CompSci 4
Review for Exam 2
November 5, 2009

Announcements

• Start Java next time
  – We will use Eclipse with Java
  – See instructions on CompSci 4 Resources page to install Java on your computer
• Assignment 7 out last time – storyboard due in one week, including partner name

Topics for the Exam

• No HTML
• Alice Chapters 1-2, 4-7, 8.1, 9-10
  – Focus on Chap 5-7, 8.1, 9-10
• Topics
  – Random numbers
  – Looping structures
  – Variables
  – If/else
  – Lists/Arrays
  – Recursion

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”
- BDE

Conditionals – If/Else

- Format
  if (condition)
  do if true
  else
  do if false
- Nested ifs
- 3 Logical and 6 relational operators
- 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
  - Do something to a part of an object
- List search
Array

- Create an Array
- Process an array
  - Loop – complicated version
  - Use value from array
  - Set value in array
- Search for item in an array

Recursion

- Function or method call a “clone” of itself
- Must get closer to ending with each step
- Must be a way out
- Recursion is a loop, but you don’t use “loop” command
- You will need to know recursion at “reading level”

How to Study for the Exam

- Write methods from old classworks
- Lecture notes
- Reading quizzes – will make available
- Reading in book
- Understand the topics
- Work problems from old tests