Announcements

• Read Chapter 8.1 for next Thursday
• Assignment 6 due tonight
Topics for the Exam

• No HTML
• Alice Chapters 1-2, 4-7, 9
  – Focus on Chap 5-7, 9
• Topics
  – Random numbers
  – Looping structures
  – Variables
  – If/else
  – Lists
Random Numbers

- Assume they work
  - Can use `==` to compare integers
  - Use “integer only” if you want an integer
  - Use “random number” to generate random numbers
    - Maximum is “up to but not including”
    - Default values
Looping Structures

- Loop
  - Simple and complicated
- While
- When to use “while” vs. “if”
Conditionals – If/Else

• Format
  
  if (condition)
    do if true
  else
    do if false

• Nested ifs

• When do you use an “if” vs “while”
Variables

• Types
  – Local variable
  – Parameter
  – World variable
  – Class variable

• What do you do with a variable?
  – It stores a value
    • Initialize it
    • Use its value
    • Update it
Lists

• Create a list
• Process a list
  – For all in order
  – For all together
  – Item-in-list
• List search
How to Study for the Exam

- Write methods from old classworks
- Lecture notes
- Reading quizzes
- Reading in book
- Understand the topics
Problem

• Objects are a Bunny and a bunch of frogs. They are all facing the same direction. The Bunny is behind the frogs.

• The frogs are all in a list called “frogs”

• The Bunny and frogs will be moving each time an event occurs. The bunny will move 0.5 meters and the frogs 0.15 meters each time.

• When the Bunny is at least the “Bunny’s depth” in front of all the frogs, it should turn around and say “Stop”
Animation

• Start

• Finish
Write function IsBunnyInFront

- Returns true if Bunny is at least Bunny’s depth in front of all the frogs in the list frogs
- Else returns false
Write method moveAndCheck

- Moves all the frogs in the list frog 0.15m
- Moves the bunny 0.5m
- If the bunny is in front of all the frogs, turns around and says Stop.