

Harvard School of Engineering and Applied Sciences — CS 152: Programming Languages  
**Environment Semantics; Axiomatic Semantics; Dependent Types**  
**Section and Practice Problems**

Apr 23–26, 2019

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## 1 Coq and Dafny (Optional!)

Note that for this course we do not expect you to be deeply familiar with Dafny or Coq. So this section is for those that are interested in finding out more about these tools.

You can play around with Dafny online at <https://rise4fun.com/dafny>. A tutorial (on which the class demo was based) is available at <https://rise4fun.com/Dafny/tutorial/Guide>.

The Coq website is <https://coq.inria.fr/>. The easiest way to install Coq is via opam, OCaml's package manager. See <https://coq.inria.fr/opam/www/using.html>. In lecture, Prof. Chong was using Proof General (an extension to Emacs) to interact with Coq: <https://proofgeneral.github.io/>.

The Software Foundations series (<https://softwarefoundations.cis.upenn.edu/>) is a programming-languages oriented introduction to using Coq.