CompSci 94
Review for Exam 2
November 14, 2019

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Class Today

• Review for Test 2 – Test is Tuesday

• Look at old Test 1’s and Test 2’s.
  – Lot of reading code, some writing code
  – On old Alice 3 Test 2’s – ignore problem 1 on Spring 18 and Fall 18 Test 2 – we did not do the event pointOfViewChanged

• Old quizzes back up later today
Events 1

1. **sceneActivated**
   - `this` addSceneActivationListener
   - `declare procedure` **sceneActivated**
   - `do in order`
     - `this` myFirstMethod

2. **timeElapsed**
   - `this` addTimeListener
   - `declare procedure` **timeElapsed**
   - `do in order`
     - `drop statement here`
     - `event` getTimeSinceLastFire

3. **keyPressed**
   - `this` addKeyDispatcher
   - `declare procedure` **keyPressed**
   - `do in order`
     - `if` event isKey `is true then`
       - `drop statement here`
     - `else`
       - `drop statement here`
Events 2
Events – when does it start, how does it work?

- sceneActivated

- addTimeListener

- keyPressed
• addMouseClickOnObjectListener

• addCollisionStartListener
How do you create a Scorer (or counter)

- A scorer/counter
How do you create a Countdown Timer

- Need a number and 3D text object
- Update the number by subtracting and then update the 3D text to display it
- Write procedures: InitializeTimer, UpdateTimer
- Need an addTimeListener Event, will update every specified time unit
Looping structures - when and how to use each one

• Count loop

• While loop
Looping in Array – when and how to use each one

- **For each in**

- **Each in together**

- **Indexing loop**
Randomness

• How do you generate a random number?

• How do you store a random number?

• How do you use a random number?

• What other type of random can you create?
Arrays

• How do you create an array?

• Where should you create an array?

• How do you access a value in an array?

• What is the advantage of using an array?

• How do you find the position of the first red animal in an array?
Problem: Given an array of pandas named `pandas`. Double the size of every other one starting with the second one in the array, one at a time.
How do you force events to only happen at certain times?

• Use an if statement with a condition that must be true
  – If statement is first thing in the event and must be true for the action in the event handler to happen

• Use a state variable – scene property
  – Use a string with values such as "setup", "playlevel1", "setupLevel2", "playLevel2", and "gameover"
  – You control game flow
How to study for the exam

• Practice problem solving
• Redo a classwork, or a procedure or function for a classwork
• Try redoing something from a lecture
• Rewatch videos, redo online quizzes
• Understand topics – reread over lecture notes
• Look at old Alice 3 test 1’s, look at old test 2’s but not problem 1 on test 2’s except Spring 2019
• Old Alice 2 tests – think, how would I do this in Alice 3