

Compe 350 - Summer 2014
PS# 3

18.07.2014

Chapter 2

- 2.4 Give context-free grammars that generate the following languages. In all parts the alphabet Σ is $\{0, 1\}$.
- b) $\{w \mid w \text{ starts and ends with the same symbol}\}$
 - c) $\{w \mid w \text{ the length of } w \text{ is odd}\}$
 - e) $\{w \mid w = w^R\}$
 - f) The empty set.
- 2.5 Give informal descriptions of pushdown automata for the languages in Exercise 2.4.
- 2.6 Give a context-free grammar generating the following language.
- b) The complement of the language $\{a^n b^n \mid n \geq 0\}$.
- 2.8 Show that the class of context-free language is closed under the regular operations union, concatenation and star.