CPSC 629: Deductive Systems

Assignment 4

Due: 11/7/2000, 4pm

1. Finish the proof of embedding natural deduction derivations into the sequent calculus.

   Theorem: If $A_1, ..., A_n \overset{\mathcal{D}}{\vdash} A$ is a derivation in the natural deduction calculus, then there exists a derivation $A_1, ..., A_n \overset{\mathcal{E}}{\Longrightarrow} A$ from the same assumptions and with the same conclusion in the sequent calculus.

2. Define a type family in LF that formalizes this theorem.

3. Code the proof of this theorem in LF as a realizer.

4. Argue why your implementation is a realizer.