Foundations of Informatics: a Bridging Course

Week 3: Formal Languages and Processes
Kick-Off Meeting
March 11–15, 2024

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RWTH Aachen University

`https://moves.rwth-aachen.de/teaching/ws-23-24/foi/`

Overview

- **Part A: Regular Languages**
  - Introduction to Formal Languages
  - Deterministic and Nondeterministic Finite Automata
  - Regular Expressions and Languages
  - Closure and Decidability Properties
- **Part C: Context-Free Languages**
  - Context-Free Grammars and Languages
  - Relation to Regular Languages
  - Pushdown Automata
  - Closure and Decidability Properties

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Schedule

Monday, March 11:

- 09:00–09:30 Kick-off meeting
- Rest of day: Self-paced learning (Regular Languages)

Tuesday, March 12:

- 09:00–10:30 Questions & exercises
- Rest of day: Self-paced learning (Regular Languages)

Wednesday, March 13:

- 09:00–10:30 Questions & exercises
- Rest of day: Self-paced learning (Context-Free Languages)

Thursday, March 14:

- 09:00–10:30 Questions & exercises
- Rest of day: Self-paced learning (Context-Free Languages)

Friday, March 15:

- 09:00–11:00 Questions, exercises & closing

Exam

- **Face-to-face** in **oral** form
- In **week 18/19** (April 29–May 10), Mon/Fri
- Either at **Aachen** (CS Department) or **Bonn** (b-it)
- Respectively register via **RWTHonline**!

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Resources

- Videos and slides on `https://moves.rwth-aachen.de/teaching/ws-23-24/foi/`
- Moodle course with quizzes
- Textbooks:
  - J.E. Hopcroft, R. Motwani, J.D. Ullmann: *Introduction to Automata Theory, Languages, and Computation*, 2nd ed., Addison-Wesley, 2001
  - A. Asteroth, C. Baier: *Theoretische Informatik*, Pearson Studium, 2002 [in German]
- JFLAP (software for experimenting with formal languages and automata)
- Theory of Computation online course

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