

Assignment 3 — Translation from source language — assigned Wednesday 11 September — due Wednesday 23 October

This assignment is worth between 30 and 300 points, depending on the source language chosen, the richness of its features, and the complexity of its translation to the core language.

The front end

You are to write the front end of the compiler, which accepts source programs stored in text files and translates them into the core language as an in-memory intermediate representation. But first you must choose a source language and carefully define it, and you must write several substantial test programs in your language. The core language is as defined in class.

Evaluation criteria

Is the source language well-defined? Is there a description of its syntax and semantics? How rigorous is the description?

How powerful is the source language? How convenient to use is it? Is type reconstruction possible? Is pattern matching available?

How is the semantics enforced? Is there type checking? Have significant test programs been written and successfully translated?

How to turn in

Turn in your code by running `~darko/handin your-file` on a regular UNM CS machine or on *delta*.

You should use whatever filename is appropriate in place of `your-file`. You can put multiple files on the command line, or even directories. Directories will have their entire contents handed in, so please be sure to clean out any cruft.

Remember to submit extensive tests of your programs!

Homework must be accompanied by the following statement: *“I pledge my honor that in the preparation of this assignment I have complied with the University of New Mexico Board of Regents’ Policy Manual, including Section 4.8, Academic Dishonesty.”* The manual is available at <http://www.unm.edu/~brpm/index.html>.