



Introduktion til diskret matematik og algoritmer: Exam April 2, 2025

Submission: Please write your solutions with ample margins on all sides, and make sure your handwriting is legible. *Start your solution of every new problem on a new page. Please mark every page with your name, exam number or something else that uniquely identifies your exam*, so that it is easy to see for every page which exam submission it is part of.

Exposition: Please try to be precise in your solutions and refrain from vague statements. Never, ever just state an answer, but always make sure to *explain why* the answer is what it is. Provide clear references to any facts in the course literature used. *Write your solutions in such a way that a fellow student of yours could read, understand, and verify your solutions.*

Collaboration: All problems should be solved individually. No communication or collaboration is allowed, and solutions will be checked for plagiarism.

Reference material: Textbooks and handwritten notes (including lecture notes) are allowed. Other typewritten material, including (but not limited to) problem sets or previous exams with solutions, is not allowed. Please note that you deviate from definitions and algorithm descriptions in the course material at your own risk! If, however, slight variations of algorithms were presented in the textbooks and/or in class, such minor details do not matter.

Grading: A score of 220 points is guaranteed to be enough to pass the exam.

About the problems: Note that the problems are of quite different types, and are *not sorted in increasing order of difficulty*. *Please read through the whole exam first*, before you start working on any single problem, so that you can plan which order of dealing with the problems makes most sense to you. Note that this is a fairly large exam, and you can get a top grade without solving all problems. Also, partial answers to problems can sometimes give substantial amounts of points. **Good luck!**