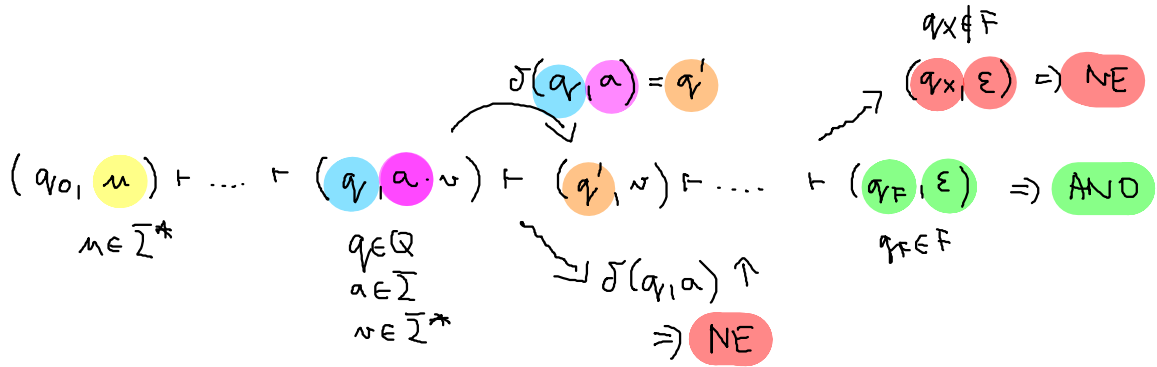


DKA

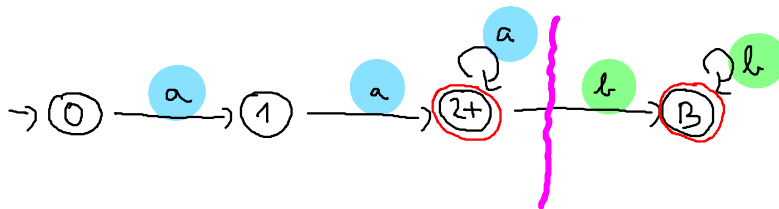
$(Q, \Sigma, \delta, q_0, F)$
 $\hookrightarrow F \subseteq Q$

$\hookrightarrow q_0 \in Q$
 $\hookrightarrow \delta: Q \times \Sigma \rightarrow Q$



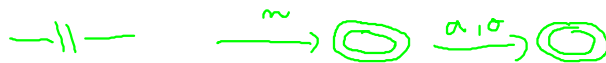
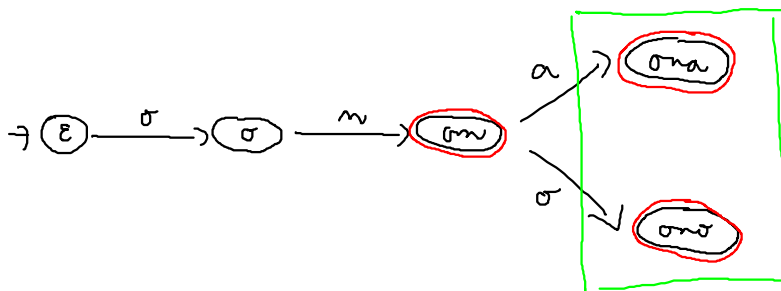
1.1

$a^i b^j: i > 1, j > 0$

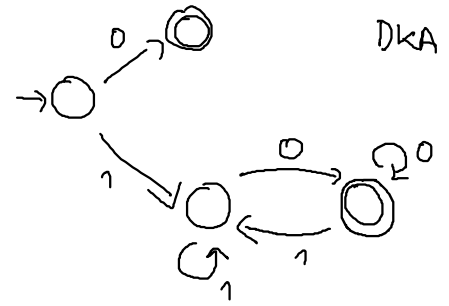
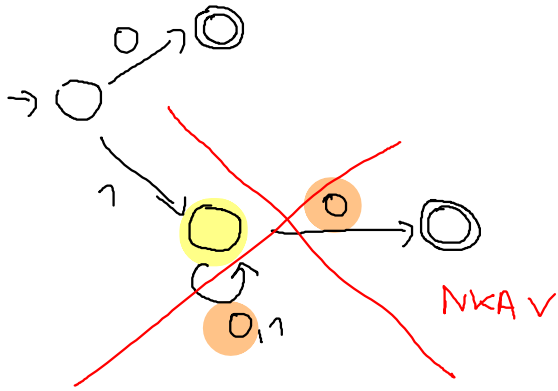


$(\{0, 1, 2+, B\}, \{a, b\}, \{(0, a, 1), (1, a, 2+), \dots, (B, b, B)\}, 0, \{2+, B\})$

