Chapter 1

Fixpoints

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- We will be modeling our inductive as the least fix-point of a functor

1.1 Functor

1.2 Monotone

- What are we proving, what is Monotone
- This can be seen as a proper
- We have to transform proper to Iris Propositions
- Respectful, point-wise, persistent
- Define Proper instances for connectives
- How to find proper instance
- IProperTop
- Example of Proper proof

1.3 Least fix-point

- Banach fixed point theorem
- Intuition about what the least fix-point is
- The least fix-point of a functor holds for a value if for all fix-points of the functor the value holds
- What does our fix-point function create
- Example for is_list

1.4 Unfold Lemma's

- Allows for more easy reasoning about fix-points by using the functor
- Essential in following proofs