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

Context-Free Languages

Week 7

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 7.1.2 and 7.1.3.

2. Do exercise 7.2.1 parts a), b) and d).

3. Do exercises 7.3.1 parts a) and b), and 7.3.2.

4. Do exercise 7.4.1 part a)

5. Do exercise 7.4.3.

Additional exercises

1. Do exercises 7.1.1 and 7.1.4– 7.1.6.

2. Do exercises 7.1.9 and 7.1.10.

3. Do exercises 7.2.1 parts e) and f), and 7.2.2.

4. Prove that the language $\mathcal{L} = \{0^n 1^m 0^n 1^m \mid n, m \geqslant 0\}$ is not a CFL.

5. Do exercise 7.3.4 parts a), b) and c).

6. Do exercise 7.3.6.

7. Do exercise 7.4.4.

Programming Exercises

1. Program the CYK algorithm to test membership in a CFL.