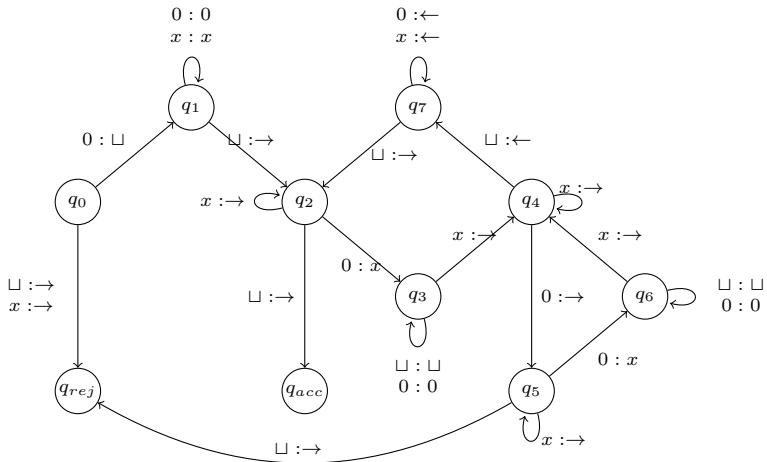


Fundamental Computer Science  
Turing Machines  
Training session

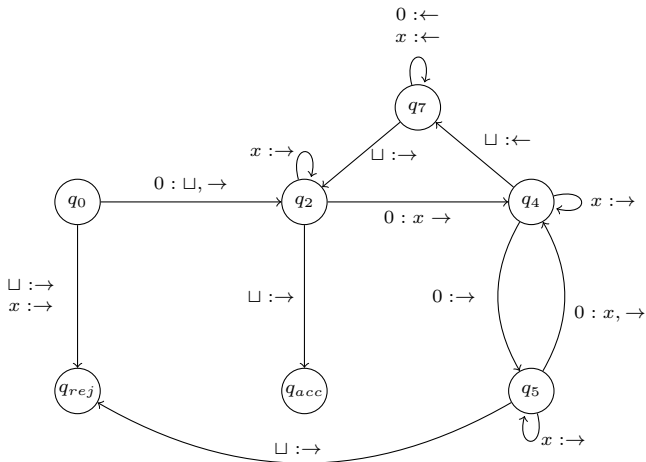
Denis Trystram

MoSIG1, 2020

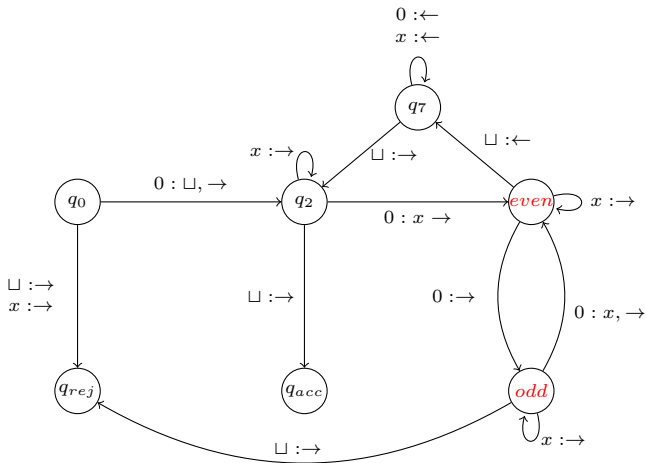
$$\Sigma = \{0\}, \quad \Gamma = \{0, x, \sqcup\}, \quad s = q_0, \quad H = \{q_{acc}, q_{rej}\}$$



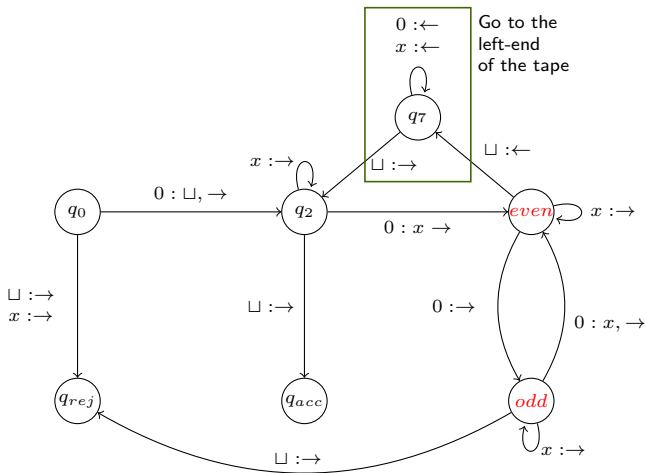
$$\Sigma = \{0\}, \quad \Gamma = \{0, x, \sqcup\}, \quad s = q_0, \quad H = \{q_{acc}, q_{rej}\}$$



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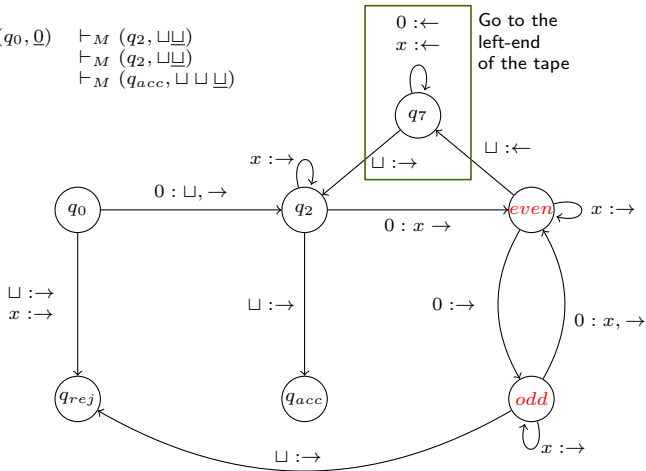


$$\Sigma = \{0\}, \quad \Gamma = \{0, x, \sqcup\}, \quad s = q_0, \quad H = \{q_{acc}, q_{rej}\}$$



