Tik-79.144 **Syksy 2000**
Logic in Computer Science: Foundations
Exercise 4
6. ja 8.10.2000

1. Find the disjunctive and conjunctive normal forms for proposition $\neg((A \leftrightarrow \neg B) \rightarrow C)$
   a) using transformation procedure
   b) using semantic tableaux.

2. Examine if the given claims hold using semantic tableaux. If not, justify by giving a valuation where the claim doesn't hold (a counter example)
   a) $\models (A \rightarrow (B \rightarrow C)) \rightarrow ((A \rightarrow C) \rightarrow (A \rightarrow B))$
   b) $\models (\neg B \rightarrow (A \rightarrow C)) \rightarrow (A \rightarrow (B \vee C))$

3. Prove: If the set of clauses $S = \{C_1, C_2\}$ is satisfiable and C is resolvent of C_1 and C_2, then C is satisfiable.