

# Meta-Circular Evaluation

CMSC 11500

Introduction to Computer Programming

November 20, 2002

# Roadmap

- Recap: Streams
- Meta-circular Evaluation
  - Using Scheme to evaluate Scheme
- Building representations of scheme expressions
  - Starting point: Numeric expressions
    - Data definitions
      - Numeric?
    - Evaluating expressions
    - Toward function application
      - Substitution

# Recap: Streams

- Handling infinite data
  - Mechanism: `(delay x) => promise; (force (delay x)) x`
- Data definition:
  - `(cons x (delay stream-of-numbers))`
- Template:
  - `(define (fn-for-stream stream)`
  - `..(car stream) ... (fn-for-stream (force (cdr stream)))`
- Posints, filter-stream, map-stream, add-streams,...