Domain theory and Continuous Data Types
Exercises 10

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1. Show that the least upper bound $a \sqcup b$ of two finite elements a and b of a domain is finite (if it exists). Show that this is not always true of the greatest lower bound.

2. Show that embeddings preserve finiteness. How about projections?

3. Find $[D \to D]$, where $D = \{\mathsf{tt}, \mathsf{ff}\}_\perp$, and check directly that it is a Scott domain.

4. What are the finite elements of $[\mathbb{N}_\perp \to \mathbb{N}_\perp]$? Check directly if $[\mathbb{N}_\perp \to \mathbb{N}_\perp]$ is a Scott domain?