Systems Programming

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Tips for Opening the Slides

Recommendation

Based on experience, the slides and exercise sheets are best handled with a standalone PDF viewer, like Adobe Reader, or similar.

Warning

Opening the slides in a Webbrowser like Chrome, Edge, Firefox, etc., may prevent you from opening attachments. Attachments are marked with an icon:

Those may not appear in a browser.

Agenda & Contents 1

The course "Systems Programming" is made up of three parts in total:

1) Virtual lecture part, provided as videos, covering the following topics as time permits
   1. Introduction to C
   2. Basic Data Types and Structures (structs, enums, unions, ...)
   3. Compositional and User-Defined Data Types
   4. Control Flow and Functions
   5. Basic Formatted Input and Output
   6. Common programming errors and pitfalls

   Appendix:

   A Introduction to Makefiles
   B Integration of Assembler in C code
   C The standard C library

2) Physical practical course; attendance to which is compulsory.
   It is an integral part of the grading, based on:
   1. Weekly homework exercises to be completed and submitted from home
   2. Weekly Moodle quizzes to be completed in the class at JKU. The questions are about the homework, so that you essentially prepare for the quiz by doing the homework.
3) Virtual or physical Tutorials: optional weekly meetings with (older) students that can provide advice, guidance on the practials, answer questions, etc. This is a supplemental offer, but not compulsory to attend.

A general request: Ask questions if you need help!

Several options:

- Ask directly in the class
- Ask in the tutorial
- Use the anonymous feedback channel in Moodle. We will pick up the question and answer it either thorugh the Moodle forum or directly in the lecture (so that all people can benefit from the answer)
- Or send an email to meet your lecturer in the practical or tutor

Grading 1

- Every week, you will find an exercise sheet in Moodle, with electronic attachments → make sure to use a PDF reader that can open/extract the files.
- Each exercise sheets contains:
  - An optional warmup exercise (on some, but not necessarily all sheets). Completing this is voluntary, and shall only be of introductory aid for the real homeworks
  - Two mandatory homework exercises.
- You are welcome to complete the homework in groups of 2-3 people. However, be aware that the Moodle quiz about the homework is to be completed individually!
- Homework submission: you need to electronically submit (in Moodle) at least 50% of the exercise solutions in both halves of the semester. The division is based on the number of exercise sheets. For n sheets, the first 50% are counted over sheets $1, \ldots, \lceil n/2 \rceil$, and the second 50% are counted over the sheets no. $\lceil n/2 \rceil + 1, \ldots, n$.
- All submissions (homework and voluntary warmups), whether complete or just partial, count towards this threshold, irrespectively of your physical attendance to the class.
- The homework submission is a necessary requirement to get a mark better than 4.

Grading 2

- In each class, you will do a quiz (open book) with multiple-choice questions about the two homework exercises (no group work in the class).
  - The quiz can be done with pen and paper, however, you are welcome to bring your own laptop, tablet, ... to complete the Moodle quiz online.
  - If you do not have a mobile device to use for the Moodle quiz, please inform us 1 week before the class, so that we can print out the quiz sheet for you.
  - The online Moodle quiz will be open only during the practical session, and should be completed directly during the class.
  - The total score on all homework quizzes will be scaled into the range 0 ... 100.
- The final class in the last week is without homework, but dedicated to a final exam (closed book) covering all contents of the course. A maximum of 50 points achievable on the final exam.
- All quizzes (homework and final) score points that count towards a final total score for the grading.

- The grading is done by scaling the total points on all Moodle quizzes, relative to the maximum achievable points $\leq 150 = 100$ (homework) $+ 50$ (final exam), into a value $0 \leq s \leq 100\%$, and giving the final mark according to the following table:

Score s [%]	Mark
80 . . . 100	1
67 . . . 79	2
54. . . 66	3
41. . . 53	4
0. . . 40	5

Do not copy or share the homework quizzes

Although the quizzes are open book, we ask you to neither copy nor share the homework quizzes with other students of the same or future semesters. If we find any of our quizzes online somewhere, we will permanently exclude the respective questions from any future instance of the course.

Attendance

- In each class, you will need to sign an attendance sheet.
- If you are absent, the points on the Moodle quiz will be zeroed.
- Remote attendance via Zoom is admissible only in pre-defined exceptional cases.
- The attendance is implicitly covered by the need to score more than 40% of the overall points on the Moodle quizzes.

- Tutors (= higher semester students) are available to you as a contact person and advisor in the following cases:
  - Questions on the material or exercises
  - Feedback that you do not want to communicate directly (yourself)
- Tutorials are held weekly using Zoom. Dates, times and participation links can be found in Moodle.
- Participation is voluntary. There will be no knowledge assessment or other grading.

- The tutors are there to answer their questions, which you can ask in various ways, including:
  - In the Moodle forum reachable using the link "Ankündigungen und Diskussionsforum" by clicking on "Neues Thema anlegen".
    Such questions will be answered directly in the forum (if possible), so that the answer can help all participants.
  - Directly oral or over the chat in the Zoom session with the tutors.
  - In the tutorial there is also a virtual whiteboard available, which can be used as a "mutually useable scratchpad", not only by the tutor, but also by you.
- It is not the role of the tutors to provide you with solutions to the exercises, but they are allowed to give you hints.