

DM551/MM851 – Fall 2023 – Weekly Note 12

This note covers both Week 49 and Week 50

Video lecture in Week 49

You should watch the video on Cormen 32.1-32.3. Do this no later than December 6th.

Lecture on December 7

- I will go through the main points in Cormen 13.1-13.3 based on the uploaded slides but I will not cover proofs.
- I will also cover Cormen 5.4.3 and discuss the main points in Kleinberg-Tardos Section 13.10

Lecture on December 12

I will give a resume of important points from the course and discuss the oral exam questions and give hints for the exam.

Question class (spørgetime)

I will hold a question class on zoom January 5th from 10.15 in IMADAs conference room.

Exercises in Week 50

- Selected problems from the second set of exam problems.
- Cormen 32.1-1, 32.1-4, 32.2-2, 32.3-2, 32.3-3, 32.3-4
- **Circular string matching in a text.** Suppose you are given a pattern P of length m and a text T of length $n \geq m$ as in the standard string matching problem. We want to find all occurrences of P in T where we allow 'wrap around', that is, if $P[1..i] = T[n - i + 1, .., n]$ and $P[i + 1, ..m] = T[1..m - i]$ for some $1 \leq i < m$, then this also counts as an occurrence of P in T . Suggest an algorithm for solving this efficiently. Can you use the string matching automaton? Hint: look in a larger string T' constructed from T .