Homework 1

1. **(Optional)** If you want to run the code presented in the lectures, install the Scala programming language available (for free) from

   `http://www.scala-lang.org`

2. **(Optional)** Have a look at the crawler programs. Can you find a usage for them in your daily programming life?

3. Read the handout of the first lecture and make sure you understand the concepts of strings and languages.

4. In the context of the AFL-course, what is meant by the term *language*?

5. Give the definition for regular expressions. What is the meaning of a regular expression?

6. Assume the concatenation operation of two strings is written as $s_1 @ s_2$. Define the operation of *concatenating* two sets of strings.

7. How is the power of a language defined? (Hint: There are two rules, one for $\_^0$ and one for $\_^{n+1}$.)