Problem Set 3

Deliverable: Submit your responses as a single PDF file on the collab site before **6:29pm** on **Friday, 16 September**. The PDF you submit can be a scanned handwritten file (please check the scan is readable), or a typeset PDF file (e.g., generated by LaTeX or Word).

Collaboration Policy - Read Carefully

For this assignment, you should work in groups of *one* to *four* students of your choice.

If you work with teammates, you should submit one assignment that represents your collective best work with all of your names and UVA ids on it. Everyone on a team should understand everything you turn in for the assignment well enough to be able to produce it completely on your own. You are encouraged to use the `#teaming` channel to find suitable teammates. You should make a legitimate effort to form a team that satisfies the collaboration policy, but if you cannot find suitable teammates, it is definitely better to submit an assignment on your own than to not do the assignment!

You may discuss the assignment with anyone you want and get help from others, so long as it is help in the spirit of learning how to do things yourself not getting answers you don't understand.

Remember to follow the course pledge you read and signed at the beginning of the semester. For this assignment, you may consult any outside resources you want, including books, papers, web sites and people. You may consult an outside person (e.g., another friend who is a CS major but is not in this class) who is not a member of the course staff, but that person cannot type anything in for you and all work must remain your own and outside sources should never give you specific answers to problem set questions. If you use resources other than the class materials, lectures and course staff, you should document this clearly on your submission.

You are strongly encouraged to start early and take advantage of the scheduled office hours for this course.

Preparation

This problem set focuses on Chapter 3 (especially 3.4-3.6) of the MCS book, and Class 5 and Class 6 (which include some material not in Chapter 3).

Directions

Solve all [HOW MANY] problems on the next [HOW MANY] pages. For full credit, your answers should be correct, clear, well-written, and convincing.

Warm-Up Problems

Satisfiability

Problem 3.20 in the book.

Logical Quantifiers

CNF

Convert this logical formula to 3CNF:

Half-Gates

