

2G1516 Formal Methods – HT05

Automata Framework + LTL translation

Exercises

Exercise 1 Give an explicit construction of a Buchi automaton accepting the ω -language

$$\{a\alpha \mid a \in \Sigma, \alpha \in L\}$$

from an automaton accepting L (Σ is the alphabet). □

Exercise 2 Give an explicit construction of a Buchi automaton accepting the ω -language

$$\{\alpha\beta \mid \alpha \in \Sigma^*, \beta \in L\}$$

from an automaton accepting L . □

Exercise 3 Translate the following LTL formulas to Buchi automata using the algorithm given in Peled and the slides:

1. $\langle \rangle []a$

2. $aU[]b$

□