

**Logic 1, WS 2016. Homework 4, given Nov 3, due Nov 10.**

1. Check satisfiability by the DPLL algorithm:

$$A \vee B, \bar{A} \vee C \vee D, C \vee \bar{D}, \bar{B} \vee \bar{C}, \bar{A} \vee B \vee \bar{C}, A \vee \bar{B} \vee C \vee D$$

2. Prove in natural style:

$$((A \Rightarrow C) \wedge (B \Rightarrow C)) \Rightarrow ((A \vee B) \Rightarrow C)$$

3. Prove by sequent calculus:

$$((A \Rightarrow C) \wedge (B \Rightarrow C)) \Rightarrow ((A \vee B) \Rightarrow C)$$