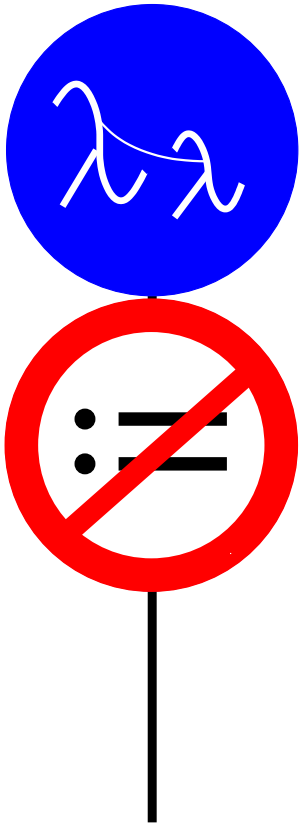
Functional Programming



Teaching Personnel

Lectures: Martin Griebl

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Exercises: Armin Größlinger

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Dates

Lectures:	Tue 16–18 (s.t. ??)
Exercises:	Wed 12 -14
	Thu 10–12
	Select your group in Stud.IP
Exam:	Mon, 31.07.2023, 15–17
	Duration: 90 minutes
	Registration (and cancellation) via HISQIS
Alternate exam:	Wed, 04.10.2023, 15–17

Course Contents

1. Introduction: motivation and historical development
2. Basic features of the programming language Haskell
3. Programming with combinators
4. Proof and synthesis of programs, list homomorphisms
5. λ-calculus and laziness
6. Aside: elementary lattice and fixpoint theory
7. Interpretation, abstract interpretation, type inference
8. Monads, special arrays
9. Efficiency aspects

Important Advice Concerning the Assignments

Initially, the assignments will appear rather simple, but:

- One learns a programming language most effectively by solving many programming problems.
- The goal is less to develop an implementation of some problem solution than to understand
  1. how to arrive quickly and appropriately at a solution and
  2. the impact that program structure has on the quality of the solution.
- If you do not gain experience with the simple assignments, the demanding ones become a burden.
- If you remain passive, you lose touch more quickly than you might expect.