

CS 81 Assignment 5 for Wed., Feb. 23

“Tree method” refers to the method described in the class notes with the corresponding title.

1. Determine whether or not these formulas are satisfiable, using the tree method:
 - a. $((\neg p) \rightarrow q) \rightarrow (p \vee \neg q)$
 - b. $(p \rightarrow (q \rightarrow (r \rightarrow s))) \rightarrow \neg((p \wedge (q \wedge r)) \rightarrow s)$
2. Determine whether or not these formulas are tautologies, using the tree method:
 - a. $((a \rightarrow b) \rightarrow c) \rightarrow (a \rightarrow (b \rightarrow c))$
 - b. $(a \rightarrow (\neg b \rightarrow c)) \rightarrow (\neg c \rightarrow (b \rightarrow \neg a))$
3. Show that these formulas are valid, using the tree method:
 - a. Hein p. 416, 16f
 - b. Hein p. 416, 16g
4. Hein p. 416 17 c, using the tree method.
5. Hein p. 486 3b.
6. Hein p. 486 5b.
7. Hein p. 487 7