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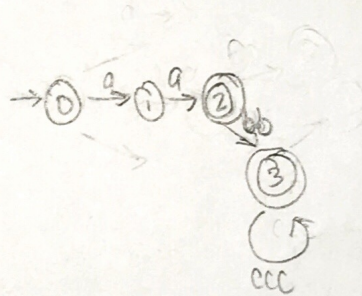
## Quiz 2

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 LING 185A: Comp. Ling. I  
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For each of the following three languages, please write a regular expression and draw a finite-state automaton that both generate that language.

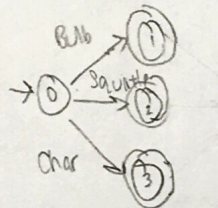
- (1) a.  $\Sigma = \{a, bb, ccc\}$   
 $L = \{aa, aabb, aabbcc, aabbccccc, aabbccccccccc, \dots\}$

$(a \cdot a) \cdot ((bb) \cdot (ccc)^*)^*$



- b.  $\Sigma = \{\text{Bulbasaur, Squirtle, Charmander}\}$   
 $L = \{s \mid s \in \Sigma\}$

$(\text{Bulbasaur} \mid \text{Squirtle} \mid \text{Charmander})$



c.  $\Sigma = \{\alpha, \beta, \gamma\}$

Let L be the smallest set such that:

- $\epsilon \in L$
- if  $s \in \Sigma$ , then  $s \in L$
- if  $l \in L$ , then  $\beta ++ l \in L$
- if  $l \in L$ , then  $l ++ \gamma \in L$

