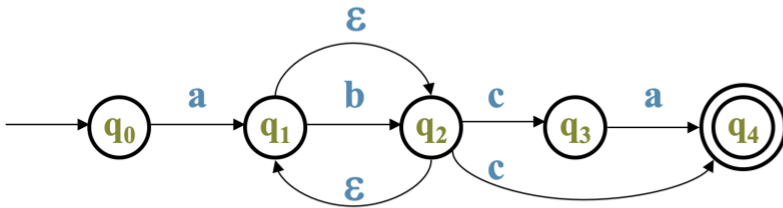


Finite State Machines (FSMs)

NAME:

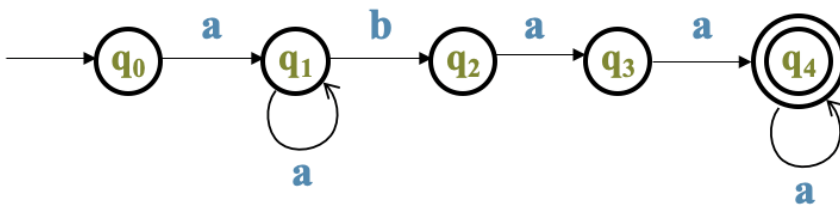
$$\Sigma = \{ a, b, c \}$$



State	Input			
	a	b	c	ε
0	1	∅	∅	∅
1	∅	2	∅	2
2	∅	∅	3,4	1
3	4	∅	∅	∅
4	∅	∅	∅	∅

1. What regular expression corresponds to the NFA above?

[2 pts] ANSWER: **ab*ca?**

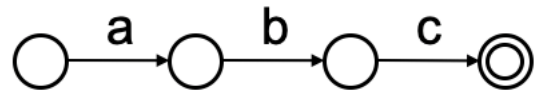


2. What regular expression corresponds to the NFA above?

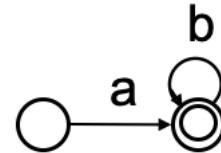
[2 pts] ANSWER: **a+baa+**

What regular expression corresponds to the DFA to the right?

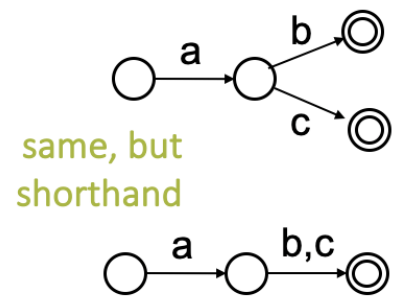
[2 pts] ANSWER: **abc**



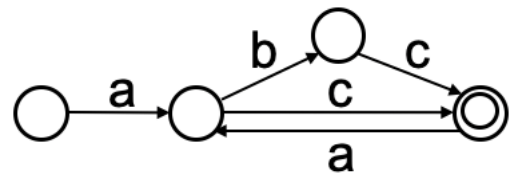
[2 pts] ANSWER: **ab***



[2 pts] ANSWER: **a(b|c)**



[2 pts] ANSWER: **(ab?c)+**



Provide a NFA for the following:

$S \rightarrow \epsilon$

$S \rightarrow xX$

$S \rightarrow yY$

$Y \rightarrow yY$

$Y \rightarrow \epsilon$

$X \rightarrow xX$

$X \rightarrow \epsilon$

[3 pts] ANSWER:

