



Regular Expression - I

Complete Course on Theory of Computation

How many DFA's possible with 2-states (x, y)
 where x is starting state, $\Sigma = \{0, 1\}$ & accepts
 empty language?

(a) 16

(b) 1

(c) 17

~~(d) 20~~

(e) 25

$\Sigma = \emptyset$
 Σ^0

~~16-DFA - x, y FA~~

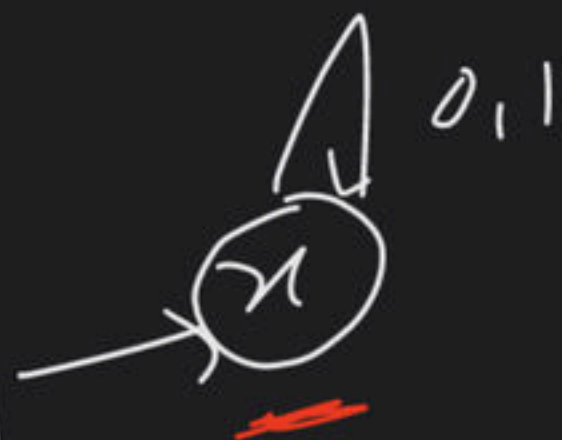
\emptyset

16-DFA - No-Final State $\Rightarrow \emptyset$

4-DFA - 4 all final states $\Rightarrow \emptyset$
~~16 DFA~~

