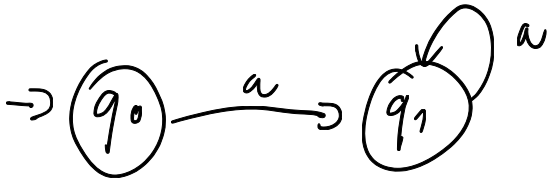
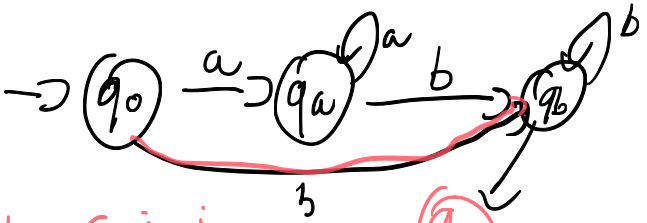
$L = \{ a^n \mid n \in N^+ \}$

Gramatika $\Rightarrow a, a^2, a^3, a^4 \ldots$
↳ Generuje

Automat $\Rightarrow a \checkmark$; $ba \times$; $a^2 \checkmark$
↳ rozpoznává



$L_1 = \{ a^i b^j \mid i, j \in N^+ \}$

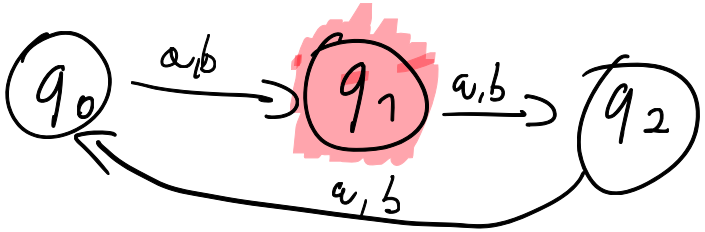


$L_2 = \{ a^i b^j \mid i, j \in N \}$ q_z

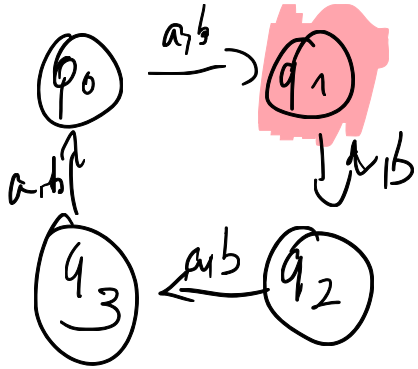
	a	b
q_0	q_a	q_b
q_a	q_a	q_b
q_b	q_z	q_b
q_z	q_z	q_z

