CS 333 Programming Languages

Semantics

- Overview

- pre- and post increment
  - C language specification does not define the behavior of the program where there is more than one pre- or post- increment operator applied to a single variable within a single expression.
  - In Java, increment and decrement operators have a higher precedence than the other mathematical operators. They are applied from left to right in the order in which they occur unless one of them has been given a higher precedence through the parentheses.

- Lazy evaluation
  - The order of operations produces semantically different results.

- What are semantics? How to define semantics?
  - The semantics of a programming language is a precise definition of the meaning of any program that is syntactically and type-wise correct
  - There are at least three ways to define the semantics
    - Operational semantics
    - Axiomatize semantics
    - Denotational semantics