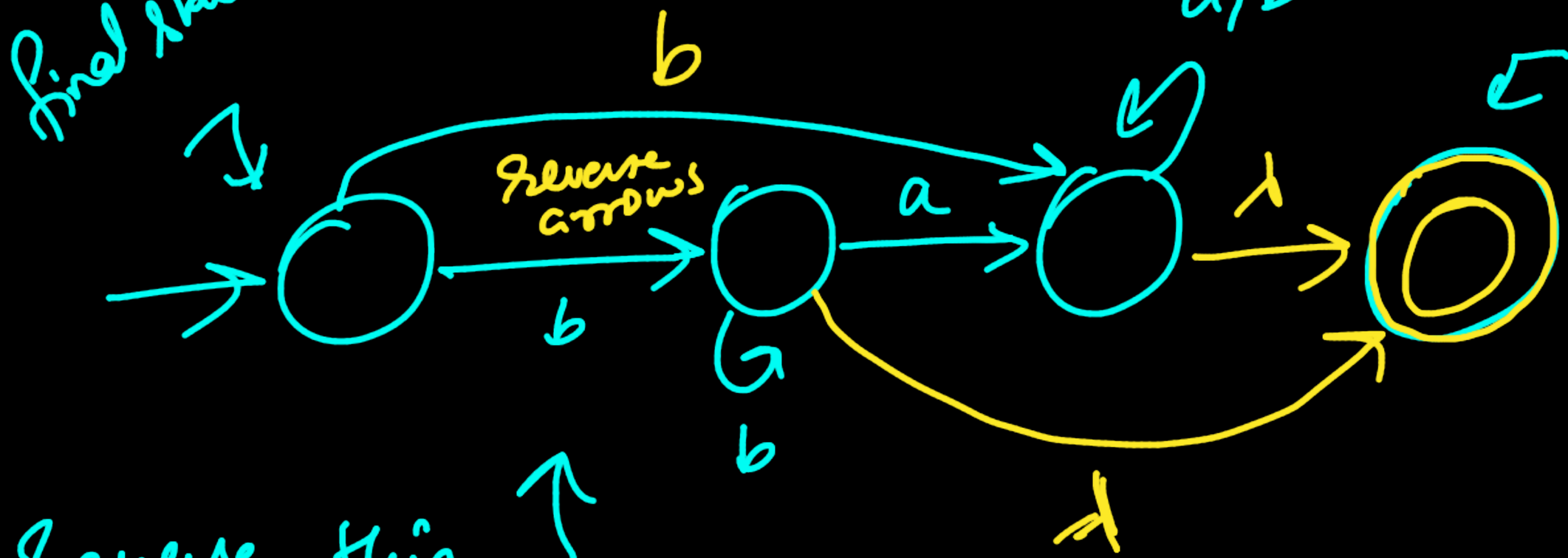

$L^R = b w a$

Reverse






Final State




Reverse this

# Prop of RL

Operations Closed