Section 1.4: Non-regular Languages and the Pumping Lemma


Definitions

Define each of the following concepts:

(a) Pumping Lemma for regular languages

(b) Pumping length

(c) Finite state transducer, FST

Results

Sketch the proof of the following theorem:

The language $L$ is regular iff
(i) $L$ is accepted by a DFA
(ii) $L$ is accepted by an NFA
(iii) $L$ is described by a regular expression.

Exercises

We will attempt to solve each of the following exercises as a community project in class today. Finish these solutions as homework exercises, write them up carefully and clearly, and hand them in at the beginning of the next class.

*Exercises for Section 1.4, pages 86–88: 17, 18, 19, 20, 21, 22*