$$L_2 = \{ w \in \{a,b\}^* \mid |w| = 3k+1 \} \wedge k \in \mathbb{N}$$

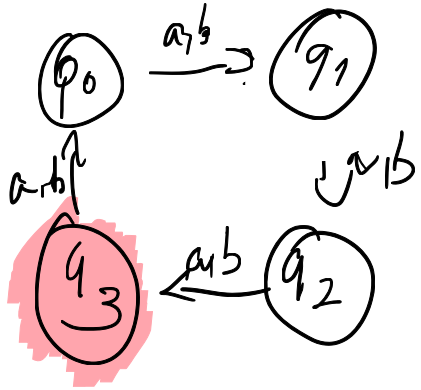
#stavov → akceptační stav



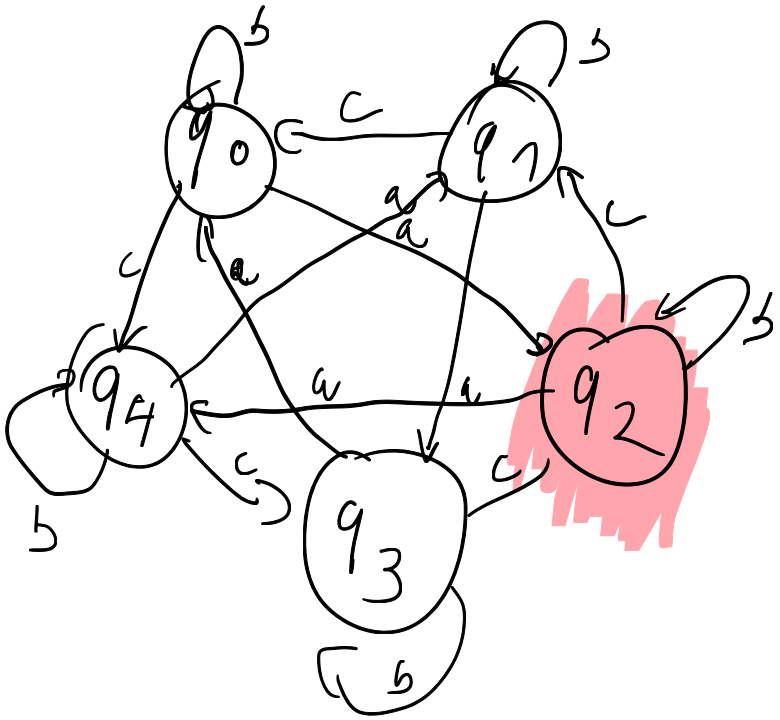
$$L_2' = \{ w \in \{a,b\}^* \mid |w| = 4k+1, k \in \mathbb{N} \}$$



$$L_3 = \{ w \in \{a,b\}^* \mid |w| = 4k+3, k \in \mathbb{N} \}$$



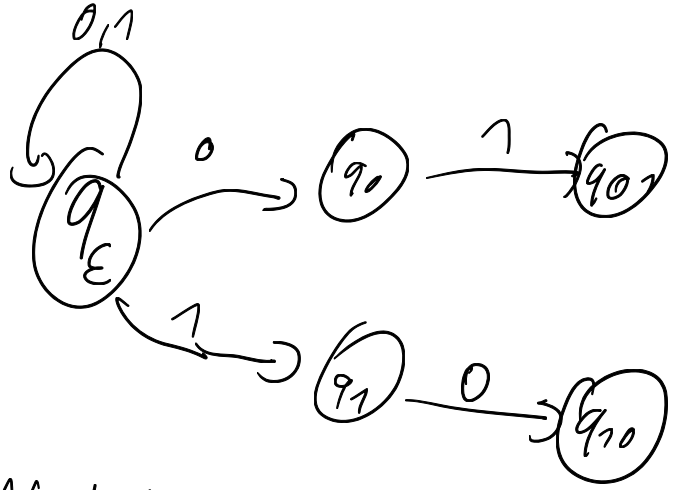
Ex. $L_2' = \{ w \in \{a,b,c\}^* \mid k \cdot \#_a(w) - \#_c(w) = 5k+2 \}$



$\exists k \; |w_a| - |w_c| = 5k+2$

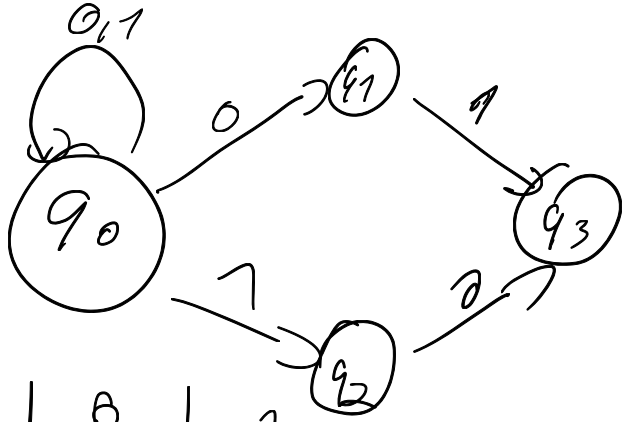
NFA: $L = \{ w \in \{0,1\} \mid$ na posl. 2 místech právě jedno 0 $\}$

