

General Advice for the Midterm

1. The midterm will contain problems similar to the ones you have already solved in the recitations. The best way to prepare for the exam is to go over the solutions discussed in the recitations and to solve as many undiscussed problems as possible. During this, it is certainly worthwhile to revise concepts, algorithms and relevant material from the summary notes.
2. There will be a consultation before the midterm, and you can ask how to solve any recitation problem at that time. You can use this time to check your solutions for problems not discussed in recitations.
3. When preparing your own solutions, or while discussing the solutions, please pay extra attention to the way solutions must be presented. Most importantly, you must provide reasoning for all results. Results without reasoning will get a very small fraction of the points (if any!). Reasoning is the steps taken to reach the solution with the mention of theorems proved in class.
4. If the problem requires you to run an algorithm on the input, then you don't have to write the description of the algorithm (or its pseudocode). It is sufficient to mention important parts of it required to give your reasoning for the problem. For the running time of the given problem, it must be clear what part or property of the algorithm is used and contributes to the given running time.
5. When asked to give an algorithm, it is sufficient to describe it in words. You are expected to specify the Input, the precise way in which known algorithms are called (if required, how input is modified for calling it), and how their output is used in your own algorithm.
6. If possible, then **use the algorithms learnt in class without modifying them**, and instead modify the input as required.
7. Your solution can and should cite material learnt in the lectures, but note that you cannot cite the solutions from the recitations. For example, you cannot write that we solve this similar to this problem in the recitation. In such a case you have to write the solution from scratch.
8. When you write an algorithm, you must provide reasoning for why it has the running time that was required. You must also provide some reasoning for the correctness of your algorithm. Here, you are not required to write an invariant, but just describe in words why your algorithm is correct.
9. You can cite the running time of algorithms done in the lecture to compute the running time of your algorithms.
10. The last problem of the midterm is a hard problem (at least that is the intention). The other problems have not been ordered according to difficulty, they instead follow the order in which material was covered in the semester.