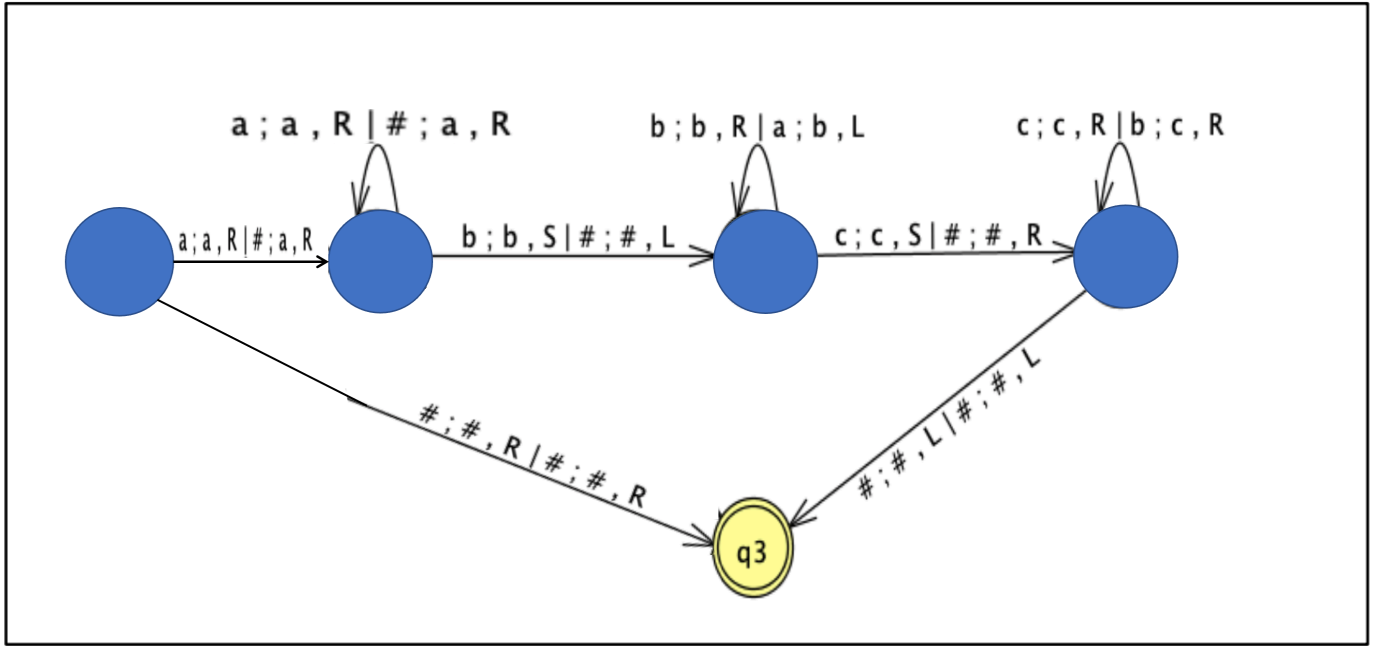
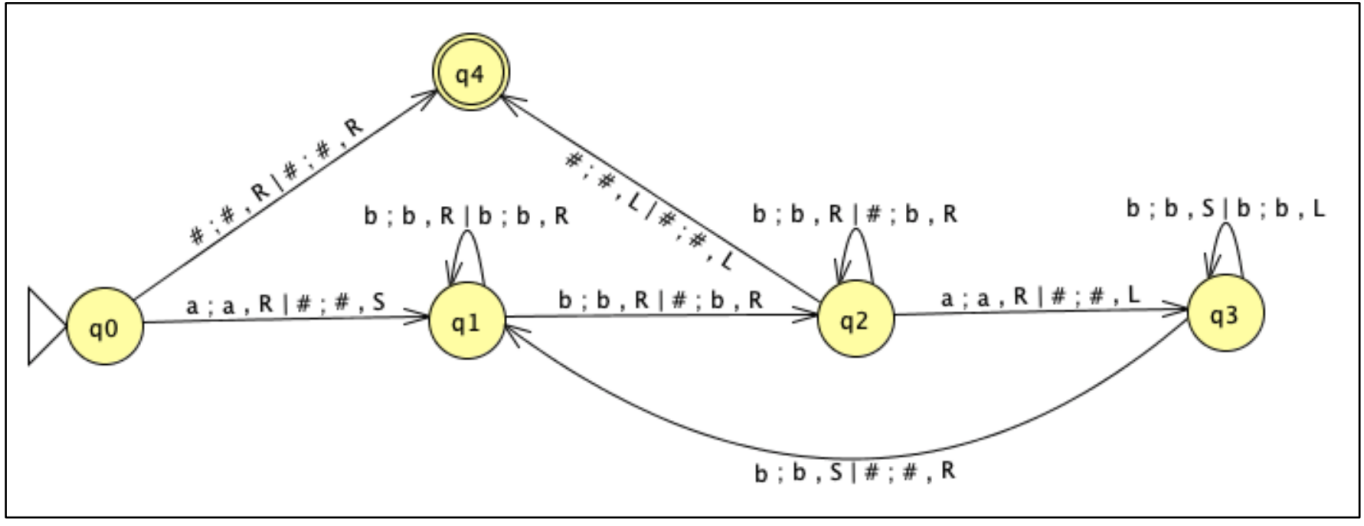
Tutorial#7

- Construct a two-tape Turing machine with input alphabet $\{a, b, c\}$ accepts the language $\{a^i b^i c^i \mid i \geq 0\}$.


a ; a , R | # ; a , R
b ; b , R | a ; b , L
c ; c , R | b ; c , R
a ; a , R | # ; a , R
b ; b , S | # ; # , L
c ; c , S | # ; # , R
; # , R | # ; # , R
; # , L | # ; # , L
q3

- Construct a two-tape Turing machine that accepts strings in which each a is followed by an increasing number of $b's$; that is the strings are of the following form:
- $ab^{n1}ab^{n2}\ldots ab^{nk}$ $where\ k>0$ $and_1\ n<n_2<\cdots<n_k$


q4
q0
q1
q2
q3
; # , R | # ; # , R
; # , L | # ; # , L
b ; b , R | b ; b , R
b ; b , R | # ; b , R
b ; b , S | b ; b , L
a ; a , R | # ; # , S
b ; b , R | # ; b , R
a ; a , R | # ; # , L
b ; b , S | # ; # , R