1.2



1.3

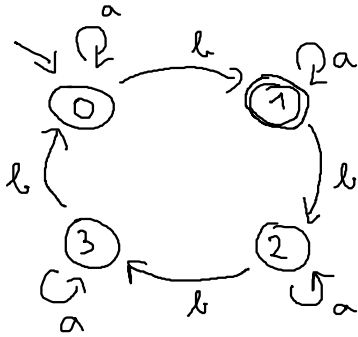


NKA

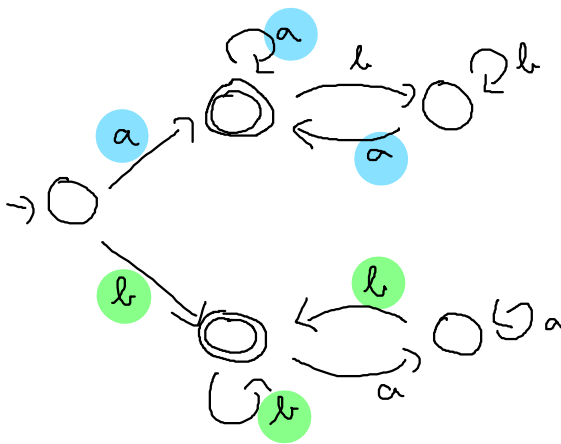
$$\delta: Q \times \Sigma \rightarrow P(Q)$$

2^Q

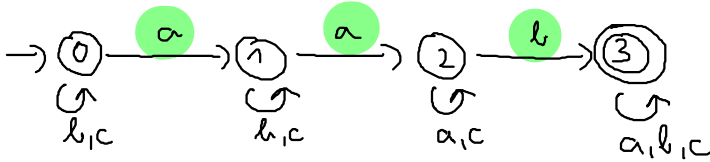
1.4



1.5

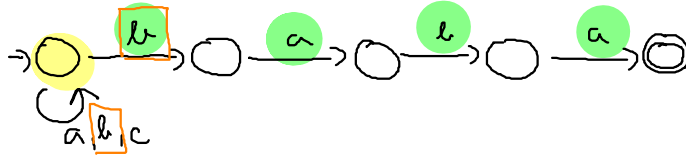


2.1 aab

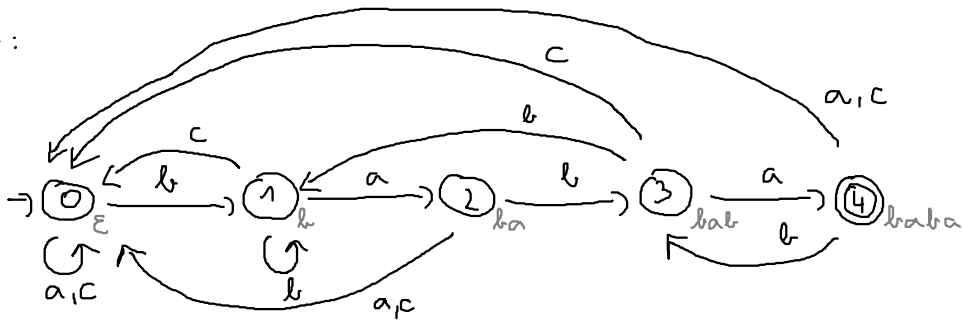


2.3 baba

a) NKA:

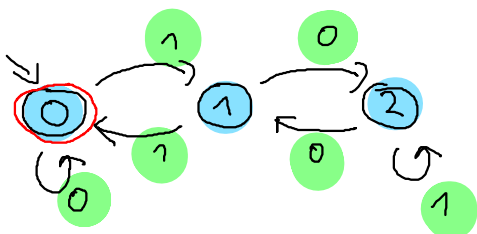
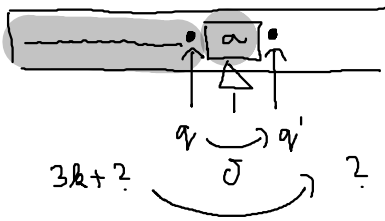


b) DFA:



$\underline{\underline{\underline{baba a}}}$
 $\underline{\underline{\underline{babdc}}}$
 $\underline{\underline{\underline{babab}}}$
 $abab \neq baba$
 $bab \checkmark$

