

In addition to the below given problems, kindly study Chapter 11 in the lecture notes. Referenced problems can also be found there. In the lecture only marked problems will be discussed; for solutions to the other problems please contact Georg Moser.

1. Problem 11.2.
2. Problem 11.7.
3. Show that all ordered completion inference rules simplify proofs with respect to the cost measure for proofs defined in Definition 11.9. (*)
4. Consider the following clause set:

$$\begin{array}{lll} f(f(x)) \neq x \vee f(x) = g(x) & a \neq c \vee f(c) = c & \\ a = b & b = c & g(a) \neq a \end{array}$$

- Show that the clause set is unsatisfiable, using superposition. (*)
5. Problem 11.8. (*)