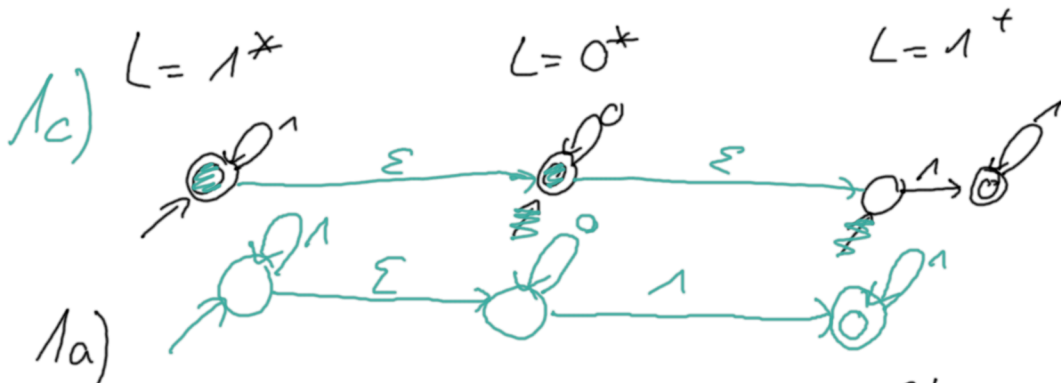


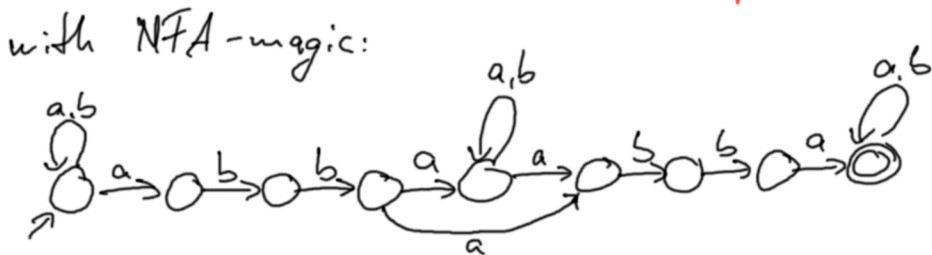
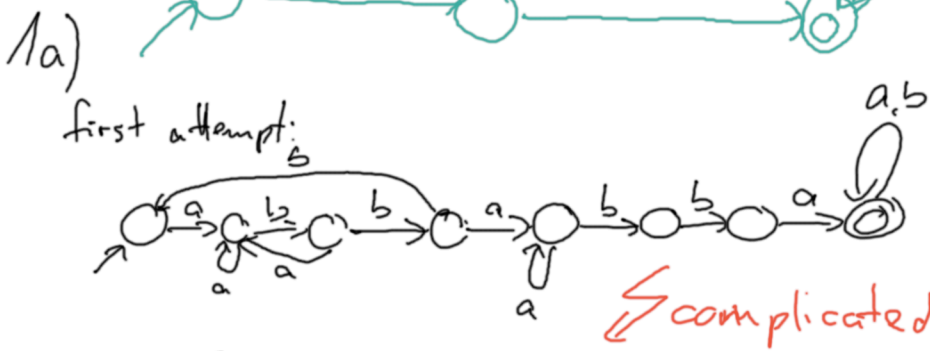
Recap NFA:

- allows under-/overdetermined δ -function
- allows ϵ -edges

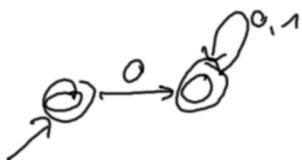
$$L = \emptyset \quad L = \{\epsilon\} \quad \Sigma \supseteq \{a, b, c\}$$



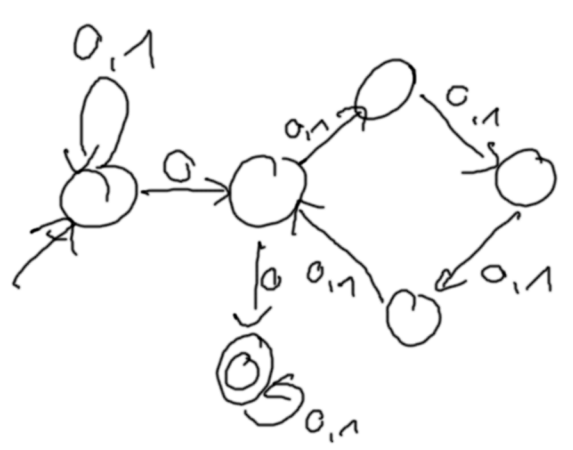
not small enough (but simple!)