$= \{10, 01, 110, 010, \dots\}$



Nedeterministický

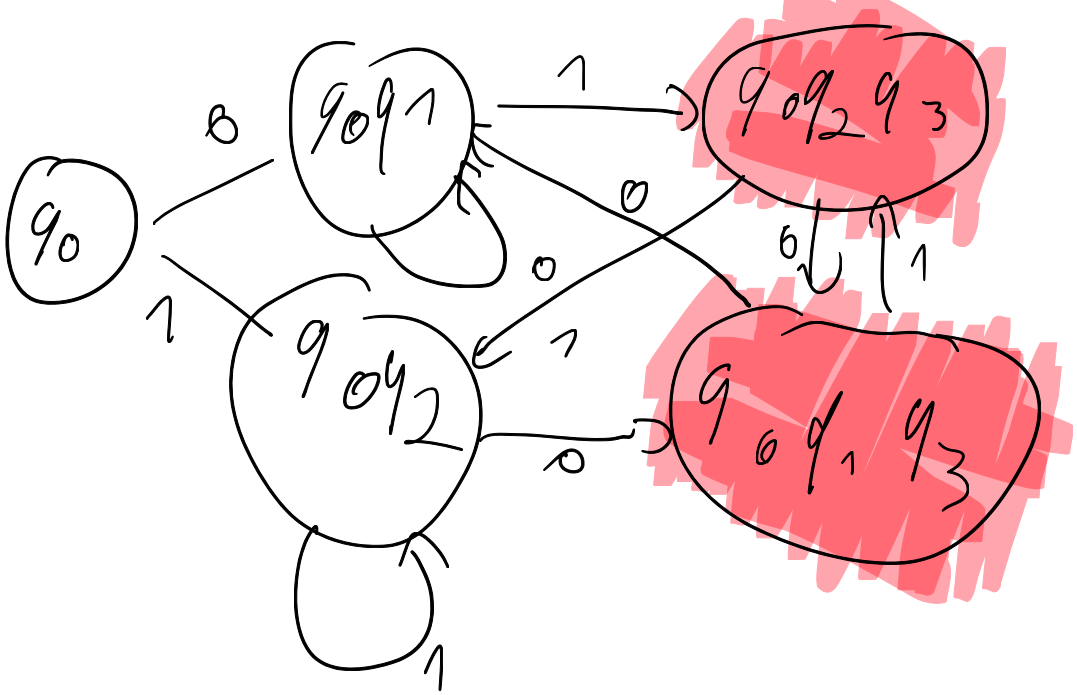
$\Leftrightarrow$



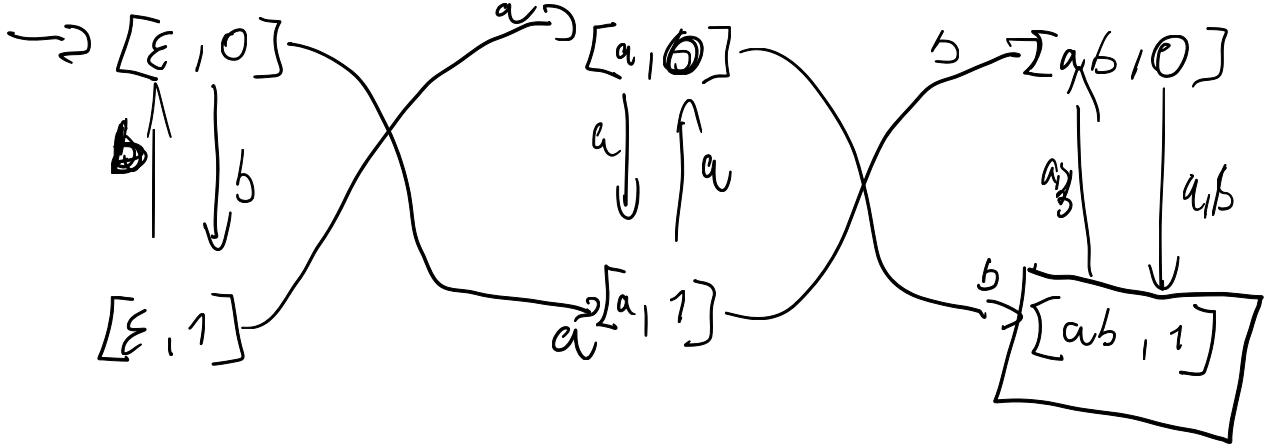
	0	1
q_0	$\{q_0, q_1\}$	$\{q_0, q_2\}$
q_1	—	q_3
q_2	q_3	—
q_3	—	—

