

CompSci 94

Review for Exam 2

November 5, 2020



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Class Today

- Review for Test 2 – Test is Tuesday, Nov 10
- 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

this addSceneActivationListener

declare procedure **sceneActivated**

do in order

this myFirstMethod

this addTimeListener 1.0 add detail

declare procedure **timeElapsed** event getTimeSinceLastFire

do in order

drop statement here

this addKeyPressListener add detail

declare procedure **keyPressed** event isLetter event isDigit event getKey event isKey key:

do in order

if event isKey S is true then

drop statement here

else

drop statement here

Events 2

The image shows a Scratch script editor with three event listener blocks. The first block, **this addMouseClicked**, has a dropdown menu with **new Visual[] { this.bunny, this.panda, this.panda2, this.panda3 }** and an **add detail** button. Below it is a **declare procedure mouseClicked** block with three event inputs: **event getScreenDistanceFromLeft**, **event getScreenDistanceFromBottom**, and **event getModelAt**. The procedure body starts with **do in order**, followed by an **if** block. The **if** block has a condition **event getModelAtMouseLocation == this.panda** and two **drop statement here** boxes. The second block, **this addCollisionStartListener**, has a dropdown menu with **new SThing[] { this.bunny }**, a comma, another dropdown menu with **new SThing[] { this.panda, this.panda2, this.panda3 }**, and an **add detail** button. Below it is a **declare procedure collisionStarted** block with two event inputs: **event getSThingFromSetA** and **event getSThingFromSetB**. The procedure body starts with **do in order** and a **drop statement here** box. The third block is **this addDefaultModelManipulation**.

```
this addMouseClicked, setOfVisuals new Visual[] { this.bunny, this.panda, this.panda2, this.panda3 } add detail  
  
declare procedure mouseClicked event getScreenDistanceFromLeft event getScreenDistanceFromBottom event getModelAt  
do in order  
  if event getModelAtMouseLocation == this.panda is true then  
    drop statement here  
  else  
    drop statement here  
  
this addCollisionStartListener new SThing[] { this.bunny }, new SThing[] { this.panda, this.panda2, this.panda3 } add detail  
  
declare procedure collisionStarted event getSThingFromSetA event getSThingFromSetB  
do in order  
  drop statement here  
  
this addDefaultModelManipulation
```

Events – when does it start, how does it work?

- sceneActivated
- addTimeListener
- keyPressed

Events – when does it start, how does it work? (part 2)

- addMouseClickedOnObjectListener
- addCollisionStartListener

Events – when does it start, how does it work? (part 3)

- defaultModelManipulation

How do you create a Scorer (or counter)

- A scorer/counter

How do you create A Countdown Timer

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?

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