

**Formal Languages and Automata Theory, SS 2017. Homework 6 (due Week 13, respectively 14)**

1. Consider the PDA with acceptance by final state from Course 11, slide 8. How does it work for the input 11000, respectively, 110011?
2. Construct a PDA with acceptance by empty stack which recognizes palindromes. How does it work for the input 11000, respectively, 110011?
3. Consider the PDA from Course 11, slide 11 in which the transition from  $q_1$  to  $q_0$  is erased. How does it work for the input  $((())())()$ ?
4. Consider the PDA's from Course 11, slide 14. What is the difference between them? How do they work for the input  $((())())()$ , respectively  $((())())()$ ?
5. Consider the language  $L = \{a^n b^n | n \geq 1\}$ .
  - Give a CFG and a PDA for it.
  - From the CFG construct the PDA. What kind of PDA do you obtain?
6. Construct PDAs for the languages from Homework 5.