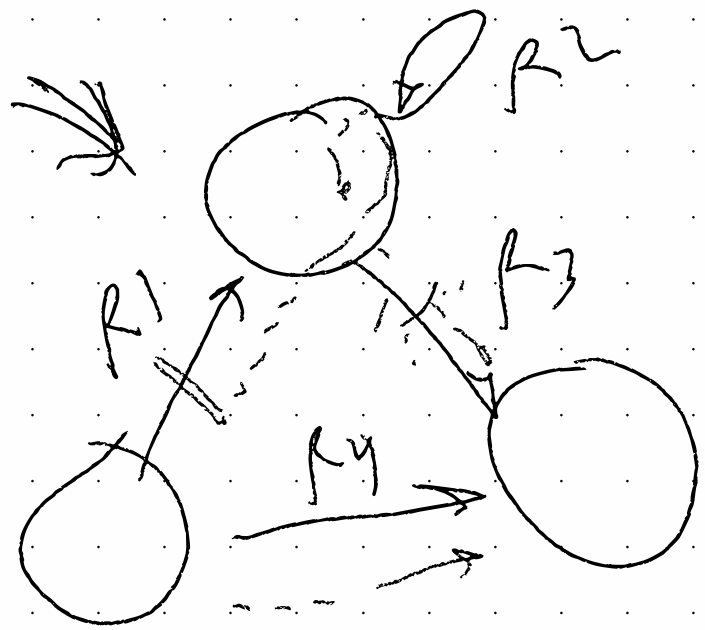
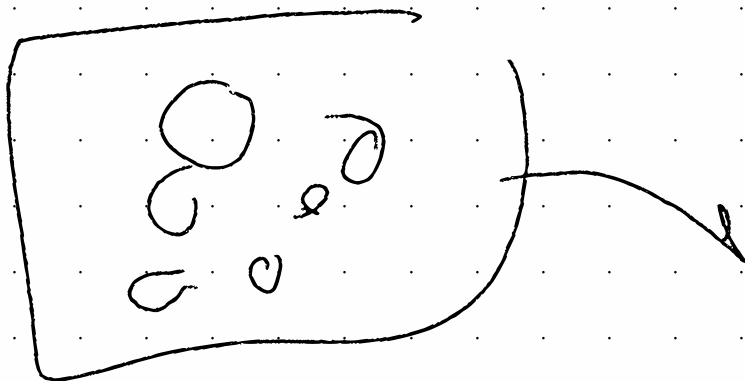


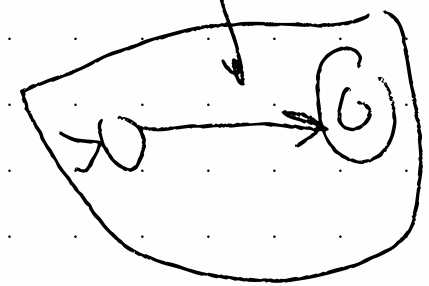
Get  
RID

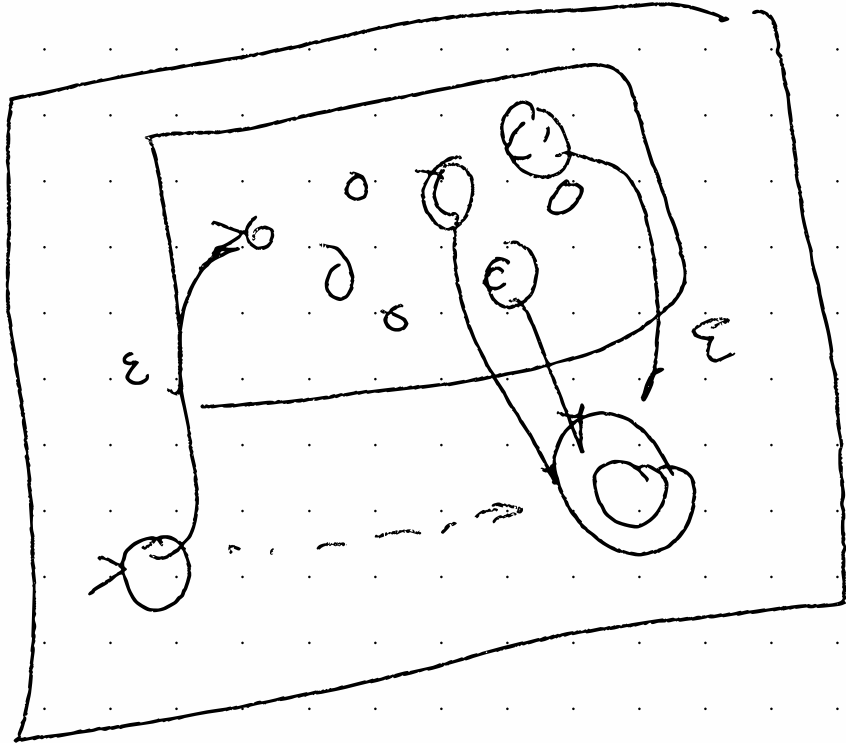


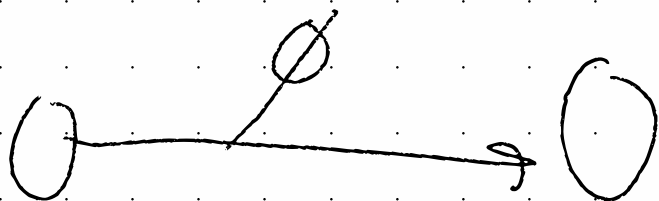
$\bigcirc \quad R_4 \cup (R_1 R_2^{2*} R_3) \quad \bigcirc$