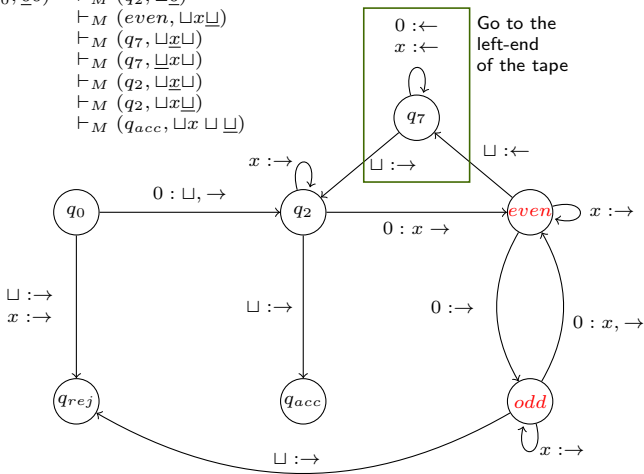
$$\Sigma = \{0\}, \quad \Gamma = \{0, x, \sqcup\}, \quad s = q_0, \quad H = \{q_{acc}, q_{rej}\}$$

$$\begin{aligned} (q_0, \underline{0}) &\vdash_M (q_2, \sqcup \sqcup) \\ &\vdash_M (q_2, \sqcup \sqcup) \\ &\vdash_M (q_{acc}, \sqcup \sqcup \sqcup) \end{aligned}$$



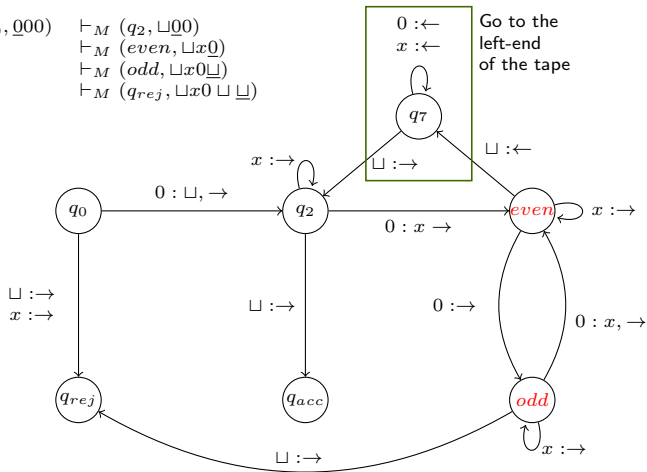
$$\Sigma = \{0\}, \quad \Gamma = \{0, x, \sqcup\}, \quad s = q_0, \quad H = \{q_{acc}, q_{rej}\}$$

$(q_0, \underline{00}) \vdash_M (q_2, \sqcup 0)$   
 $\vdash_M (even, \sqcup x \sqcup)$   
 $\vdash_M (q_7, \sqcup x \sqcup)$   
 $\vdash_M (q_7, \sqcup x \sqcup)$   
 $\vdash_M (q_2, \sqcup x \sqcup)$   
 $\vdash_M (q_2, \sqcup x \sqcup)$   
 $\vdash_M (q_{acc}, \sqcup x \sqcup \sqcup)$



$$\Sigma = \{0\}, \quad \Gamma = \{0, x, \sqcup\}, \quad s = q_0, \quad H = \{q_{acc}, q_{rej}\}$$

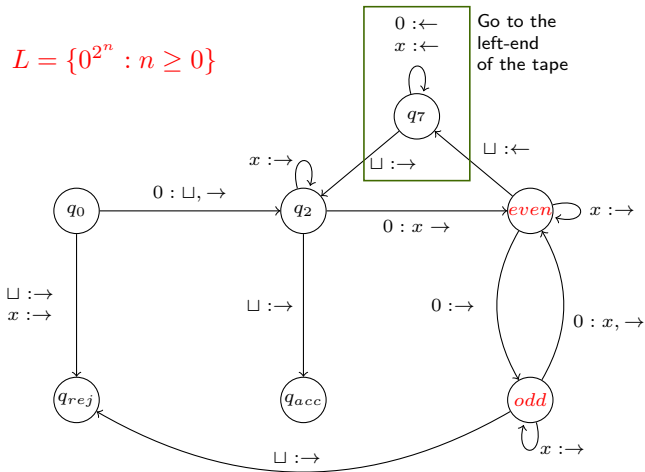
$(q_0, \underline{000}) \vdash_M (q_2, \sqcup\underline{00})$   
 $\vdash_M (even, \sqcup x \underline{0})$   
 $\vdash_M (odd, \sqcup x 0 \underline{\sqcup})$   
 $\vdash_M (q_{rej}, \sqcup x 0 \sqcup \underline{\sqcup})$





$$\Sigma = \{0\}, \quad \Gamma = \{0, x, \sqcup\}, \quad s = q_0, \quad H = \{q_{acc}, q_{rej}\}$$

$$L = \{0^{2^n} : n \geq 0\}$$



# Little Pause

An application to draw and play with Turing Machines:

<http://www.jflap.org/>