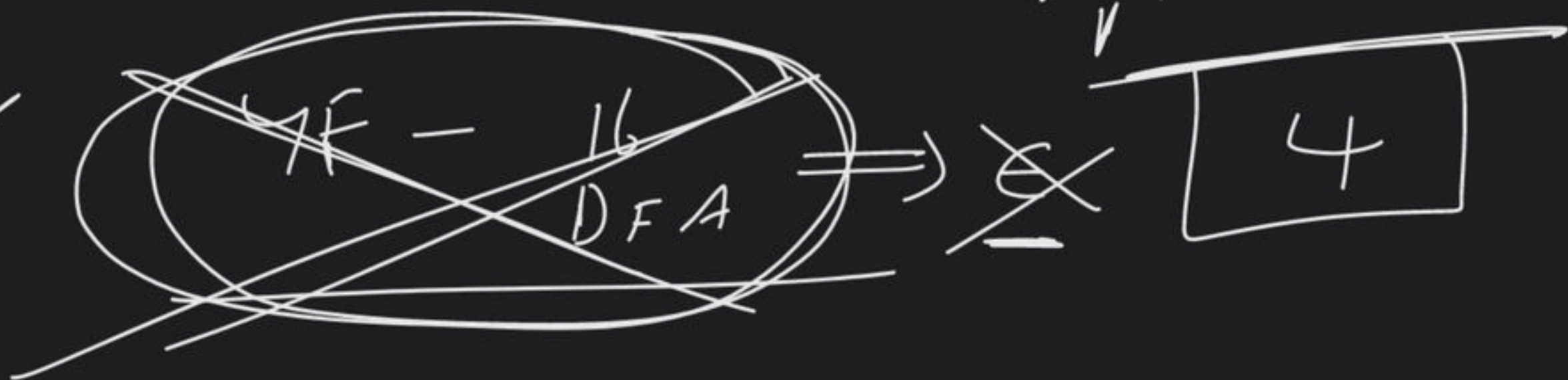
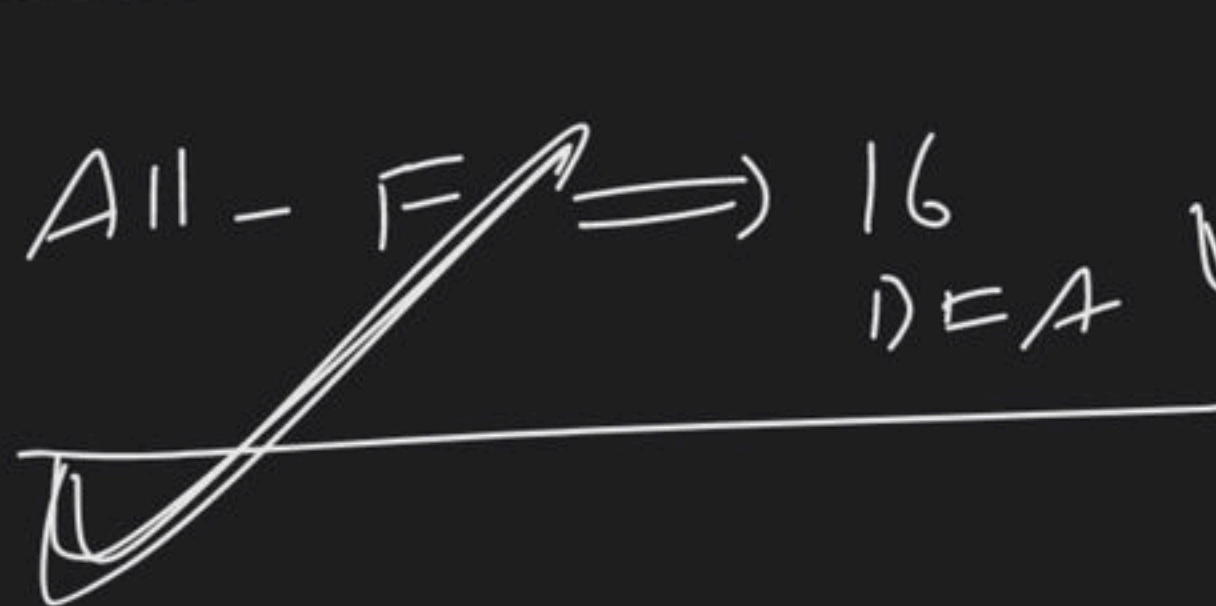
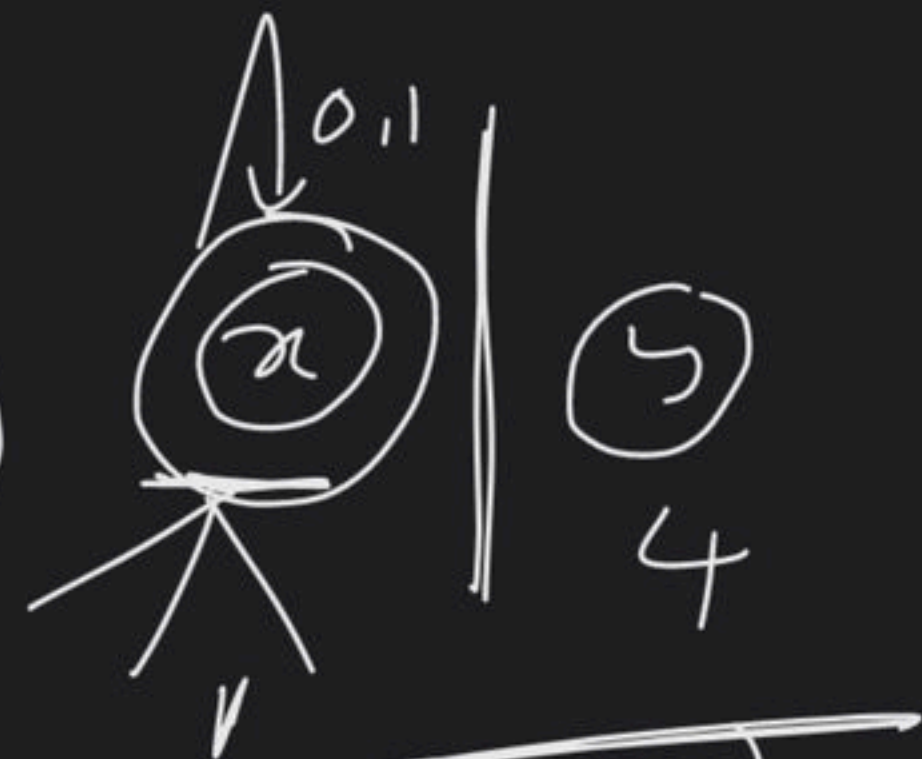
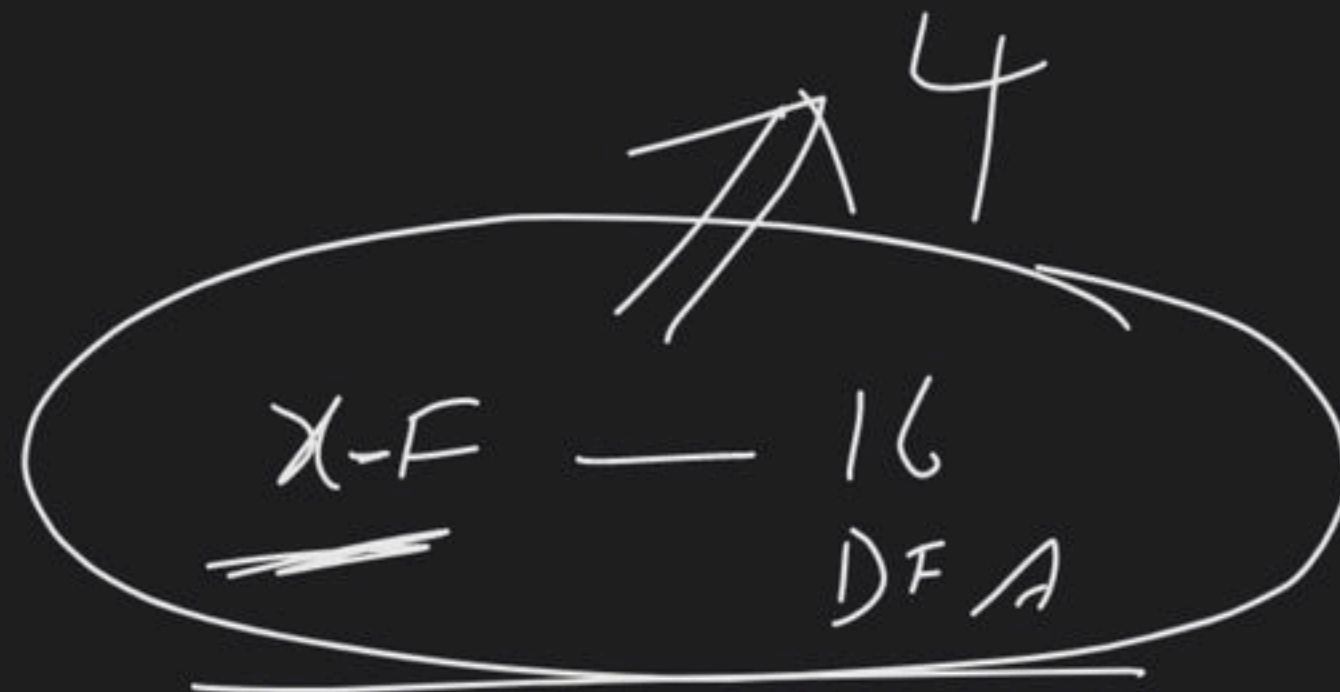
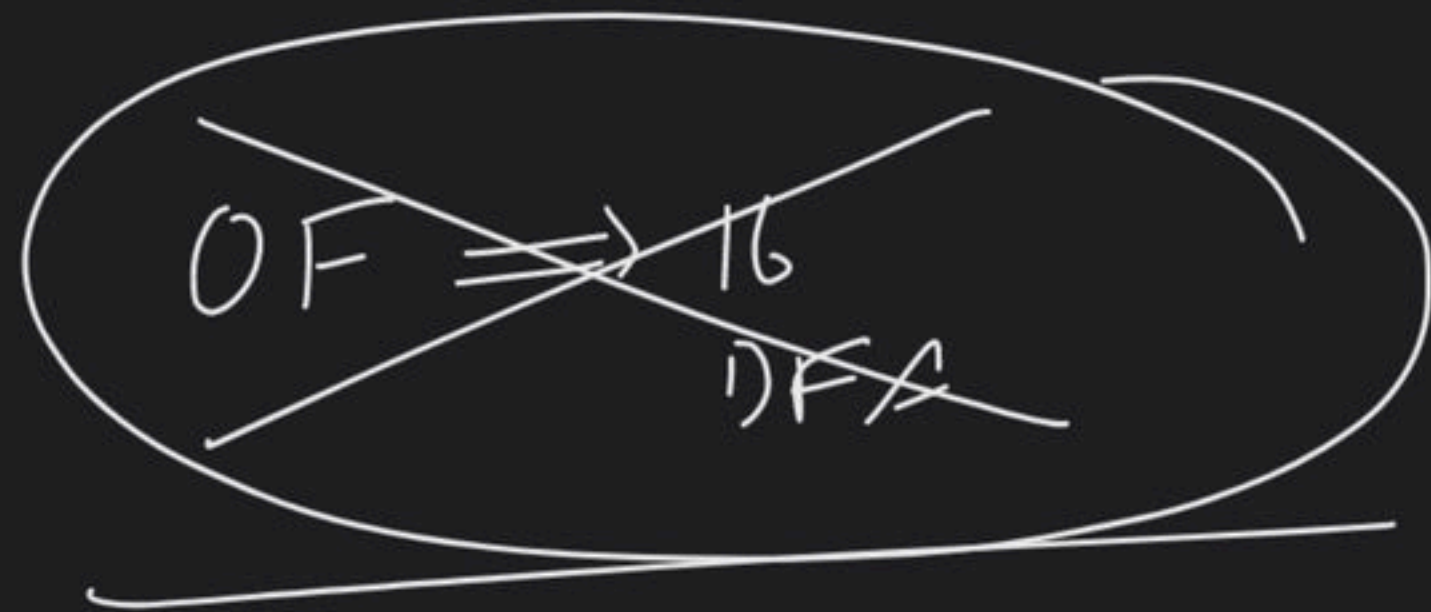
~~16-DFA - x, y FA~~

