Exercises in Logical Foundations

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Abstract

The goal of the project is to finish the exercises of the text-book, *Logical Foundations*, the first volume of the series *Software Foundations*. Main focuses of the book include constructive logic, inductive proofs, and the proof assistant, Coq. I have finished the entire book except for a few optional / advanced exercises, and progressed to Volume 2 in the series, *Programming Language Foundations*, by three chapters.

1 Introduction

1.1 Reasons why do this as a project

Since the content of *Logical Foundations* (including my own solutions to exercises) are fully checked by Coq, it is easier to keep track of the work done and get immediate feedback compared to traditional books, making *Logical Foundations* especially suitable for self-study.

1.2 Schedule

The first chapter (`Basics.v`) was finished on 8 October; The last chapter (`Rel.v`) was finished on 24 November. After that, I continued to work on Volume 2 because it was fun.

1.3 Deliverables

The proof scripts (my solutions to the book) are uploaded to a GitHub repository: https://github.com/nerrons/lf-works.

A Appendix

Text of appendix ...