

Exercise Sheet 8
CS 2210 Logic for Computer Scientists (Hitzler)
Solutions due: no hand-in exercises only

If you'd like to give these a try, please hand them in by October 28 9:30am.
We'll provide feedback to you then.

Exercise 48 (no hand-in) Is the following true or false?

Let M, N be sets of formulas. If $\{F \mid M \models F\} \subseteq \{F \mid N \models F\}$ then $M \subseteq N$.

Prove that your answer is correct.

Exercise 49 (no hand-in) Show: A set M of formulas is unsatisfiable if and only if some finite subset of it is unsatisfiable.

Exercise 50 (no hand-in) Show: $M \models F$ if and only if $M \cup \{\neg F\}$ is unsatisfiable. (Proof by contradiction principle.)

Exercise 51 (no hand-in) Let $\{F_1, F_2, F_3, \dots\}$ be a (countably) infinite set. Give an algorithm which enumerates all its finite subsets.