Chapter 1

Elpi implementation of Inductive

1.1 Functor

- We can also make commands

- What do we get as input for our commands

- What do we need to turn it in to

- Show example for is_list

1.2 Monotone

1.2.1 Proper

- Write tactic for solving IProper proofs

- We write small tactics for different possible steps

- Simple steps, for respectful, point-wise, persistent

- Finishing steps for assumption and reflexive implication

- Apply other proper instance

- Find how many arguments to add to connective

- Lemma to get IProper instance from IProperTop instance

- Apply Lemma IProper

- Compose till all goals proven

1.2.2 Induction for proper

- Create Proper Type for fix-point

- Add point-wise for every constructor using fold-map

- Add this to left and right of respectful with a persistent around left-hand side

- Apply proper solver

1.3 Least fix-point

- The basic structure is this …

- We recurse over the type of the fix-point to introduce lambda's and existential quantification

- As the last step we add lambda's for any parameters we have