R. 12 Expression







$$\emptyset \cup A = A$$

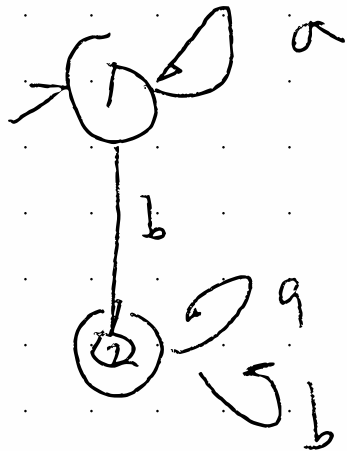
we really  
don't want it  
forced to take it

$$\emptyset \circ A = \emptyset$$

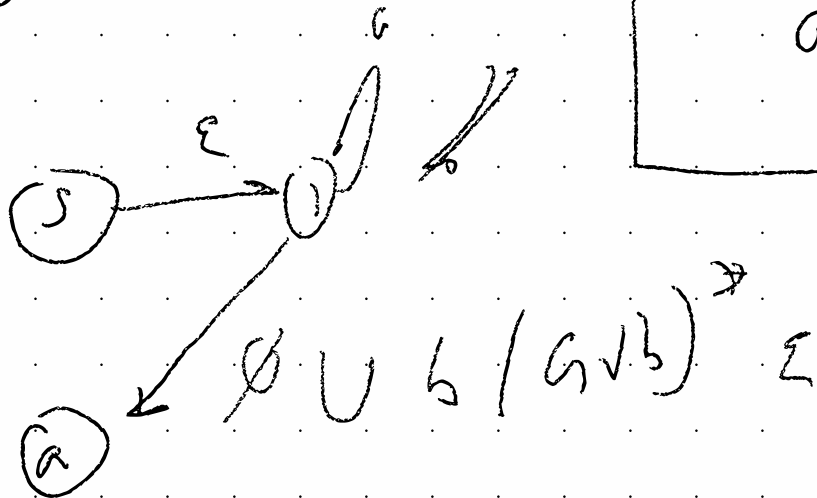
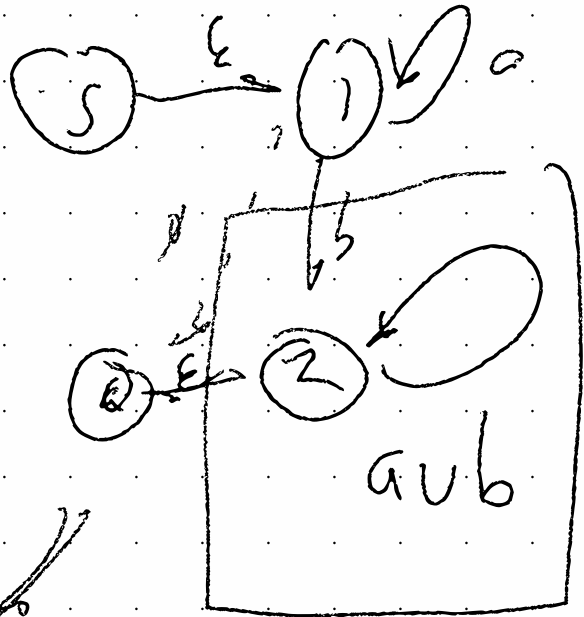
$$\emptyset \circ A = A$$

$$A \circ \emptyset = \emptyset$$

$$A \circ A = A$$

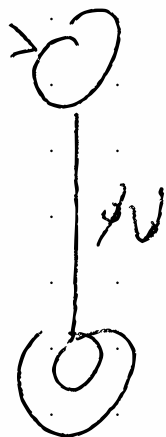
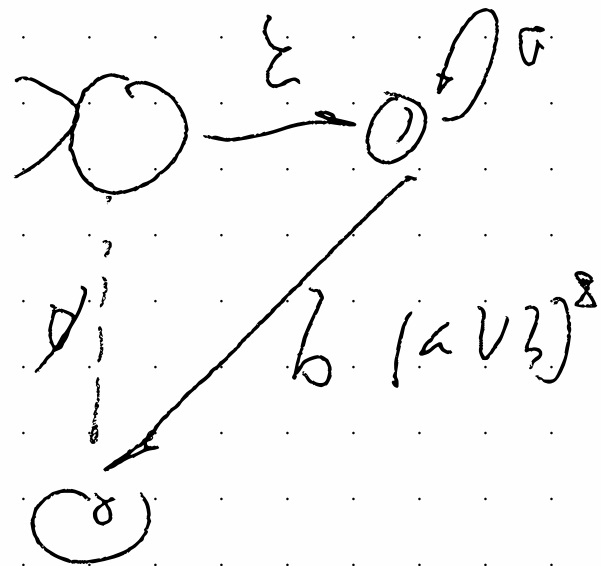


GNFA



$$\emptyset \cup b(a \cup b)^* \cdot \varepsilon$$

$$= b(a \cup b)^*$$



$$a^* \cdot b(a \cup b)^*$$

$$= a^* b(a \cup b)^*$$

{0<sup>i</sup>1<sup>i</sup> | i ≥ 0}

b<sup>0</sup>a b<sup>0</sup>a b<sup>0</sup>a b<sup>0</sup>a

Count 3

b<sup>0</sup> (b<sup>0</sup>a b<sup>0</sup>a b<sup>0</sup>a)<sup>2</sup> b<sup>0</sup>

Count 3