

Streams: Infinite Data

CMSC 11500

Introduction to Computer Programming

November 18, 2002

Roadmap

- Recap: Streams Basics
- Streams
 - Streams and Abstraction
 - Map-stream
 - Filter
 - Natural numbers:
 - Add1-stream, Add-streams
 - Finding Primes
 - Seive of Eratosthenes

Recap: Streams Basics

- Modeling infinite data
 - Delay evaluation until needed
 - Delay: anything -> promise
 - Force: promise -> anything
- A stream-of-numbers is:
 - (cons number (delay stream-of-numbers))
 - (car stream), (force (cdr stream))
 - Template: (define (fn-for-stream stream))
 - ... (car stream)
 - ... (fn-for-stream (force (cdr stream))))