Finite Automata Theory and Formal Languages
TMV027/DIT321 – LP4 2016

Context-Free Grammars

Week 6

In these exercises, book sections, exercise numbers and pages refer to those in the third edition of the course book.

Basic exercises

1. Do exercises 5.1.1 a and b), and 5.1.3.

2. Do exercises 5.1.2 and 5.2.1.

3. Do exercise 5.1.7.

4. Do exercises 5.4.1, 5.4.3 and 5.4.5.

Additional exercises

1. Do exercises 5.1.4, 5.1.5 and 5.1.6.

2. Do exercises 5.2.2, 5.2.3 and 5.2.4.

   Note for exercises 5.2.2 and 5.2.3: What we called "node" in the lecture the book calls "internal node". By nodes the book means either an internal node or a leaf.

3. Do exercises 5.3.1 and 5.3.2.

4. Do exercises 5.4.2, 5.4.6 and 5.4.7.

Programming Exercises

1. Design a good data structure for grammars.

2. Program all the different steps involved in the simplification of a grammar.

3. Program the conversion of a (simplified) grammar into a grammar in CNF.