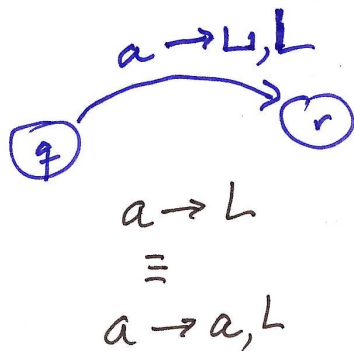


For input x TM accepts x if TM enters q_{acc}
rejects x if TM enters q_{rej}
doesn't halt (loops forever) if TM never reaches q_{acc} or q_{rej}

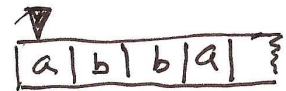
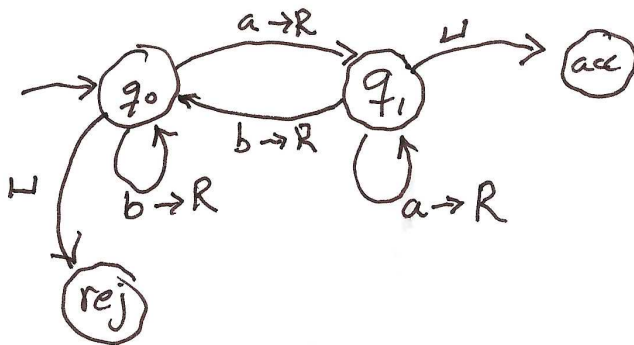


TM M recognizes the language $\{x \in \Sigma^* \mid M \text{ accepts } x\}$

TM M decides the language if ~~it recognizes~~ it recognizes the language and always halts.

Oct 23

Is $L = \{w \in \{a, b\}^* \mid w \text{ ends with "a"}\}$
 TM recognizable?
 TM decidable?



$q_0 a b b a \sqcup$
 $a q_1 b b a \sqcup$
 $a b q_0 b a \sqcup$

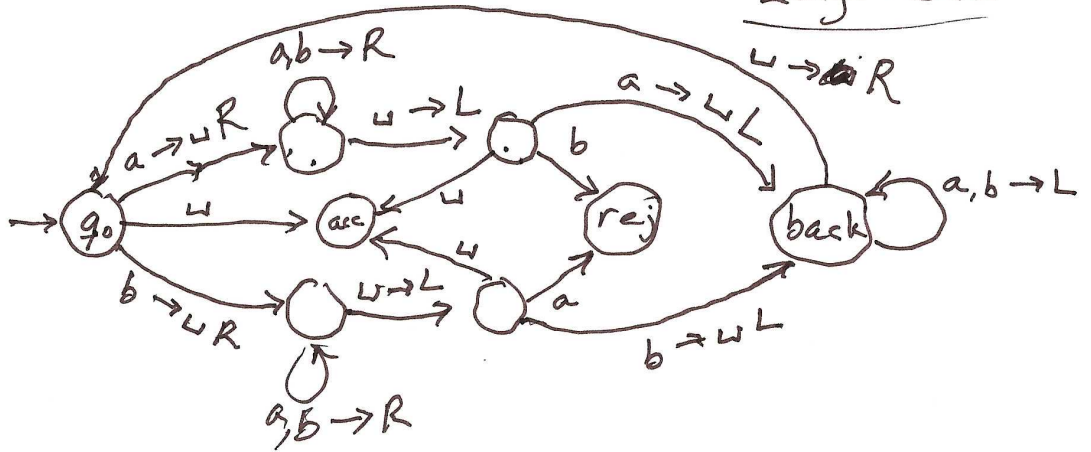
$$\text{Palindrome} = \{ w \in \Sigma^* \mid w = w^{\text{rev}} \}$$

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

$$(\sigma_1 \sigma_2 \dots \sigma_n)^{\text{rev}} = (\sigma_n \sigma_{n-1} \dots \sigma_1)$$

AMANA PLANACANALPANAMA

Leigh Mercer



Do a TM for $0^n 1^n \quad n \geq 0$