Programming Paradigms

Summer Term 2025

UNIVERSITÄT
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ESSEN

Open-Minded

Organisation

About us

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- **Lecturer:**
  Janis Voigtländer
  Area: Formal Methods, Programming Languages

- **Teaching Assistants:**
  Patrick Ritzenfeld
  Marcellus Siegburg
  Oliver Westphal

- **Student Assistants:**
  Jan Andermahr
  Niklas Mecke

About you

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To my knowledge, mainly:

1. **Bachelor Students “Angewandte Informatik”**
2. **Bachelor Students “Computer Engineering (ISE)”**

Some (relevant) lectures you have presumably attended:

- **Grundlegende Programmiertechniken (or ISE equival.)**
- **Fortgeschrittene Programmiertechniken (?)**
- **Logik (?)**
- **Softwaretechnik (?)**

About this lecture

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- In-class on Wednesdays, 08:15 – 09:45, in LB 131.
- Lecture videos exist from previous years, but they are only supplementary.
- The lectures will use slides, but also “live programming” and free form discussion of concepts.
- The content of this year’s course is what will be relevant for the exam.

The workload distribution

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60h „Präsenzleistung“ + 120h „Eigenleistung“

My attempt at translating this, during the lecture period:

- **1,5h per week in the Wednesday lecture**
- **2–3h per week for studying material**
- **2–3h per week for working on the exercise tasks (might happen in the lab with Oliver)**
- **1,5h per week in the exercise group**

Plus 60h exam preparation after the lecture period.

About the exercises

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- There are weekly exercise groups. Tasks will be given in advance, solutions submitted via Autotool, then discussed in the groups.
- Doing the exercises (on your own) is extremely important for being successful in the course and exam.
- In particular, there will be a focus on programming concepts and tasks. Such material cannot be learned by heart. It needs practice!

The exercises

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Tentative group slots, possibly some merging:

- **Mon, 10:00 – 12:00 or 12:00 – 14:00**
- **Mon, 16:00 – 18:00**
- **Tue, 10:00 – 12:00**
- **Thu, 10:00 – 12:00 and/or 12:00 – 14:00, 14:00 – 16:00**
- **Fri, 08:00 – 10:00**

Going to start in two weeks (I guess).

About feedback on exercise submissions

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- When you submit an exercise solution to Autotool, you will receive immediate feedback. Read it carefully!
- If you have individual questions on your submission or on Autotool's feedback, you can use an Autotool feature for direct interaction.
- After the submission deadline, your solutions might receive additional feedback (if necessary).
- Also, potentially bring up specific questions in the exercise groups.

About the “programming lab”

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- **New offer (experiment?) this semester:**

  Tuesday afternoon, “supervised programming” on the exercise tasks of the week.

- **Oliver will be there and provide assistance.**

- **In principle, free/spontaneous come-and-go, but if there turns out to be high demand, we might have to organize more strictly.**

Eventually, the exam

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- A written exam is planned for 28th August, at 15:30.
- The exam will be about the course as taught this term!
- The exam tasks will be given (only) in German.
- The exam will last 120 minutes.
- There are no bonus points for the exam.

Exam statistics of last summer

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- **Only students of “Bachelor Angewandte Informatik”:**

Versuch	1,0	1,3	1,7	2,0	2,3	2,7	3,0	3,3	3,7	4,0	∑	5,0
1.	2		2	2	1	1	1	3		4	16	16
2.					3	1		2		1	7	11
3.				1		2	1	2	1	2	9	2

About our use of Moodle

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Moodle for (among other things):

- Links to slides and literature
- Past lecture videos, and post-exercise videos
- Soon: installation instructions
- Exercise tasks (links to Autotool, CodeWorld, …)
- Old exams
- Possibly announcements

Concerning communication paths

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- In most cases, asking a question in presence makes more sense than sending an individual email to me or to the assistants/tutors.
- In case of specific questions on an exercise task: the Autotool “chat” feature.
- If emails are sent at all, they should come from your uni-due.de accounts (or may simply be ignored).
- On the other hand, you should check your uni-due.de mail account at least once per (work) day.
- Note: I will essentially cease communication after the lecture period (18th July).

