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Please note:

1. Ideally the PS must be written in the spaces provided, and page by page (a picture or scan of individual pages) to be uploaded to the appropriate pages of a Crowdmark file (link to be posted.) If you wish, you can write your answers on separate pieces of paper and upload them properly at each page of the Crowdmark. Please note that any mismatch in uploading the pages of the solutions may cause in parts of the solutions not getting marked.

2. Please provide your final, polished solutions in the spaces provided. If you have no access to a printer you can write your solutions on a blank sheet of paper and upload a picture of scan. Remember, it is an art to write a short yet complete solution; one learns a lot from practicing this art. Please write a complete, even though long solutions. Then inspect and edit; while editing, ask yourselves:

   - am I proving common believes and facts accepted in the literature? If yes, know which facts are common belief and which ones need an argument.
   - can I just quote some of the facts that I tried to prove? This requires a good familiarity with the literature of the subject (in our case, the textbook and the slides, and earlier questions in the same PS).
   - am I introducing too many cases in my proof, and presenting parallel arguments? Change your type of argument if possible (direct proof versus proof by cases, or proof by contradiction.)

   Editing your first complete solution is a very good way of learning. Make sure you have a good solution, then return to it and reflect on the above questions.

3. Problem set questions contain ideas complementary to the textbook and lecture materials, opportunity for reflection and deepening on the subject. The level of difficulty of the questions is elementary so that each student has chance to individually think about the problems. So, please don't let your "kind" friends take this opportunity away from you!