CompSci 4
Review for Exam 2
Nov 10, 2005

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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

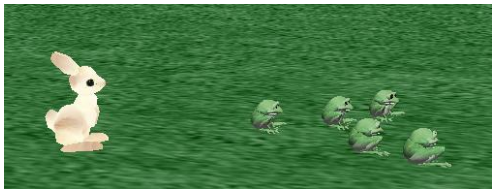
- Write methods from old classworks
- Lecture notes
- Reading quizzes
- Reading in book
- Understand the topics

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.