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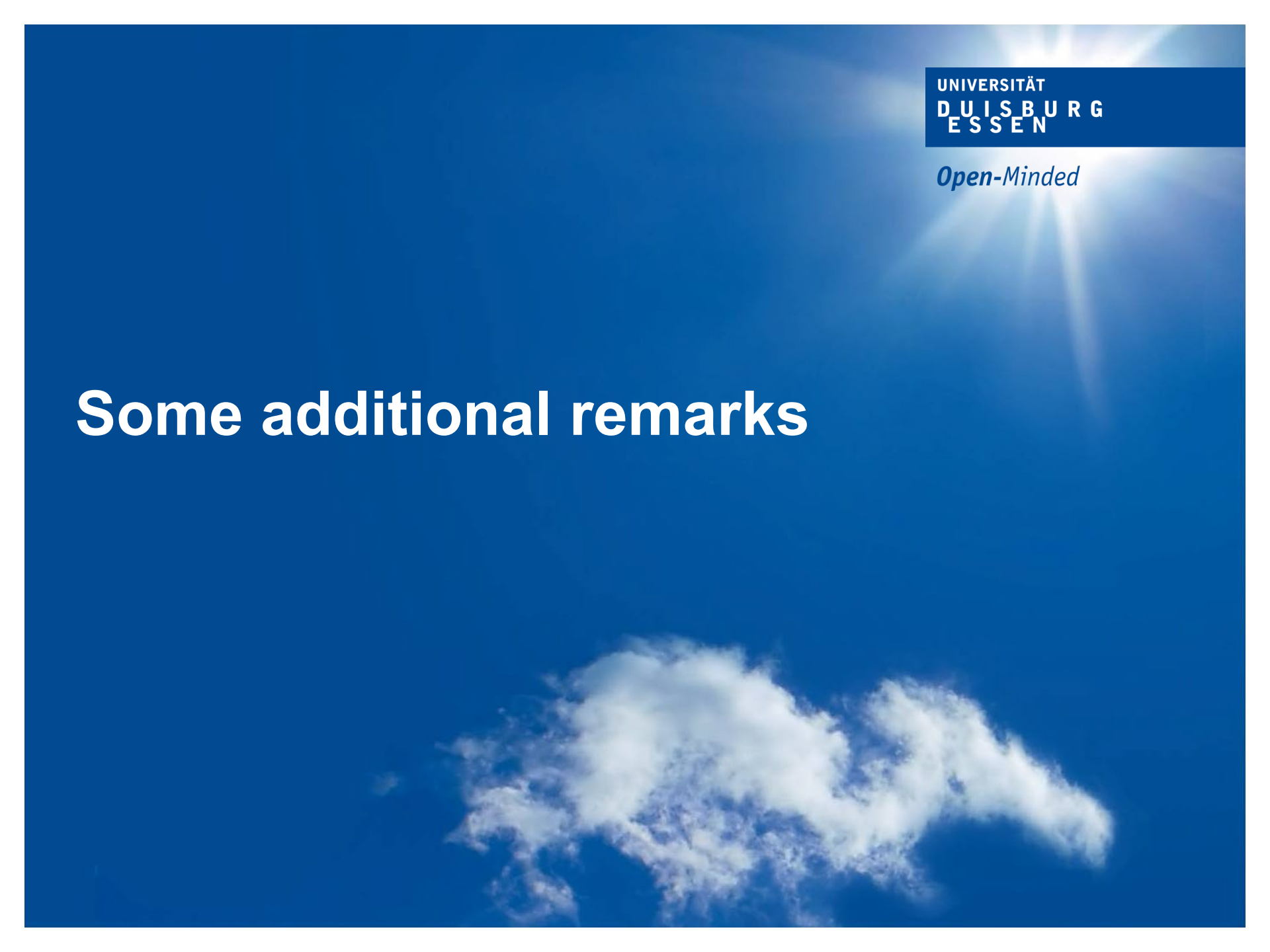
Some additional remarks



How to pass the course

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- Do actually learn the programming languages on offer.
- Do solve the exercise tasks each week.
  By programming on your own.
- Do not try to learn “just” for (and before) the exam.
  Take the mapped out workload seriously.

What my aims are with the course

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- Make you more competent programmers.
- Prepare you for programming in languages outside your “comfort zone”.
- If you are a Computer Science student, make sure that you eventually holding a Bachelor degree means you actually acquired competencies in different programming paradigms.
- Hence (maybe inconveniently for you), make sure that you can’t pass the exam without such competencies.