Meeting 11: Operational Semantics

Today

- Your questions on Lab 3
- Operational semantics

Announcements

- COG submission workaround for "Username not found" (prevents your score from being written to moodle). Message us if you have this issue.
- Spencer: Wed 9/28, 7-8pm, MUEN D144
- Lab 3 out and due Fri 9/30 to Sat 10/1. Checkpoint due Fri 9/23 to Sat 9/24.
- Lab 3 in-class exercise, Tue 10/4
- Midterm, Thu 10/6
  - No interviews or labs out during midterm week.
  - Lab 3 interviews following week of 10/10
  - Allowed: 1 side of letter-sized paper (8.5"x11") handwritten "crib sheet" created by you
- Prof. Chang is traveling next week Tue 10/4 and Thu 10/6. Conduct class by video on Tue 10/4.

Lab 2 Interviews
Reminder: to help you understand what you understand and don't understand for the midterm. If you didn't do well, please come see us.

Lab 3 builds on Lab 2 (and Lab 4 builds on Lab 3), so keep working at it. Even if you miss submission (for Lab 3), keep working at it.
Questions
- substitute → function → AST

Eval – eval – type error (rule → code)
- DoConst – in notes
- SearchCall

Syntax

1 + 3 1 + true 4 2
$(1 \# 2) \# 3 \# 4$

1. **Syntactic** - reading as a tree
   - precedence
   - associativity

2. **Semantic**
   - evaluation order

   $e_1 \# e_2$

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prints "I am f"

$f() + g(c)$

prints "I am g"

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I are free of side effects

(= pure), thus can't see the effect of evaluation order

$\Rightarrow$ referentially transparent
This allows me to define a value in how I evaluate to evaluate a relation between single step reduction and their values as what the result is. Suddenly, this relation between expressions.