Σ^0



How many DFA's possible with 2-states (n=2)
 where x is initial, $\Sigma = \{0,1\}$ & accept everything (Σ^*)?

- a) 16 b) 18 c) 20 d) 25



Give R.E $L = \{ \text{all strings of a's \& b's where start \& Endg symbols same} \}$

$$a + b + \boxed{a(a+ba)a} + \boxed{b(b+ab)b} + \epsilon$$

$E \cdot V \checkmark$

$E \cdot IV \not\checkmark$

Give R.E $L = \{ \text{str of all strings of a's \& b's where each str contain abb as subLg} \}$

abb

② $(a+ab)^b$ abb $(a+ab)^b$

① abb $(a+ab)^b$

② $(a+ab)^b$ abb

③ Σ^b
 ~~$\{ a^b, ab^b, a^2b^b, \dots \}$~~
 ~~$\{ a^b, ab^b, a^2b^b, \dots \}$~~
 ~~$\{ a^b, ab^b, a^2b^b, \dots \}$~~

Σ^b

GRE

$L = \{ \text{set of all min 3-length strings over } 0,1 \}$

$\Rightarrow 3, 4, 5, 6, \dots$

✓ $(0+1)^3 (0+1)^0$

✓ $(0+1)^0 (0+1)^3$

✓ $(0+1)^0 (0+1)^3 (0+1)^0$

Thanks all

Dedicate HK

R-B-D