Concurrency Theory
Exercise 1: LEAN 1-on-1: The Tutorial
26th April 2023

Exercise 1.1. In our session on April 19, we have covered parts of chapters 2 and 3 of the official tutorial of LEAN4[1]. We ended in the exercises on propositional logic, which we are going to continue during the next exercise. As a preparatory step, have a look at the LEAN4 tutorial with a focus on Tactics, Inductive Types, and Structures. The tutorial provides several examples and exercises you can directly try on your own computer.

Exercise 1.2. Make a proposal for a formalization of sets and define useful set predicates and operators (e.g., $\in, \subseteq, \cup, \cap, \ldots$). Formulate and prove the classical properties of the set operators (e.g., commutativity, associativity, distributivity, …) in LEAN4.

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[1]`https://leanprover.github.io/theorem_proving_in_lean4/title_page.html`