



A. Podelski
S. Feo-Arenis
A. Nutz

December 11th, 2012
Discussion: December 18th, 2012
Room: 101 SR 01-016

Tutorials for Cyber-Physical Systems I - Model Checking Exercise sheet 5

Exercise 1: ω -regular expressions

- (a) Let $\Sigma = \{send, ack, idle\}$. Give an ω -regular expression or an NBA that represents each of the following properties:
- (i) There is no *ack* before the first *send*.
 - (ii) From some point on there is only *idle*.
 - (iii) There is a *send*, which is eventually followed by an *ack*.
 - (iv) There are only finitely many *sends*.
 - (v) There are infinitely many *ack*.
 - (vi) Every *send* is eventually followed by an *ack*.
- (b) Which one of the formalisms do you consider most intuitive for each case? why?

Exercise 2: Lecture Evaluation (optional)

We would like to make sure you are following the lecture and having fun at the same time.

- (a) What can we improve about the lecture?
- (b) Briefly name the main concepts that you have found interesting and what you have learned about them during the last lectures.