	0	1
q_0	$q_0 q_1$	$q_0 q_2$
$q_0 q_1$	$q_0 q_1$	$q_0 q_2 q_3$
$q_0 q_2$	$q_0 q_1 q_3$	$q_0 q_2$
* $q_0 q_2 q_3$	$q_0 q_1 q_3$	$q_0 q_2$
* $q_0 q_1 q_3$	$q_0 q_1$	$q_0 q_2 q_3$

hedeterm. na determ.

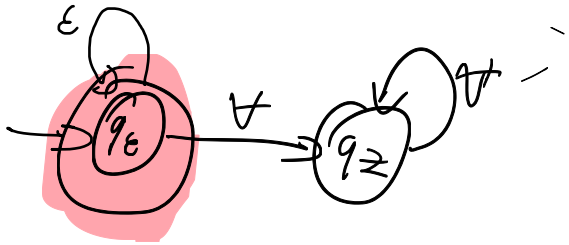

q_0
q_0q_1
$q_0q_2q_3$
q_0q_2
$q_0q_1q_3$
0
1
0
1
0
1
0
1
0
1

$$L = \{ w \in \{a,b\}^* \mid |w| = 2k+1 \wedge w = wabv \wedge wv \in \{a,b\}^* \}$$



D.Ú.

*$L_\emptyset = \emptyset$

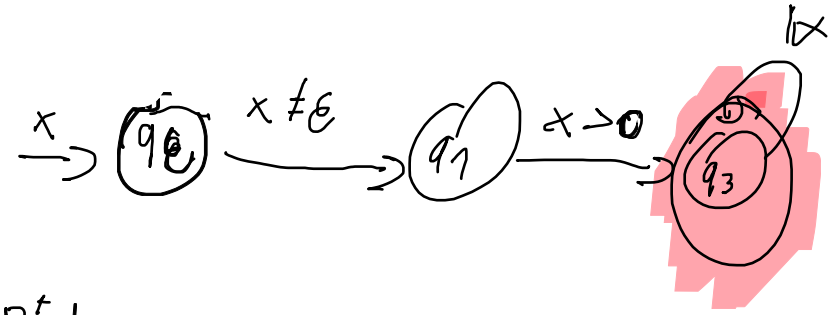


1.) R^+

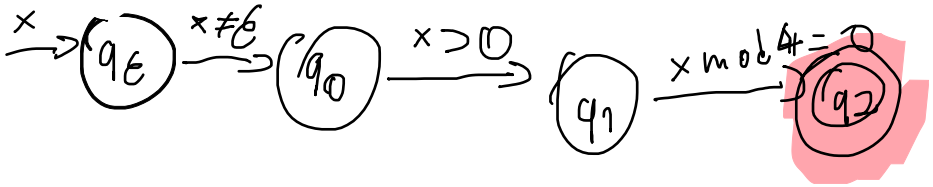
2.) $R^+ \mid 4$

3.) $L = \{w \in \{a,b\}^* \mid 2\#_b + \#_a \neq 3\mathbb{Z}+1\}$

1.) R+



2.) $R^+ \mid 4$



3.) $L = \{ w \in \{a,b\}^* \mid 2\#_b + \#_a \neq 3\mathbb{Z}+1 \}$