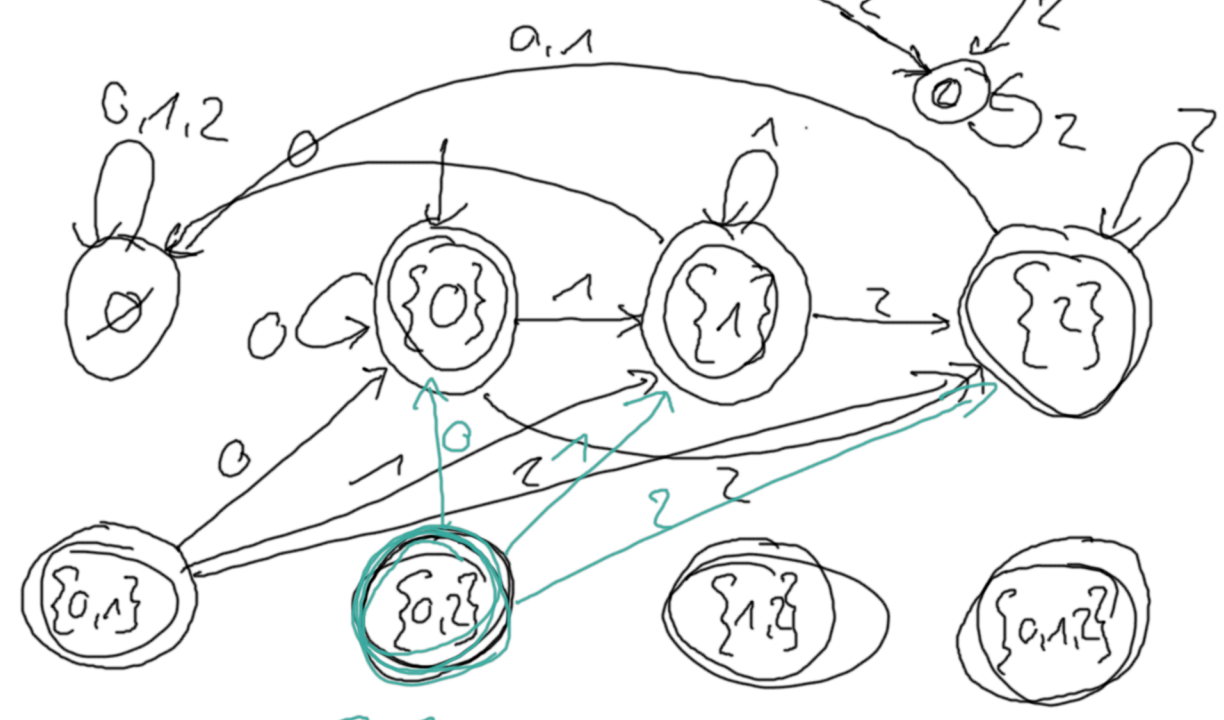
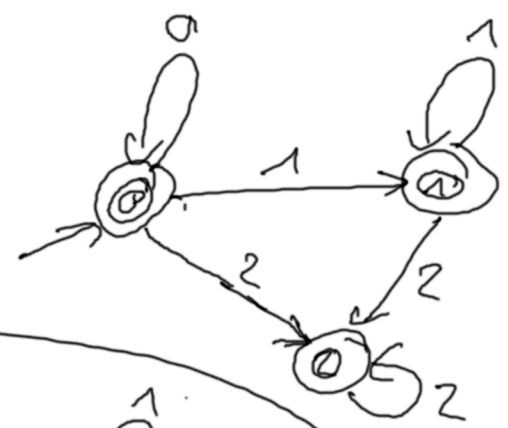
$$\begin{aligned}
 &1b) \quad (00 \cup 0(0 \cup 1)^*)^* \quad | \quad 00 \leq 0(0 \cup 1)^* \\
 &= (0(0 \cup 1)^*)^* \\
 &= \epsilon \cup 0(0 \cup 1)^* \quad (01^*)^*
 \end{aligned}$$



2) $\Sigma = \{0, 1\}$ $L = \{w \mid w = p0^x s, p, s \in \Sigma^*, x \in \{0, 1\}^{4i}, i \in \mathbb{N}_0\}$



3a) $0^* 1^* 2^*$



$\{1\} \cup \emptyset = \{1\}$