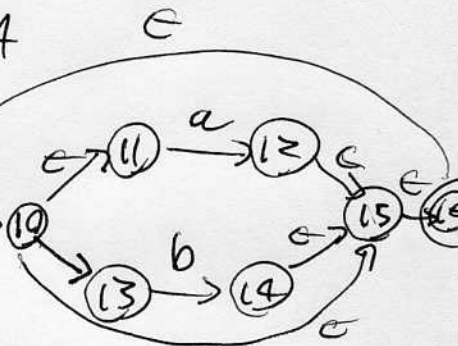
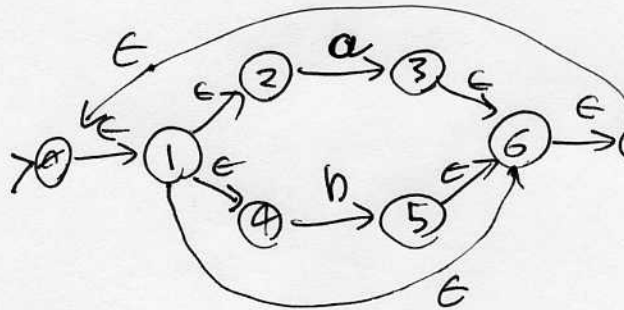


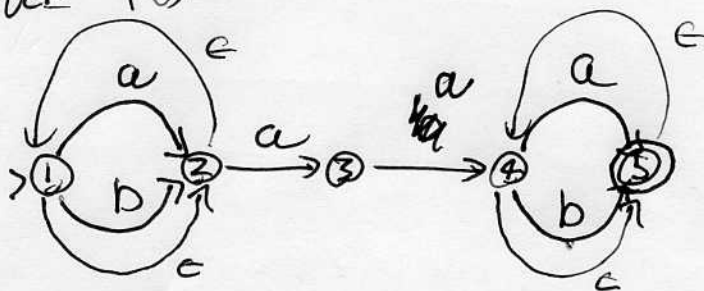
HOMEWORK TWO SOLUTIONS

1.) $(a/b)^+ a a (a/b)^+$

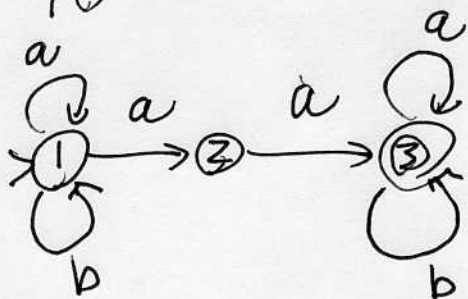
RE \Rightarrow NFA



SIMPLIFYING BY COLLAPSING ϵ -TRANSITIONS, WE CAN REDUCE TO



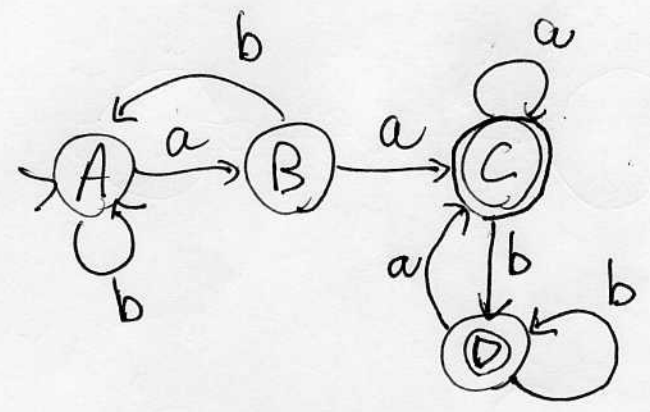
AND EVEN TO



~~THE SYSTEM~~

2.) USING LAST NFA, CREATE DFA USING SUBSET CONSTRUCTION!

STATE		TRANSITIONS	
NAME	MEANING	a	b
A	{1}	B	A
B	{1,2}	C	A
C	{1,2,3}	C	D
D	{1,3}	C	D

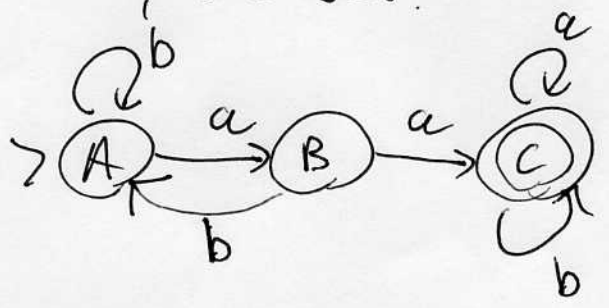


MANY OTHER SOLUTIONS ARE POSSIBLE, DEPENDING ON ORIGINAL NFA.

THIS IS NOT MINIMAL, AS

$$L(C) = L(D) = (a/b)^*$$

COLLAPSING, WE GET.



THIS IS UNIQUE, w/ TO NAMES OF STATES.

NOTE:
3 STATES ARE NECESSARY TO COUNT # a's IN A ROW.

- A = 0 a's
- B = 1 a
- C = 2 or more a's

