DM553 (MM850) Spring 2024 – Weekly Note 1

Welcome to DM553 (MM850)!

The weekly notes and the lectures will be in English as we have non danish participants. If you have any problem understanding what I write or say, please do not hesitate to ask for a danish translation.

The weekly note will be published on the course web page and itslearning each week.

The note will contain information about what will be covered in the next week (lecture(s), exercises, as well as some comments about what we have covered in the current week.

Litterature

- Michael Sipser, Introduction to the theory of computation, 3rd edition Gengage learning. You should buy the book before the first lecture as we start with this.

- Cormen, Leiserson, Rivest and Stein, Introduction to algorithms, 3rd edition, MITpress. If you do not have this but instead the 4th edition let me know. Most of you will have the 3rd edition as it was used in DM507 in 2022.

Note that we start with the book by Sipser. This book was also used in DM565. If you did not buy it already do it now!

Instructor

Your instructor for the exercise/training classes is Magnus Berg Pedersen
email magbp@imada.sdu.dk

Course schedule:
See the faculty pages and Itslearning SDU

Videos and other information

During the Spring of 2021, because of Covid-19, I gave the course as an online course based on videos and my plan is to use the fact that I now have these videos. Hence unless we decide otherwise at the first lecture, I plan to use videos together with physical classes for the lectures. This will mean that some (but far from all!) physical lectures may be cancelled. If we agree on this way of conducting the course, the videos and the corresponding slides will be uploaded well before the corresponding physical class. The plan is then that you should read the material in the book (just as you would normally do before a lecture) and then watch the videos in advance and be ready to ask questions during the physical meetings. Here I will not go through everything in full detail but rather concentrate on the most difficult topics as well as to give an overview. You are also welcome to send me requests for things you would like detailed at the physical lecture.

NB: It is very important to note that, just as it is the case with physical lectures, the videos will often not cover all the material in the relevant sections of the book. Thus you must read all of the listed material in order to get a full understanding.

You are expected to read Sipser Chapter 0 yourself. We will not cover anything from that (explicitly) during the lectures.

Lecture in Week 5, 2024:

- We will discuss the use of videos.

- Introduction to the content of course.

- A very quick resume of Sipser Sections 1.1-1.3 as these things are covered in DM565 and by Video 1.

- Non-regular languages. Sipser Section 1.4 (here we will go much slower)