NTIN071 A&G: List of requirements for the tutorial test

- Finite automaton for a given regular language (DFA, NFA, ϵ-NFA), extended transition function.
- Proof of non-regularity (Pumping lemma for regular languages, Myhill-Nerode theorem, closure properties).
- State equivalence algorithm, construction of reduced DFA.
- Conversion of ϵ-NFA or NFA to DFA (subset construction).
- Conversion from regular expression to finite automaton and vice versa (including state elimination algorithm).
- Right-linear grammar for a given regular language, derivation.
- Conversion of right-linear grammar to finite automaton and vice versa.
- Context-free grammar for a given context-free language, derivation.
- Conversion of context-free grammar to Chomsky normal form.
- The CYK algorithm.
- Proof of non-context-freeness (Pumping lemma for context-free languages, closure properties).
- Construction of a pushdown automaton (acceptance by final state, empty stack, conversion between them), sequence of configurations.
- Conversion of context-free grammar to pushdown automaton.
- Turing machine for a given language, sequence of configurations.
- Classification of a language into Chomsky hierarchy: it is enough to prove regularity, prove non-regularity and context-freeness, or prove non-context-freeness.