Exercises to the lecture
Algorithmic Automata Theory
Sheet 6

Exercise 6.1 (Construction of NBAs)
Construct NBAs for the following languages over $\Sigma = \{a, b, c\}$.

   a) $L_1 = \{v \in \Sigma^\omega | |v|_a = |v|_b < \omega\}$.

   b) $L_2 = \{v \in \Sigma^\omega | |v|_a = \omega \wedge |v|_c = \omega\}$.

Exercise 6.2 (ω-regular languages and NBAs)
Show that a language is ω-regular if and only if it is recognized by an NBA.

Exercise 6.3 (Variant of Ramsey's Theorem)
Let $G = (V, E)$ be an infinite graph such that for each infinite set $X \subseteq V$ there are $v, v' \in X$ with $(v, v') \in E$. Prove that G contains an infinite complete subgraph.

Delivery until 04.06.2019 at 18:00 into the box next to 343 or in the class