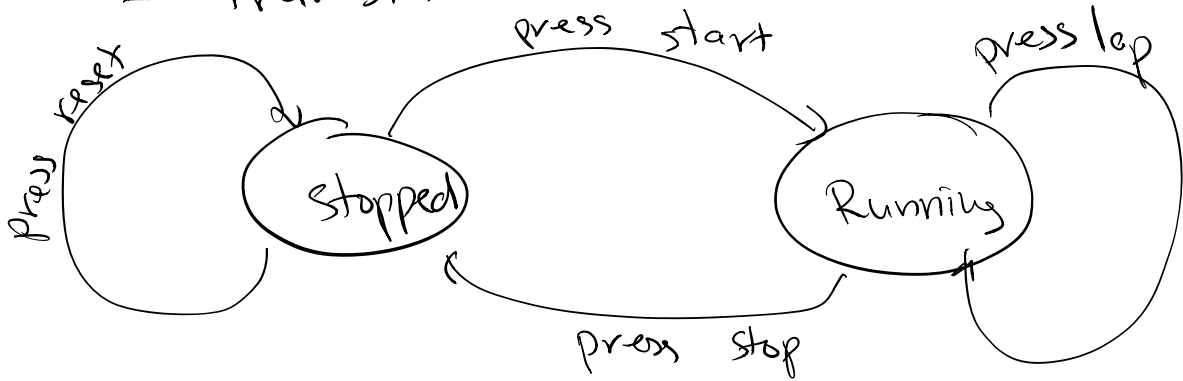
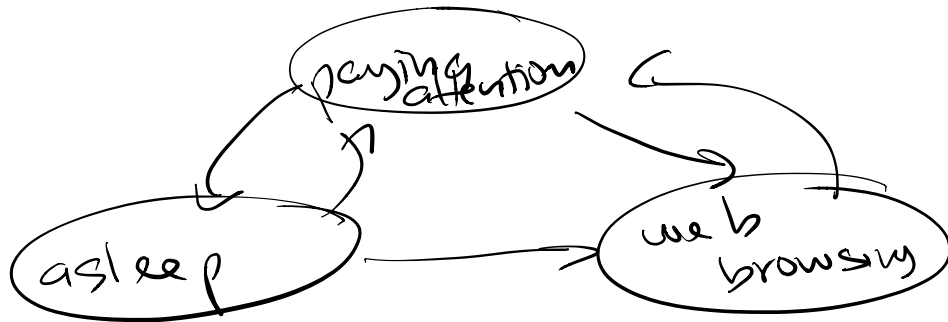


State machine

- States
- Transitions



374 student



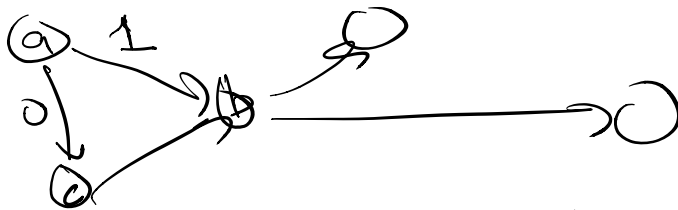
Recognizing languages

Given L and w

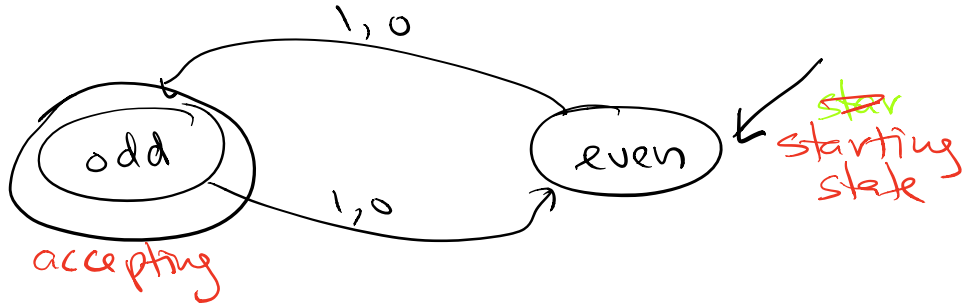
$w \in L?$

$$f_L(w) = \begin{cases} 0 & \text{if } w \notin L \\ 1 & \text{if } w \in L \end{cases}$$

transitions: \rightarrow one per character



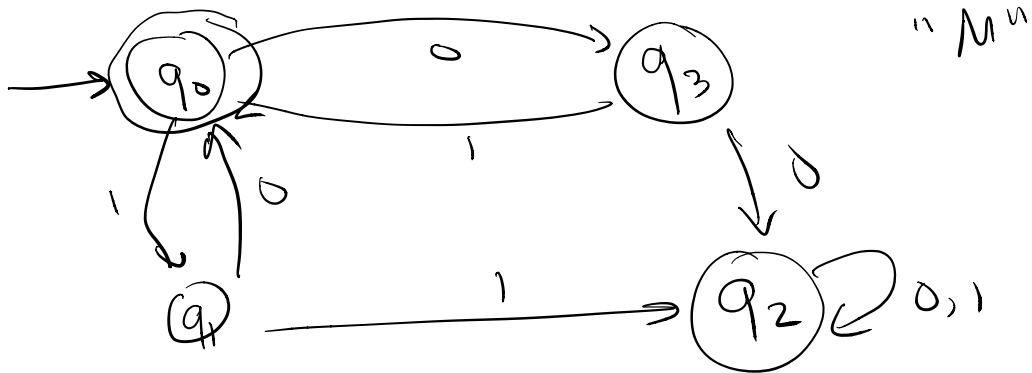
one pass over input string



10110
 → → → → →

"walk" sequence of states in a DFA following transitions labeled by chars in w

Def DFA accepts w if (unique) walk defined by w end is an accepting state.



1 0 1 1 0
 $q_0 q_1 q_0 q_1 q_2 q_2$
 $\epsilon \rightarrow q_0$
 $q_0 \xrightarrow{0} q_3 \xrightarrow{0} q_0$

M does not accept 10110
 M accept ϵ
 M accepts 01

tcp state machine

