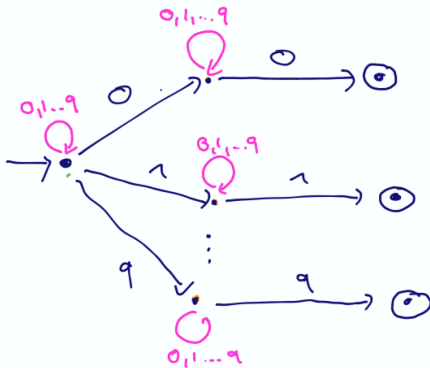


- Exercise 2.3.4.a (p.66).

a) The set of strings over alphabet  $\{0, 1, \dots, 9\}$  such that the final digit has appeared before.

NFA



Regular Expression

Abbreviation:  $L \stackrel{\text{def}}{=} (0+1+\dots+9)^*$

$LOLO + L1L1 +$   
 $L2L2 + L3L3 +$   
 $L4L4 + L5L5 +$   
 $L6L6 + L7L7 +$   
 $L8L8 + L9L9$

Reg Exp

$\varepsilon$

$\emptyset$

$a$

Automaton (NFA)



final state



no final state