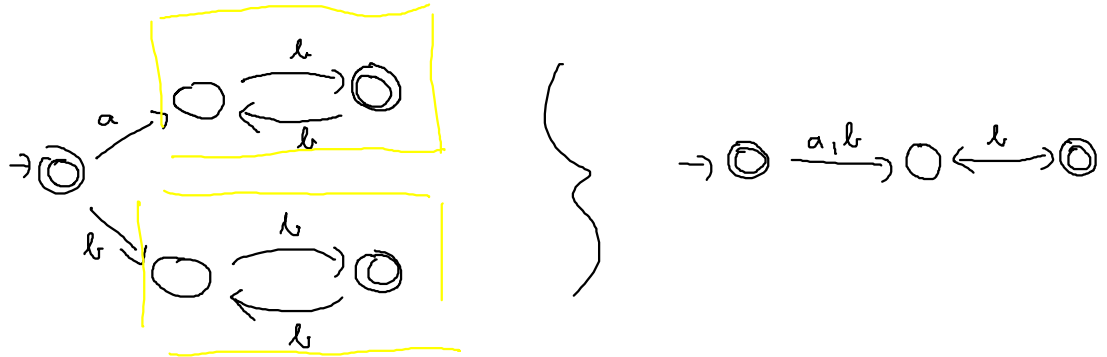
3.1



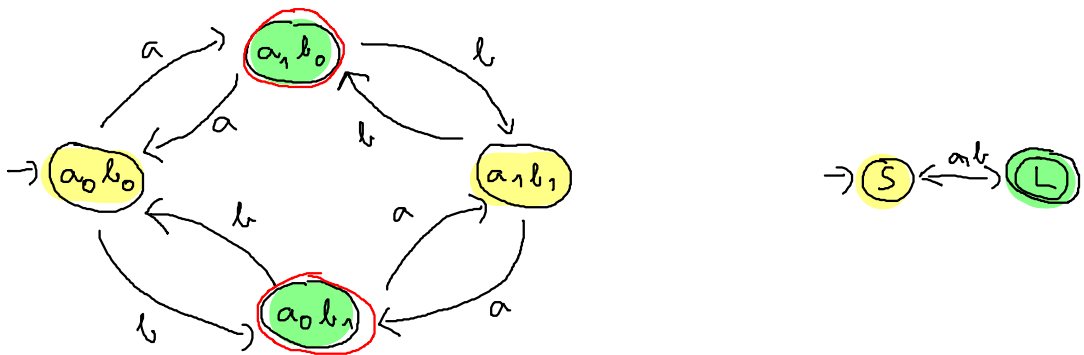
$$\begin{aligned}
 (3k+0) \cdot 2 + \begin{cases} 0 \\ 1 \end{cases} &= \begin{cases} 3(2k) + 0 \\ 3(2k) + 1 \end{cases} \\
 (3k+1) \cdot 2 + \begin{cases} 0 \\ 1 \end{cases} &= \begin{cases} 3(2k) + 2 \\ 3(2k+1) + 0 \end{cases} \\
 (3k+2) \cdot 2 + \begin{cases} 0 \\ 1 \end{cases} &= \begin{cases} 3(2k+1) + 1 \\ 3(2k+1) + 2 \end{cases}
 \end{aligned}$$

3.2

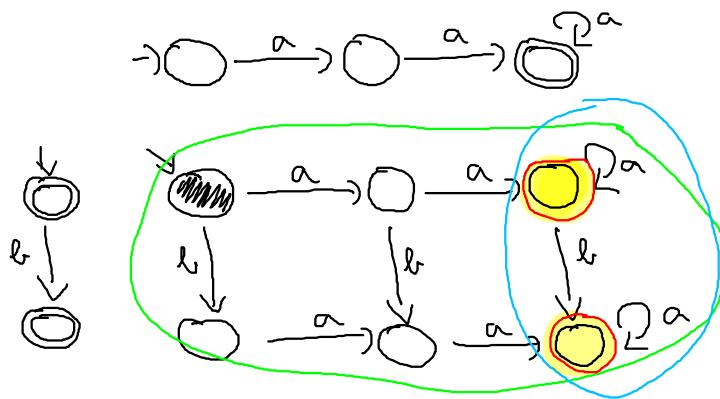
$a^i b^j$: $i = j \pmod 2$
 $\in \{0, 1\}$



3.3



3.4



①

| | | a | b |
|--------------|--------------|--------------|--------------|
| → | 0 | 1 | |
| ← | 1 | 5,6 | 0,1 |
| | 2 | | |
| ← | 2 | 2 | 4 |
| ← | 3 | | 3 |
| | 5 | | 6 |
| ← | 6 | 2,6 | 6 |

DOSAŽITELNÉ

- { 0 }
- { 1, 1 }
- { 1, 5, 6 }
- { 1, 2 }

⇓

NEDOSAŽITELNÉ

- { 3, 4 }

②

| | | a | b |
|---|--------------|-----------------|--------------|
| → | 0 | 1 | |
| ← | 1 | 0, 2 | 2 |
| | 2 | | 3 |
| | 3 | | |
| | 4 | 4 | 5 |
| ← | 5 | 5 | |
| | 6 | 4 | 5 |

UŽITEČNÉ

- { 1, 5 }
- { 1, 0, 4 }
- { 1, 6 }

⇓

ZBYŤEČNÉ

- { 2, 3 }