Exercises 4, Applied Logic

CLTT refers to the March 2004 version of the handout *Constructive Logic and Type Theory,* by Erik Palmgren. (Available on the webpage of the course.)

1. Exercise 7.1 (e), (f) in CLTT.

2. Translate the formula

$$(\forall x \in D)\,(A(x) \wedge B(x)) \rightarrow (\forall x \in D)\,A(x) \wedge (\forall x \in D)\,B(x)$$

   into a type of Martin-Löf type theory, using the propositions-as-types principle. Prove it to contain an element.

3. Exercise 7.3 in CLTT. Compare your result with what is automatically generated by Coq.

4. Exercise 6.1 in CLTT.

5. Exercise 6.2 (c), (e) in CLTT.

6. * Exercise 6.4 in CLTT

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