

In addition to the below given problems, kindly study Chapter 8 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.

26) Problem 8.1.

27) Show that Inf is true in an interpretation iff the domain is infinite. (*)

28) Show Lemma 8.1.

Hint: Use non-determinism to simulate the effect of the existential quantifier.

29) Show Lemma 8.2. (*)

Hint: Represent the Turing machine computation as a directed graph and use the construction in Example 8.1 to encode reachability in this graph.

30) Problem 8.2. (*)