Script **generated by TTT**

Title: Petter: Compiler Construction (20.04.2020)

Date: Mon Apr 20 16:07:36 CEST 2020

Duration: 28:14 min

Pages: 7

TECHNISCHE UNIVERSITÄT MÜNCHEN
FAKULTÄT FÜR INFORMATIK

Compiler Construction I

Dr. Michael Petter

SoSe 2020

Organizing

- Master or Bachelor in the 6th Semester with 5 ECTS
- Prerequisites
  - Basic Programming: ***Java***
  - *Introduction to Theory of Computation*
  - Basic Principles: Operating Systems and System Software
  - Automata Theory
- Delve deeper with
  - Virtual Machines
  - Programm Optimization
  - Programming Languages
  - Labcourse Compiler Construction

Materials:

- TTT-based lecture recordings
- The slides
- Related literature list online (⇒ Wilhelm/Seidl/Hack Compiler Design)
- Tools for visualization of abstract machines (VAM)
- Tools for generating components of Compilers (JFlex/CUP)

Flipped Classroom

... is a concept to focus more on students learning process – and fits quite well into plague time.

Content delivery:

- Mandatory recordings:
  `http://ttt.in.tum.de/lectures/index_ws.php?year=20&s=true#COMP`
- Presented as lessons
- To be prepared single-handedly within a week
- Starting Apr 23rd

Virtual Classroom:

Thursdays 14:00-16:00 via bbb.in.tum.de, starting Thu, Apr 23rd

- Discussion
- AMA (Ask me [almost] Anything)
- Content Practice
- Further Insights

Flipped Classroom

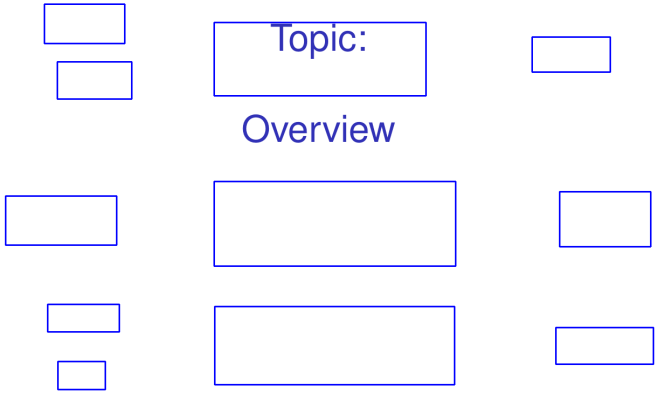
Tutorial:

Monday 14:15-15:45 via either bbb.in.tum.de or tum-conf.zoom.us (will be announced on Moodle)

- Exercise sheet released each week to be solved at home
- In the tutorial: Discussion of the solution and your questions
- Recording of tutorial will also be published
- First session: May 4th
- For questions about the tutorial, email Michael Schwarz at m.schwarz@tum.de
- All information about the tutorial and exercise sheets:
  `https://www.moodle.tum.de/course/view.php?id=53342`

Exam:

- **One Exam** in the summer, *none* in the winter
- The date will be announced by the central examination committee



Interpretation vs. Compilation

Interpretation

- No precomputation on program text necessary
  ⇒ no/small startup-overhead
- More context information allows for specific aggressive optimization

Compilation

- Program components are analyzed once, during preprocessing, instead of multiple times during execution
  ⇒ smaller runtime-overhead
- Runtime complexity of optimizations less important than in interpreter

Compiler

General Compiler setup: